



East Lancashire

Highways and Transport Masterplan



East Lancashire Highways and Transport Masterplan

Local Transport Plan 2011-2021
Environmental Report Addendum

February 2014



CONTENTS

NON-TECHNICAL SUMMARY	4
1 INTRODUCTION	8
2 POLICY CONTEXT AND PRIORITIES	9
3 ENVIRONMENTAL CONTEXT - OVERVIEW AND CHALLENGES	12
Environmental Context	13
Population	15
Human Health	15
4 ASSESSMENT OF PRIORITIES AND STRANDS	17
5 MITIGATION AND MONITORING	31
Mitigation	31
Monitoring	32
CONCLUSIONS	33
APPENDIX 1: ENVIRONMENTAL CONTEXT	34
Environment	34
Natural Environment	34
Historic Environment	34
Air Quality	35
CO2 Emissions	36
Climate Change	36
Access / Open Space / Recreation	38
Landscape	38
Population	39
Deprivation	39
Population	41
Unemployment	43
Education and Skills	44
Crime	45
Human Health	46
Road Safety	48
Vehicle Ownership and Modes of Travel to Work	49
Self-Reported Health and Wellbeing	49
Obesity	50
Coronary Heart Disease	51
Diabetes	52
APPENDIX 2: HABITAT REGULATIONS SCREENING ASSESSMENT	54
Introduction	54
Description of Plan and Review of Habitats Regulations Assessment (HRA)	54

East Lancashire Highways and Transport Masterplan	54
Habitats Regulations Assessment Process	55
Natura 2000 Sites	55
Methodology	56
Analysis of Potential Impacts / Pathways	56
The Assessment	58
Masterplan Overview	58
Identification of Natura 2000 Sites	58
Assessment of likely significant effects	59
Relationship with other Plans and Programmes	59
Conclusion	60
Appendix A. Habitats Regulations Screening Results	61
Appendix B: Natura 2000 sites	64
APPENDIX 3: EQUALITY IMPACTS ASSESSMENT (EQIA)	91

Non-Technical Summary

1. An Environmental Report, published in November 2010, documented the possible environmental impacts of the draft Lancashire County Council Local Transport Plan 2011-2021 Strategy for Lancashire (LTP3). The report also included health and equality impact assessments. A subsequent addendum was published in October 2011 that covered the LTP3 Implementation Plan for the period 2011/12-2013/14 for the county of Lancashire. Where schemes have been added to the implementation plan, the addendum has been updated.
2. Included in the Local Transport Plan Implementation Plan is a commitment to produce a Highways and Transport Master Plan for each area of Lancashire. This addendum presents the Draft Environmental Report on the East Lancashire Highways and Transport Masterplan (ELHTM), which covers Blackburn with Darwen and the boroughs of Burnley, Hyndburn, Pendle, Ribble Valley and Rossendale.
3. This report has been jointly produced by Lancashire County Council and Blackburn with Darwen Council and builds on the work undertaken for both authorities Local Transport Plans. It provides the basis for further environmental evaluation to be carried out during the implementation of the masterplan
4. This Environmental Report represents the first stage in documenting the likely environmental effects of the ELHTM. However, the Masterplan is a strategic document and most of the proposals within in it are for further studies. As such, this report simply provides an overview of those considerations that will need to be developed in detail as the studies reach conclusions and produce options to be taken forward.
5. Throughout this Environmental Report consideration is given as to how the ELHTM aligns to the key priorities and principles detailed in both Blackburn with Darwen Council's and Lancashire County Council's Local Transport Plans (LTP3) 2011- 2021 and the emerging East Lancashire spatial strategies. These are the documents which have significantly guided the development of the masterplan.
6. Both LTPs have been the subject of Environmental Reports. Both reports have been accepted as appropriate assessments of environmental impact and of required mitigation. Habitat Regulations Assessments have taken place for the Hyndburn Core Strategy, the Pendle Core Strategy and the Rossendale Core Strategy. A full assessment was not required in relation to the Blackburn with Darwen Core Strategy and the Council is in the process of commissioning consultants to do a screening report in relation to the site allocations and carry out a full assessment if one is required. Burnley Borough Council is at the early stages with the local plan so at the moment the HRA has only assessed the options that are being considered – there has been informal consultation with Natural England, who have provided a favourable response, and the Environment Agency, who have yet to respond.
7. Key issues raised by the environmental assessment presented in this report are:
 - Many rural areas of East Lancashire see a high reliance on private transport and typically **greater travel distances** than in more densely populated urban areas. This is causing increasing **congestion** principally in theses urban areas, which is having a detrimental effect on **air quality**. **Carbon emissions** in East



- Lancashire have also steadily increased. In contrast, many urban areas have low car ownership levels which currently **constrain employment opportunity**.
- Public health in East Lancashire is a significant problem in many areas, which has wide ranging consequences. Walking and cycling can make a particularly important contribution towards improving **health**.
 - The poor quality of many **public spaces** makes walking, cycling and the use of public transport unattractive and compounds perceived fears about crime and safety. Levels of traffic congestion and a lack of facilities addressing the needs of cyclists and pedestrians may further discourage residents from using sustainable transport options as their transport preference.
 - **Anti-social and criminal behaviour** associated with transport has a negative impact on local communities, community cohesion and on measures to promote more sustainable alternatives to the car.
 - **Air quality** problems exist in parts of East Lancashire. Specific air quality problems are associated with congestion hotspots and enclosed urban environments. Poor air quality can also impact on people's health and therefore remains a priority to implement effective mitigation and development measures to alleviate congestion in identified areas.
 - The rate of casualties from **road accidents** is above the national average and is a particular concern in more disadvantaged communities and around congested and centrally located areas, such as North Valley Road, at the end of the M65 in Colne. The number of child casualties in these areas remains a key issue.
 - **Deprivation** exists in a number of areas, despite strong economic growth in the wider sub-region. The reasons for these problems are varied and complex. As in other parts of Lancashire, poor levels of relevant skills and training and low self-esteem present barriers to gaining new employment opportunities, whilst crime, health and the poor standards of living compound problems.
8. The specific issues sit alongside the challenges indicated by the environmental data:
- The **natural environment** is significant to both the economy and to making East Lancashire a better place to live. Protecting and improving our environment is important, so extra care will need to be taken to get the most environmental benefit from what is done and limit any damage.
 - East Lancashire's **historic environment** is a significant cultural asset. Public realm and transport improvements have the potential to make positive contributions to this environment if sensitively implemented. In particular, the Leeds and Liverpool Canal will require careful consideration both as a transport link and as an historic asset.
 - The upland **landscape** of East Lancashire is particularly diverse, including Pendle Hill (which lies within part of the Forest of Bowland AONB), the Forest of Trawden and the Pennine Moors, frequently defined by steep sided valleys known as cloughs. As well as being home to the farming sector, the landscape provides an important recreational resource supporting the visitor economy:



- Making sustainable transport modes like walking, cycling and public transport more attractive will not only reduce our impact on the environment, but will reduce **noise** and help to preserve **tranquillity**. It will also help to reduce East Lancashire's **CO2** footprint and help to improve air quality and reduce the number of **air quality** management areas (AQMAs).
 - **Flooding** can be a major problem and may become a bigger risk as the climate changes. We will have to make sure that surface water from our highways does not contribute to flooding or to pollution and that the county council (as the Transport and Highway Authority) is committed to the implementation of sustainable urban drainage systems (SUDS) in new highway schemes.
 - The English Indices of **Deprivation** 2010 show that there are major differences across East Lancashire, compared to the rest of Lancashire. Burnley, Blackburn with Darwen, Hyndburn, and Pendle are within the top 50 most deprived districts in England and have a number of 'priority neighbourhoods'. Since these indices were published, there has been an economic downturn that has had a significant impact on the North West.
 - From April 2013, the **public health** system in England changed, with both Blackburn with Darwen Council and Lancashire County Council having greater responsibility to improve health. Since there are significant public health issues in East Lancashire, this will make promoting active travel even more important.
9. The masterplan's priorities do have risks attached to them. The most significant risks identified are:
- Prioritising investment in the employment areas and economic priorities will divert resources from efforts to reduce carbon emissions.
 - Despite the investment brought about by the Masterplan, the pressure on our transport infrastructure will increase, meaning that the environment is further threatened and that maintenance costs increase.
 - Biodiversity is reduced because of the emphasis on the economy.
 - Increasing travel to access employment in the key areas will not be done by sustainable modes, which will increase carbon emissions.
 - Prioritising investment in the economic priorities will divert resources from disadvantaged communities.
10. Mitigation of the risks inherent in this masterplan has been discussed for each programme in the plan and certain themes have emerged:
- All options that develop from the further work put forward in the masterplan will need further assessment, particularly those which have been identified here as having the greatest potential for positive or negative impacts.
 - There is a need to promote biodiversity where possible in schemes. This may be as simple as ensuring that new infrastructure links to existing wildlife corridors or that 'maintenance regimes' are species friendly.
 - Noise reduction improvements should be considered in all schemes.
 - The contribution of surface water run-off to pollution and flood risk must be acknowledged and specific mitigation put in place.
 - Although the focus of the Masterplan is on economic development, the needs of disadvantaged communities must not be forgotten. Access from these communities is a key consideration for the Masterplan.



- Public attitude to the needs of the environment may present a challenge to greater use of sustainable transport modes. Education and social marketing may be required to overcome a reluctance to switch modes.
 - Improvements in health will be dependent on an acceptance of sustainable modes of travel.
 - Due attention must be paid in all projects to the specific needs of users, particularly those who may be disabled or experience greater challenges in travelling.
 - Road safety must be a priority in option development.
11. Effective monitoring will be carried out to make sure that the masterplan meets its targets and that any negative impacts are minimised, with mitigation measures devised and implemented.
 12. The masterplan is a strategic document that sets out a vision for highways and transport in the area and the further work required to take that vision forward. However, as the Masterplan does not identify specific details of schemes at this stage, it is not possible to determine the full extent of environmental impacts. Environmental appraisal of each proposal from option appraisal through to delivery will need to be undertaken as work streams in the masterplan develop.
 13. The masterplan does seek to target over-reliance on car journeys which is a major contributor to CO2 emissions and localised poor air quality, noise, visual intrusion, community severance, road safety and poor levels of usage of active transport options.
 14. The masterplan is intended to help facilitate economic growth and as such there is a real risk that car ownership and dependence on the car could be perpetuated. This is particularly the case if car ownership is encouraged in groups who currently do not own a car. The masterplan must therefore ensure that, particularly for non car owners, effective alternatives to the car are provided by public transport, cycling and walking improvements as proposed.
 15. The other significant risk identifiable at this stage is that of safety. As proposals develop, the safety of users must be taken into consideration at the earliest stages. This should include both personal security and road safety.
 16. Overall, the masterplan has the potential to have a significant positive impact on the environment and population of East Lancashire, providing mitigation is put in place against the risks identified here and against any risks that develop as the masterplan itself develops.

1 Introduction

- 1.1. An Environmental Report, published in November 2010, documented the possible environmental impacts of the draft Lancashire County Council Local Transport Plan 2011-2021 Strategy for Lancashire (LTP3). The report also included health and equality impact assessments. A subsequent addendum was published in October 2011 that covered the LTP3 Implementation Plan for the period 2011/12-2013/14 for the county of Lancashire. Where schemes have been added to the implementation plan, the addendum has been updated.
- 1.2. Included in the Local Transport Plan Implementation Plan is a commitment to produce a Highways and Transport Master Plan for each area of the county. This addendum presents the Draft Environmental Report on the East Lancashire Highways and Transport Masterplan (ELHTM), which covers Blackburn with Darwen and the boroughs of Burnley, Hyndburn, Pendle, Ribble Valley and Rossendale.
- 1.3. This report has been jointly produced by Lancashire County Council and Blackburn with Darwen Council and builds on the work undertaken for both authorities Local Transport Plans. It provides the basis for further environmental evaluation to be carried out during the implementation of the masterplan.
- 1.4. The SEA Directive aims “to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development”.
- 1.5. This Environmental Report represents the first stage in documenting the likely environmental effects of the ELHTM. However, the Masterplan is a strategic document and most of the proposals within in it are for further studies. As such, this report simply provides an overview of those considerations that will need to be developed in detail as the studies reach conclusions and produce options to be taken forward.
- 1.6. Consideration is also given to likely health, equality and wider social impacts which are commonplace in considering new public investment programmes. Such impacts will be considered across spatial and temporal scales for the broad-scale schemes identified in the Masterplan.
- 1.7. The overriding emphasis throughout the Masterplan, and indeed in the LTP3, is to support economic growth, not only now but also in the future. There is therefore a need to balance the positive and negative impacts of transport with the needs of the population and sensitivity of the wider environment. However, we can only do this if we consider the consequences that changing these networks will have not just on the users, but on the people, environment and economy of Lancashire, both now and in the future.
- 1.8. Blackburn with Darwen Council and Lancashire County Council, as transport and highways authorities, have a duty to determine any likely significant effects that may arise from the proposed schemes in the East Lancashire Highways and Transport Masterplan. Where significant effects are deemed likely, mitigation measures will be undertaken to ensure that such effects are prevented and/or minimised where possible.

2 Policy Context and Priorities

2.1. Throughout this Environmental Report consideration is given as to how the ELHTM aligns to the key priorities and principles detailed in both Blackburn with Darwen Council's and Lancashire County Council's Local Transport Plans (LTP3) 2011- 2021 and the emerging East Lancashire spatial strategies. These are the documents which have significantly guided the development of the masterplan.

2.2. The two Local Transport Plans set out transport priorities until 2021. For Lancashire, these priorities are to:

- Improve access into areas of economic growth and regeneration;
- Provide better access to education and employment;
- Improve people's quality of life and wellbeing;
- Improve the safety of our streets for our most vulnerable residents;
- Provide safe, reliable, convenient and affordable transport alternatives to the car;
- Maintain our assets; and
- Reduce carbon emissions and their effects.

For Blackburn with Darwen, the priorities are:

- Improve access to areas of regeneration and economic growth
- Reduce carbon emissions
- Improve road safety
- Improve access to education and employment
- Improve quality of life and well-being
- Maintain our transport assets in good condition

These priorities are, with one exception, almost identical and although providing effective alternatives to car use is not explicitly a Blackburn with Darwen priority within LTP3, it is still a key commitment.

2.3. The emerging local plans form the overarching planning policy documents setting out the broad spatial and development strategy for East Lancashire. The purpose of the development plans is to guide and contribute towards boosting investment and employment opportunities, to encourage sustainable managed growth, and to protect and enhance green spaces and open countryside. Importantly the development plans set out where development will occur up to 15-20 years in the future and indicates what strategic investment is necessary to deliver it. Within the Pennine Lancashire area all the districts plans are at differing stages in the plan making process. As of 2013 the current positions of the relevant districts are outlined below:

- Blackburn with Darwen Borough Council has adopted a new Core Strategy as of 2011. The site allocations document, which provides the detailed location for development, for the district is at present at an advanced stage close to examination.
- Pendle at present has an adopted Local Plan that runs from 2001-2016. This plan is being replaced by a new Local Plan that is currently being developed. It is hoped that the new local plan will be formally adopted after a public examination in 2014.

- Burnley Borough Council is working to develop a new local plan, with the aspiration to adopt it in June 2015.
 - Ribble Valley Borough Council had an adopted Local Plan 1991-2006. This is currently out of date and being replaced by a new Local Plan. The new Local Plan: Core Strategy is hoped to be adopted by 2014.
 - Hyndburn District Council adopted a Core Strategy in 2012 and is working on site allocations and development policies.
 - Rossendale Borough Council as of 2013 has an adopted Core Strategy and is working to produce a site allocations and development management plan document by 2015. The Core Strategy sets out the broad development vision for the district and the site allocations and development management document aims to set out where development will be located and how it will be managed.
- 2.4. Both LTPs have been the subject of Environmental Reports. Both reports have been accepted as appropriate assessments of environmental impact and of required mitigation.
- 2.5. Habitat Regulations Assessments have taken place for the Hyndburn Core Strategy, the Pendle Core Strategy and the Rossendale Core Strategy. A full assessment was not required in relation to the Blackburn with Darwen Core Strategy and the Council is in the process of commissioning consultants to do a screening report in relation to the site allocations and carry out a full assessment if one is required. Burnley Borough Council is at the early stages with the local plan so at the moment the HRA has only assessed the options that are being considered – there has been informal consultation with Natural England, who have provided a favourable response, and the Environment Agency, who have yet to respond.
- 2.6. The ELHTM sits within the LTP3. It represents both highway authorities' proposals for meeting the infrastructure requirements of the adopted and emerging core strategies for East Lancashire and to support accepted development proposals.
- 2.7. The Lancashire Enterprise Partnership (LEP) has also shaped the Masterplan; a Government-endorsed partnership between the private and public sectors established to provide leadership for the county's economy and be a catalyst for job creation and economic growth, it has its own agreed priorities and programmes
- 2.8. Whilst it is widely acknowledged that public finance is limited, the Masterplan recognizes that there is a need for substantial commitment from a variety of infrastructure providers, as well as the support of private businesses and house builders, in order to deliver the proposed improvements over the period to 2026. The investment will rely on the dedication and support of all of the local authorities in East Lancashire, on government agencies and on the private sector.
- 2.9. This master planning exercise puts both Blackburn with Darwen Council and Lancashire County Council in a position to demonstrate that affordable and deliverable improvements can be made to the highways and transport network to support the development strategies in their respective areas of East Lancashire. These improvements will enable the successful development of an integrated transport network giving residents and visitors access to a greater range of



sustainable transport options whilst making our roads safer, attractive and more efficient.

3 Environmental Context - Overview and Challenges

- 3.1. East Lancashire, which had a population of 530,500 in 2012, is an area of dramatic contrasts, with spectacular moors and farmland surrounding historic towns that were once at the forefront of the industrial revolution. However, since its industrial successes of the 19th and 20th centuries, the area has seen significant economic decline which has left a legacy of social and economic challenges, including deprivation, unemployment and a relatively poor skills base in some urban parts of the area.
- 3.2. Manufacturing still remains a key driver for the economy though, with employment in the sector more than double the national average. East Lancashire has a growing portfolio of higher value industries with aerospace, advanced manufacturing, advanced flexible materials, digital and creative industries all featuring strongly in the area's economy. These high value industries mean that East Lancashire will play a key role in the success of the Lancashire Advanced Engineering and Manufacturing Enterprise Zone which launched in April 2012 and in the Arc of Innovation established by the Lancashire Enterprise Partnership.
- 3.3. East Lancashire's industrial heritage has given the area a very distinctive character. Whilst the architectural legacy includes heritage townscapes, it also includes the utilitarian terraced housing that is the stereotype of East Lancashire; whilst much of this traditional housing is unfit for purpose and adds to the economic, health and social challenges faced by much of the area; the housing offer of the area is evolving to meet current and future demand.
- 3.4. Many rural areas of East Lancashire see a high reliance on private transport and typically **greater travel distances** than in more densely populated urban areas. This is causing increasing **congestion** principally in these urban areas, which is having a detrimental effect on **air quality**. **Carbon emissions** in East Lancashire have also steadily increased. In contrast, many urban areas have low car ownership levels which currently **constrain employment opportunity**.
- 3.5. Public health in East Lancashire is a significant problem in many areas, which has wide ranging consequences. Walking and cycling can make a particularly important contribution towards improving **health**.
- 3.6. The poor quality of many **public spaces** makes walking, cycling and the use of public transport unattractive and compounds perceived fears about crime and safety. Levels of traffic congestion and a lack of facilities addressing the needs of cyclists and pedestrians may further discourage residents from using sustainable transport options as their transport preference.
- 3.7. **Anti-social and criminal behaviour** associated with transport has a negative impact on local communities, community cohesion and on measures to promote more sustainable alternatives to the car.
- 3.8. **Air quality** problems exist in parts of East Lancashire. Specific air quality problems are associated with congestion hotspots and enclosed urban environments. Poor air quality can also impact on people's health and therefore remains a priority to implement effective mitigation and development measures to alleviate congestion in identified areas.

- 3.9. The rate of casualties from **road accidents** is above the national average and is a particular concern in more disadvantaged communities and around congested and centrally located areas, such as North Valley Road, at the end of the M65 in Colne. The number of child casualties in these areas remains a key issue.
- 3.10. **Deprivation** exists in a number of areas, despite strong economic growth in the wider sub-region. The reasons for these problems are varied and complex. As in other parts of Lancashire, poor levels of relevant skills and training and low self-esteem present barriers to gaining new employment opportunities, whilst crime, health and the poor standards of living compound problems.

Environmental Context

- 3.11. The **natural environment** is significant to both the economy and to making East Lancashire a better place to live. Key issues and challenges to the Masterplan are:
- 3.11.1. The largest proportion of important environmental features lies outside statutory Sites of Special Scientific Interest (SSSIs). Lancashire County Council is a member of the Biological Heritage Sites (BHS) and Local Geodiversity Sites (LGS) partnerships. Collectively, these statutory and non-statutory sites are known as County Heritage Sites (CHS) and may be considered to be the county's 'critical environmental capital'. The lack of statutory protection may present challenges in the future. See Appendix 1 for commentary on the National Planning Policy Framework which has implications for development and therefore transport infrastructure.
- 3.11.2. Some SSSIs are also recognised as being of European importance by being designated as Special Protection Areas, Special Areas of Conservation or Ramsar sites. The Habitat Regulations Screening Assessment is included in Appendix 2.
- 3.11.3. The benefits of the countryside to health and well-being require good access to be available to all. However, providing that access can have a detrimental effect on both protected sites and on the landscape, whether directly or by infrastructure provision and maintenance.
- 3.12. Lancashire County Council hosts the Lancashire Environment Record Network (LERN), the partnership-led local environment record centre for Lancashire. LERN collects and collates information relating to the biodiversity and geodiversity of the county which is made available to Local Planning Authorities and other partners to inform and support their plan and decision making processes. LERN provides a significant resource to allow the biodiversity impact of schemes identified in the East Lancashire Highways and Transport Masterplan to be understood.
- 3.13. Lancashire County Council, in partnership with the district and unitary authorities in Lancashire, is developing Ecological Networks. The Networks aim to join together existing designated wildlife sites (i.e. SSSIs and BHS) by formulating protected pathways between them. These pathways are based on the type of ecological feature within them, such as Grassland or woodlands and the established movement patterns of ecology.

- 3.14. East Lancashire's **historic environment** is a significant cultural asset. Public realm and transport improvements have the potential to make positive contributions to this environment if sensitively implemented. In particular, the Leeds and Liverpool Canal will require careful consideration both as a transport link and as an historic asset.
- 3.15. The upland **landscape** of East Lancashire is particularly diverse, including Pendle Hill (which lies within part of the Forest of Bowland AONB), the Forest of Trawden and the Pennine Moors, frequently defined by steep sided valleys known as cloughs. As well as being home to the farming sector, the landscape provides an important recreational resource supporting the visitor economy:
- Transport infrastructure to support these sectors can cause significant visual intrusion and noise which can threaten tranquillity. The materials used for road maintenance and the type of street lighting can reduce both visual and noise elements.
 - Providing more sustainable transport for rural areas will benefit both residents and tourists and will also mitigate against further landscape impact.
 - Changes in public realm and to levels of congestion will affect the urban landscape and heritage assets across East Lancashire.
 - A shift to quieter transport modes will bring some noise reduction, as would ensuring freight transport uses appropriate roads.
- 3.16. **Flooding** is an important concern for the authority. The Flood and Water Management Act 2010 and the Flood Risk Regulations 2009 both impose new duties for the County Council as a "lead local flood authority". The delivery of these duties will be based on effective partnership between lead local flood authorities and other risk management authorities. Surface water from highways requires management to ensure that pollution and flood risks are minimised.
- 3.17. Although **water quality** and pollution control are not new issues, the Water Framework Directive and the development of a River Basin Management Plan for the northwest region have set significantly more challenging objectives than when previous transport strategies were produced. The highway network can be a major source of pollution, ranging from the general build-up of contaminants on road surfaces to the consequences of major environmental incidents. Flooding and highway drainage also have important influences on water quality, as excess water can carry pollutants directly in nearby water courses.
- 3.18. Lancashire as a whole faces a range of issues in relation to **climate change** which could impact on East Lancashire:
- Hotter, drier summers with more frequent summer heat waves
 - Winters that are warmer but wetter.
 - Extreme weather events becoming more common, bringing a greater risk of flooding and storm surges and with damage from high winds becoming more frequent.
- 3.19. 50% of East Lancashire's CO₂ emissions in 2011 were attributable to industry and commerce sector sources, 29% to the domestic sector, 21% to transport and a minor residual and 0.5% to land use, land use change and forestry. These numbers are dramatically different to those for Lancashire as a whole (14 authorities). There the totals were: industry and commerce 38%, domestic 30.5%, transport 29% and



land use and change 2%. Reducing carbon emissions is therefore a major challenge to the authorities and potential opportunities include:

- Reducing the consumption of energy by the authority, including maintenance and street lighting considerations.
- Reusing and recycling waste material generated in maintenance or construction of highway infrastructure.
- Providing more sustainable modes of transport, including more sustainable fuel sources.
- Reducing the need to travel.

3.20. Poor **air quality** has a significant negative impact on health, particularly in more deprived areas. Transport emissions are major source of pollution. As for noise and CO₂, an increasing reliance on the private car and on road haulage has led to increasing pollution and congestion, particularly in the urban cores. This congestion further increases the impact that transport has. There 14 declared Air Quality Management Areas (AQMAs) are detailed in Appendix 1, The challenge will be to constrain or reduce private car use while seeking economic growth, which should bring increasing prosperity and has previously been associated with higher levels of car ownership.

3.21. There is a challenge presented to addressing all the issues raised above by the popularity of the private car and reluctance in some sections of the community to accept that change is needed

Population

3.22. The English Indices of **Deprivation** 2010 were published in March 2011. These show that there are large and growing economic disparities between different parts of the county, with areas of severe social and economic deprivation and high levels of worklessness contrasting with areas of considerable prosperity. In some cases these areas of deprivation and affluence are situated very close together or even adjacent to one another. Whilst the pattern of deprivation is uneven across Lancashire, it is more prevalent within several districts in the east of the county. Burnley (ranked 11th), Blackburn with Darwen (17th), Hyndburn (34th) and Pendle (33rd) within the top 50 most deprived local authorities in England (2010 Indices of Deprivation).

3.23. Since these indices were published, an obvious and significant change that has been felt across all of Lancashire has been the **economic downturn**. There has been a significant impact upon national, regional and local economies as economic activity and output has contracted. This has been felt particularly hard in the North West where a higher proportion of the population work in the public sector. However, the full impact at the local level cannot be assessed until local data becomes available, when the full extent of the challenge will become clearer.

3.24. Detailed baseline data on population and social factors, together with commentary is provided in Appendix 1.

Human Health

3.25. The 'Health and Social Care Act' (2012) set out the vision for improving the public's health and was implemented on the 1st of April 2013. Upper tier and unitary local



authorities now provide local leadership for public health, underpinned by new statutory functions, dedicated resources and an expert public health team, led by a director of **public health**. Priorities focus on improving health, reducing health inequalities and maximising the wellbeing on the population.

- 3.26. Local authorities will be supported by a new integrated public health service, Public Health England. PHE will aim to protect and improve the nation's health by encouraging healthier behaviours, addressing inequalities and removing barriers to good health. PHE will provide public health expertise and access to intelligence, research and expert advice.
- 3.27. This need for strategic and joined up interventions to impact upon the determinants of health and resultant health outcomes is recognised by both local government and NHS health professionals in Lancashire and has led to the development of the Joint Strategic Needs Assessment (JSNA) for Lancashire. The JSNA provides an evidence base for the development of public health in Lancashire and is detailed in Appendix 1.
- 3.28. Health and Wellbeing Boards have strategic influence over commissioning decisions across health, public health and social care, bringing together clinical commissioning groups and local authorities to create a more effective and responsive local health and care system. In Lancashire, the health and wellbeing board has identified emergent priorities from the JSNA. These will focus on new and expectant families; mental health and wellbeing; long-term conditions; improving the health, wellbeing and independence of older people.
- 3.29. East Lancashire has a very varied **geography**, with highly populated urban areas and conurbations, coupled with semi-rural and rural areas, each offering their own unique transport needs, social/neighbourhood problems, education and employment issue and access to green spaces/the natural environment. These issues require different solutions – a "one size fits all" strategy will not be effective. Any community (whether rural or urban) with poor links to services will be more likely to face deprivation and disadvantage and the associated health and social issues identified above.
- 3.30. Walking and cycling offer the potential for daily physical activity of sufficient frequency and intensity to improve health. Even low levels of walking can have great potential for health gain and can be undertaken by the most inactive. Walking and cycling can also provide other benefits including: reducing obesity, improving local air quality through CO2 reductions, and increasing social interaction and social capital.

4 Assessment of Priorities and Strands

4.1. The policy context and priorities that the ELHTM is responding to have been discussed.

4.2. In seeking to address the needs of the East Lancashire area, seven priorities were set as a vision for what the masterplan should achieve:

- 1) Strategic employment sites flourish and are well connected nationally and internationally.
- 2) People from all communities are able to access the employment and education opportunities that are available both in East Lancashire and further afield.
- 3) Local developments and business are supported and have the strategic and local connections that they need to succeed.
- 4) Active travel is encouraged and supported, making walking and cycling safe and easy choices for local journeys.
- 5) Public realm improvements support both new development and existing communities and enhance the appearance and safety of sustainable travel routes.
- 6) Visitors find the area attractive and easy to travel around without a car.
- 7) Sustainable travel becomes the choice wherever possible, even in rural areas.

4.3. These priorities were assessed for their environmental and human impacts in order to inform the development of actions leading from them. A summary of this work is provided below:

Priority 1,3	<p>Strategic employment sites flourish and are well connected nationally and internationally.</p> <p>Local developments and business are supported and have the strategic and local connections that they need to succeed.</p>
What challenges do these priorities aim to address?	The state of East Lancashire's economy is a key concern and ensuring that all sizes of business can develop and have the access to the effective highways and transport networks that they need is vital.
What environmental benefits will this priority provide?	<p>Reducing congestion can give improved air quality and improve sense of place. Reducing the number of vehicles on the road in the urban area will have a number of positive effects including less congestion and therefore improvements in air quality, lower noise levels, as well as potential road safety improvements.</p> <p>New infrastructure or improvements to existing infrastructure that promote public transport, cycling and walking will help to promote a modal shift away from private car use and reduce the number of vehicles on the roads. This has clear benefits to air quality, noise, human health and climate change.</p> <p>Enabling people to get back into employment and education can have a significant impact on both the individual and the community, by offering the opportunity to reduce deprivation. East Lancashire has some of the most disadvantaged communities in the country. In many cases, these communities</p>



	<p>are doubly affected by limited employment opportunities and deep-seated environmental and social problems. Improving access to opportunities further afield will offer some benefit to these communities.</p> <p>Reducing car usage can potentially reduce visual intrusion and noise in rural areas, improving tranquilly.</p>
<p>Will these priorities have any adverse effects are they acceptable and can these effects be reduced?</p>	<p>The focus on delivering better access to employment areas and solving delays caused by congestion could lead to greater pressure for new road infrastructure. Providing easier car journeys would reinforce existing high levels of car ownership and, with greater employment, make car ownership more attractive to a wider number of people.</p> <p>Investment in infrastructure which reduces congestion and delays will provide environmental benefits in the short term. However, if reliance on the private car increases, then in the longer term these benefits will disappear.</p> <p>How can these effects be reduced?</p> <p>By ensuring that sustainable travel options are considered alongside road based alternatives. Road transport will continue to play a significant role in East Lancashire but improving rail services and connectivity will allow for far greater choice. Bus travel should also be supported and cycling and walking should be promoted for local travel.</p>
<p>Conclusion</p>	<p>East Lancashire is recovering from economic problems which have had severe consequences for many communities. These problems have resulted in serious impacts on public health and deprivation. In this context, the case for solving the economic causes of these problems is overwhelming and makes the risk of some other environmental consequences acceptable in these most deprived areas.</p> <p>However, in other areas of East Lancashire, which are responsible for much high rates of car use and greater carbon footprints, there is a distinct need to make more sustainable forms of transport available where possible.</p>
<p>Priority 2:</p>	<p>People from all communities are able to access the employment and education opportunities that are available both in East Lancashire and further afield</p>
<p>What challenges does this priority aim to address?</p>	<p>Communities in some parts of East Lancashire have failed to benefit from recent economic growth seen in other parts of the county and levels of deprivation in these communities remains high. These problems are caused by (amongst other things) a shortage of employment and training opportunities that are readily accessible.</p>
<p>What environmental benefits will this priority provide?</p>	<p>This priority specifically aims to provide affordable and sustainable travel options for disadvantaged and isolated communities, helping individuals to travel to much needed jobs, training and education.</p>



<p>Will this priority have any adverse effects are they acceptable and can these effects be reduced?</p>	<p>There is a risk that increasing the 'travel horizons' of people in more disadvantaged communities will have adverse environmental consequences, most notably in terms of increased carbon emission and poorer health if there is increased reliance on the private car.</p> <p>Increasing affluence may result in a continued preference for private transport.</p> <p>Greater use of sustainable modes may lead to more road accidents</p> <p>How are these effects reduced?</p> <p>Convenient and effective public transport needs to be made available across East Lancashire where possible. Cycling and walking need to be encouraged as modes of transport. Making short journeys easy by these modes should limit the need for car travel. Road safety will be considered in all proposals put forward.</p>
<p>Conclusion</p>	<p>Promoting sustainable and active forms of travel should promote a modal shift away from private car use. This will bring reduced carbon emissions, improved air quality and reductions in congestion which could lead to less reliance on the private car. Promoting active travel to education, training and employment will also give added health benefit by making people less sedentary.</p> <p>However, there are clearly a wide range of environmental risks with promoting greater travel (including local impacts associated with new infrastructure and global impacts through carbon emission). Over the longer-term it may be difficult to prevent the increasing prosperity given by greater accessibility to employment resulting in greater car use (as seen in more prosperous areas).</p>
<p>Priority 4:</p>	<p>Active travel is encouraged and supported, making walking and cycling safe and easy choices for local journeys.</p>
<p>What challenges does this objective aim to address?</p>	<p>There are significant public health issues in East Lancashire, with dramatic variations in healthy life expectance across the area.</p>
<p>What environmental benefits will this objective provide?</p>	<p>Investment in walking and cycling offers a host of benefits. These include the health benefits that the objective is targeting and also the potential reduction in greenhouse gases through active travel rather than private transport and greater access to job, training, services, healthcare and education. There is also the potential for greater use of green infrastructure to support this objective.</p>
<p>Will this objective have any adverse</p>	<p>Greater use of sustainable modes may lead to more road accidents.</p>



<p>effects, are they acceptable and can these effects be reduced?</p>	<p>Inappropriate infrastructure can lead to personal safety issues, both actual and perceived. The safety of cyclists and pedestrians needs to be a key concern as options are developed.</p>
<p>Conclusion</p>	<p>Investment in walking and cycling infrastructure to support active travel and to support the use of public transport will be positive measures. Lancashire is moving towards a high rate of private car journeys and this could inevitably increase as the economic fortunes of more disadvantaged communities in East Lancashire (comprising almost two hundred and fifty thousand people) improve.</p> <p>Obesity is recognised as a health 'time-bomb' so measures to provide active travel options that can be built into everyday routine should be a vital component of any transport strategy.</p>
<p>Priority 5, 7</p>	<p>Public realm improvements support both new development and existing communities and enhance the appearance and safety of sustainable travel routes. Sustainable travel becomes the choice wherever possible, even in rural areas.</p>
<p>What challenges do these priorities aim to address?</p>	<p>Transport has significant social and cultural consequences. In a positive way, a well connected transport system or well maintained public realm will prevent communities becoming isolated. Well maintained walkways and cycleways also encourage people to walk or cycle which has numerous health benefits. However, an on-going or increasing reliance private transport will worsen local air pollution, increase community severance, make sustainable modes less attractive and so on. Poor quality public realm may also cause concerns about crime and safety and be harder to access for disabled communities.</p>
<p>What environmental benefits will these priorities provide?</p>	<p>There is an opportunity for the East Lancashire Highways and Transport Masterplan to make an important step towards managing the impact of transport infrastructure on the public realm. Measures to maintain and improve the public realm will help connect isolated/disadvantaged communities, giving residents greater accessibility to services, employment and education by removing barriers discouraging walking, cycling or using public transport. These barriers may include fear of crime, poor road safety and poor quality infrastructure or other accessibility problems.</p> <p>These priorities also offers environmental and health benefits. New or well maintained cycle routes and footways encourage people to walk or cycle and so have the potential to reduce the amount of traffic, therefore increasing air quality and reducing noise pollution. The health benefits of increasing active travel are well known, but improved public spaces, particularly where green infrastructure can be included or where access to the countryside is promoted, also can lead to mental health and personal well being benefits.</p>



	<p>Maintenance (of pavements, street furniture, bus stops, clearing graffiti etc) is often cited in public satisfaction surveys as having a significant influence of feeling of safety, willingness to use public transport, and general satisfaction with local communities. Measures under these priorities should help foster a greater sense of pride in local communities and greater social responsibility on the part of individuals.</p> <p>Public realm enhancements along corridors can provide benefits to biodiversity by allowing greater movement of species.</p>
<p>Will these priorities have any adverse effects, are they acceptable and can these effects be reduced?</p>	<p>The state of public health in Lancashire gives cause for concern across a wide range of measures of health. There is strong evidence to suggest that many of these health problems occur disproportionately in disadvantaged communities and amongst low income families. This may mean that there is less of an inclination to take an active form of travel and so walking and cycling infrastructure may not be utilised as much as they could be.</p> <p>Cuts in funding for local bus services may make it uneconomical to run certain services, particularly in more isolated areas. This would impact significantly on vulnerable people in affected areas. These pressures may increase if additional resources are diverted to support commuter journeys.</p> <p>As previously noted, increased cycling and walking can lead to more accidents.</p> <p>Maintenance practices can lead to the loss of heritage features and degradation of the historic built environment. The replacement of paving slabs and cobbles with tarmac are often cited examples, but other features such as road signs are increasingly criticised for their visual impacts. In many cases, the cost of like-for-like repair of historic highway materials and the cost of rectifying past mistakes are prohibitive. Bridge maintenance work in particular could have an adverse effect on both on biodiversity and water quality.</p> <p>How are these effects reduced?</p> <p>These risks will be reduced by emphasising the importance of provision for disadvantaged communities and targeting interventions will ensure that new infrastructure is provided in consultation with communities.</p> <p>Any work on public transport must take into account all users and journey types.</p> <p>Road safety needs to be a priority throughout all work that results from the masterplan</p>
<p>Conclusion</p>	<p>The quality of public places (particularly in urban areas) is frequently cited by residents and visitors of Lancashire as a significant concern and transport is often a major influence on</p>



	<p>this. This is important in all communities, but is particularly poor in more disadvantaged areas. Differences in the quality of urban environments also exacerbate the separation between more and less affluent groups.</p> <p>Public realm improvements can make a significant impact on vulnerable and isolated communities by giving them greater links and connectivity to the wider community, services, open space as well as the potential health benefits of active travel. The quality of the public realm also has a special influence on how attractive places are for private investment.</p> <p>Proposals to look at alternative ways for those affected by the withdrawal of bus services, particularly those used to access essential services would help reduce the effect of this (particularly on the elder and rural communities)</p> <p>The recognition that highways are an integral and continuous part of the public realm is a useful step. Closer working with other relevant authorities should help improve outcomes locally and allow greater input from local communities</p>
Priority 6:	Visitors find the area attractive and easy to travel around without a car.
What challenges does this priority aim to address?	The visitor economy is very important to East Lancashire and this importance is set to grow. However, many of the visitors who come to the area do so to enjoy the countryside and increasing numbers of cars will ultimately destroy the character and tranquillity of the area that is so attractive. A further reason is that 'green' tourism is itself a growth area which East Lancashire seeks to benefit from.
What environmental benefits will this priority provide?	Reducing the need for cars, particularly in the rural areas will not only have benefits to CO2, noise pollution and tranquillity, but will also result in less need for car parks. A better leisure offer will benefit the rural economy by providing local employment, particularly where there are active leisure opportunities already.
Will this priority have any adverse effects, are they acceptable and can these effects be reduced?	The priority itself should have no adverse impacts, providing access is maintained for those who need a car for mobility and for whom the mainstream transport offer is not appropriate. The type of sustainable transport provided must take into account the nature of the area and in particular of its roads, to ensure that any bus/coach based options are appropriate. Greater use of sustainable modes may lead to more road accidents and inappropriate infrastructure can lead to personal safety issues, both actual and perceived. The safety of cyclists and pedestrians therefore needs to be a key concern as options are developed.
Conclusion	The priority does not have any significant issues that cannot be mitigated, particularly if the priority is considered as one aspect of other sustainable travel measures.

- 4.4. The assessment of the priorities set out above shows that, whilst there are substantial risks, mitigation will be possible through the detailed development of options within the masterplan. However, the extent to which mitigation will be achieved will be dependent on the resources available.
- 4.5. The priorities established for the masterplan and the analysis of their potential consequences summarised above have led to the masterplan being developed under three strands which set out specific work that will be taken forward.
- 4.6. These strands are outlined in the box below:

Connecting East Lancashire, which looks at how East Lancashire connects to other areas, particularly to the rest of the county and neighbouring growth areas, to make sure that its people, economy and housing markets are more fully integrated to areas of opportunity. Key to this connectivity will be the rail network. This will need to provide the enhanced connectivity and service standards that will support East Lancashire's people and businesses in the future. The main motorway gateways provided by the M65 and the M66 will also need to be able to cope with the demands placed on them.

Travel in East Lancashire is about the links between East Lancashire's towns and the major employment and housing locations. Economically, these are the connections that ensure that most people and businesses can link into the wider highways and transport networks. Congestion on key corridors has significant impacts on travel of all kinds, but particularly on commuting, on businesses and on public transport. We therefore need to ensure that the key corridors can cope with the traffic that wants to use them. As well as improving public transport reliability, we also need to do what we can to enhance public transport connectivity within East Lancashire to make bus travel an attractive and viable option where possible, particularly for journeys to employment and education.

Local Travel takes up the challenge of ensuring that everyone, regardless of their background or where they live, can get to the services and opportunities that they need, from education and employment, to leisure and health. Making our cycling and walking networks attractive is key to this. Part of this is making sure that we look after the highways and transport assets we have already – the roads and footways, the lights and signs and all the other things that help our networks function. But the best road, rail, bus and cycle networks serve no purpose if people can't, don't want to or don't know how to access them. We need to make it easy for people to understand their local travel opportunities and have the ability to change between modes of travel, so that whether travelling short or long distances, we can reduce reliance on the private car as much as possible for everyone.

These strands are not independent of each other. Easy local travel, by walking and cycling, needs to feed into the bus and rail networks for longer journeys. The bus and rail networks themselves need to interlink properly both for journeys in East Lancashire and to the wider area. And no matter how far from East Lancashire people and goods are going, the connections to strategic road and rail networks must work to facilitate national and international travel.

4.7. The projects to be taken forward under these strands consist of both studies, to identify where an economic case can be made for highways and transport improvements in line with the masterplan's priorities, and the development of specific schemes. For each of these studies and schemes, key areas of concern and factors for further consideration are outlined in the table below.

Project: Rail Connectivity Study	
What is the project?	Rail connections are currently limited, with infrequent, slow services and very poor rolling stock. This study will focus in particular on the importance of enhanced connectivity between East Lancashire and the growth areas of Preston and Central Lancashire, Manchester (including Manchester Airport) and Leeds. It will also consider how the benefits of HS2 can best be realised in the area. The study aims to produce options for the future development of East Lancashire's rail network and establish the business case for them, with a view to rail industry delivery between 2019 and 2024.
How does it improve and benefit the environment?	Improving rail connectivity offers the potential to reduce road traffic now and to restrict the growth of road traffic in the future. East Lancashire's current rail network and services do not do enough to support the economy and in the future increased demand will need to be catered for if the road network is not to reach capacity.
Are there any adverse environmental impacts and how will these be mitigated?	The majority of outputs are likely to relate to electrification of lines and to rolling stock and service changes. There is the potential for new rail lines to be proposed as a result of the study. Electrification would result in fewer emissions from locomotives, but would have visual implications, as the gantries and lines can be intrusive. The majority of other changes are likely to be environmentally neutral, although clearly any new lines could have significant environmental impacts across the strands covered by this report.
Conclusion	The study seeks to produce the evidence to influence Network Rail's investment plans. As such, the full environmental appraisal of the schemes that result will fall to Network Rail. However, environmental impacts need to be considered as study evidence is drawn up to prevent support for schemes with unacceptable environmental implications.
Project: A56/M66 Rawtenstall to Manchester Gateway Study	
What does this study do?	This will build on work already undertaken and will look at the broader A56/M66 corridor and consider how links to Greater Manchester and to the wider motorway network can be facilitated. The study will consider how congestion can be reduced and bus reliability improved. It will also look at how a rail link could provide benefits to Rossendale and to the wider East Lancashire area and will also consider what form such a link could take, as there are a number of potential solutions to rail provision in that corridor. The study will allow us to work closely with the HA in developing management strategies for the corridor.
How does it improve and benefit the environment?	Reducing car dependency will benefit air quality and reduce CO2 emissions. It will also reduce noise. Whilst there is a rail component to this study, better, more reliable bus connectivity could also open up job markets to those currently struggling to reach them.
Are there any adverse environmental	A major component of the study is reducing congestion. Depending on how this is done, the benefit to the private car could be such that traffic levels increase. Preventing this will be a real challenge to the



impacts and how are these mitigated?	study, particularly as any traffic increases are likely to be seen outside the East Lancashire area.
Conclusion	Although this study should result in significant benefit to public transport, including potentially rail travel, there is a risk of increasing car traffic. Careful consideration will be required of the options the study produces to ensure that this risk is minimised.
Project: Samlesbury / Cuerden / Whitebirk Growth Triangle Study	
What is the project?	<p>The study will focus on those junctions on the M65 and on the A6119/A677 that may need to be improved and on other highway works that may be needed to ensure the capacity, reliability and safety of the network in the area.</p> <p>The study will also look at whether increased capacity on the M65 between the M61 and Whitebirk is needed. Working with the HA, that capacity could be provided by widening the 2 lane sections to 3 lanes, which would be made easier by the fact that the structures were built to ultimately take 3 lanes. The extra capacity could also be provided by the introduction of 'Smart Motorway' technology.</p>
How does it improve and benefit the environment?	Other than potential noise and air quality improvements that would result reducing congestion, there are unlikely to be significant environmental benefits other than those associated with economic uplift (ie population based).
Are there any adverse environmental impacts and how will these be mitigated?	<p>Making it easier to travel by car will undoubtedly help the economic potential of these sites, which are among the most important in Lancashire. However, the scheme is likely to directly encourage car use and could lead to higher car ownership as job creation on the sites leads to car commuting by those who currently do not own a car. The only mitigation that can be applied is to ensure that alternatives to the car are readily available and are sufficiently more convenient to outweigh journey time savings on the motorway, particularly for commuting traffic; this adds to the importance of the public transport work being undertaken in other projects.</p> <p>Furthermore, if options to widen the motorway are pursued, then there will be further loss of habitat and some increase in the intrusion of the road into the landscape. Environmental mitigation of any scheme would be pursued as the scheme developed</p>
Conclusion	This project could lead to significant environmental impact. At this stage, there is not enough detail, particularly of the timing of any intervention, to undertake a full appraisal of these possible impacts. Since the area is key to Lancashire's economic development, these economic factors must also be considered and could outweigh environmental disbenefit. Environmental appraisal will have to accompany option development for this project.
Project: Burnley/Pendle Growth Corridor Study	
What does this study do?	The Study will look at what needs to be done to ensure that our highways can support the economic growth planned for Burnley and Pendle. Starting at Junction 7, the corridor runs along the M65 and then continues along the A6068 Vivary Way/North Valley Road to the junction with the A56 Skipton Road. It then follows the A56 to Earby. As well as looking at how the motorway's junctions function now and in the future, the study will look at the connections to and from the principal employment sites, existing and future, which lie within the broader M65/A56 corridor. The study will identify where junctions may need to be improved or where other highway works may be needed to



	ensure that capacity, reliability and safety issues do not hinder economic growth.
How does it improve and benefit the environment?	Reducing congestion along the M865 corridor will benefit many of the more disadvantaged communities in the area by improving air quality. Furthermore, unlike the previous study, the roads considered in this project are crucial to the bus network and so reducing congestion should improve journey time reliability, thereby making bus travel more attractive. Cycling and pedestrian facilities will be built into improvement options in order to make cycling in particular more attractive.
Are there any adverse environmental impacts and how are these mitigated?	As with any project that aims to reduce congestion, there is an inherent danger of increasing car use as a result. The needs of vulnerable users must also be taken into account to ensure that their safety is not compromised by any measures. Public transport should directly benefit and this project will be coordinated with the development of the East Lancashire Strategic Cycle Network.
Conclusion	There are significant environmental and economic benefits to be brought about by this project. These benefits will accrue to some of the most disadvantaged communities in East Lancashire. The potential to increase car use should not be forgotten as the project develops, but this risk is outweighed by the project's benefits.
Project: Blackburn Corridors	
What is the project?	Studies on Blackburn's Corridors have been completed and works identified. Work under the masterplan therefore focuses on the production of a business case to underpin future funding.
How does it improve and benefit the environment?	Blackburn Town Centre Orbital Route. Once complete, the orbital route will allow traffic to move freely across the town without impacting on the heart of the town centre and, in particular, on the Knowledge Zone. Removing through traffic and reducing other motorised traffic as far as possible will ensure that Blackburn town centre has a vibrant and lively character that will be attractive to residents, visitors and external investors alike. Darwen East Distributor Route will be a new link road on the eastern side of Darwen which will unlock land to enable the future development of new housing and improve access to local employment opportunities planned through the Council's emerging Local Development Framework. The scheme also provides a local traffic alternative to the already busy A666 and enables better access to M65 Junction 4. Fishmoor Link Road will be a new link road which will facilitate future development of housing and employment in the Fishmoor area of Blackburn with Darwen. It also relieves one of the borough's busiest and congested junctions at the Blackamoor Road and Roman Road junction, which is an Air Quality Management Area.
Are there any adverse environmental impacts and how will these be mitigated?	All three road schemes are within the urban area of Blackburn with Darwen and have been already been the subject of environmental appraisal. Adverse impacts are primarily linked to the potential to increase the use of the private car, as discussed in relation to other projects, and to flooding and water quality considerations. The later are or will be mitigated in the detailed design of the schemes.
Conclusion	There are environmental and economic benefits to be brought



	about by this project. These benefits will accrue to some of the most disadvantaged communities in East Lancashire. The potential to increase car use should not be forgotten as the project develops, but this risk is outweighed by the project's benefits.
Project: Ribble Valley Growth Corridor Study	
What does this study do?	The study will include the A59 between Samlesbury and North Yorkshire boundary and also the A671/A6068 and A680/A6185 routes between Whalley and M65 J7 and J8. The study will look at how these important roads can be made to function as effectively as possible for cars, freight and for other users. The study will identify where junctions may need to be improved or where other highway works may be needed to ensure that capacity, reliability and safety issues do not hinder economic growth.
How does it improve and benefit the environment?	As with other corridor studies, there will be local improvements to air quality and to noise. Congestion reductions on the corridors will also benefit public transport. Cycling and pedestrian facilities will also be enhanced which will provide more incentive for these modes.
Are there any adverse environmental impacts and how are these mitigated?	The same caveat that has been applied to many other projects applies here; reducing congestion bottlenecks, particularly on routes in the rural area, is likely to increase car use. The only mitigation is also similar in that providing more convenient alternatives to the car will be the best way to stop increased car use.
Conclusion	The project will need to balance the environmental concerns around car use with the need to support the economy of East Lancashire and in particular access between the Ribble Valley and areas of economic opportunity in the M65 corridor.
Project: East Lancashire Accessibility Study	
What is the project?	The study will focus on travel without a car between the main towns and employment areas, but will include travel to education and for the visitor economy. It will also consider how public transport can best serve rural and remote areas of East Lancashire. In line with likely future funding constraints, the study will focus on where the greatest benefits can be achieved by enhancing accessibility.
How does it improve and benefit the environment?	Links to employment and education are particularly important for those who do not own a car, particularly for deprived areas and remote/rural communities. Enabling those from disadvantaged communities to share in economic opportunity is vital to reducing deprivation and improving health, whilst addressing rural isolation also brings health benefits as well as reducing other long term costs. The needs of the visitor economy also need to be taken into account as a car based visitor economy is not sustainable.
Are there any adverse environmental impacts and how will these be mitigated?	Providing enhanced accessibility will be unlikely to have any negative environmental impact. The only potential impact would be if the links provided meant that more visitors were using the countryside, but since these visitors would not have come by car, any increase is unlikely to be beyond what would occur year on year, but without the impact of car traffic.
Conclusion	With budgets for subsidising bus travel being squeezed, it is ever more important that innovative solutions to accessibility issues are found that have long term viability. With no likely environmental consequences and great potential benefit, this is an effective project.



Project: East Lancashire Strategic Cycle Network	
What does this study do?	The project will build on work done under the Cycling in Lancashire Action Plan and the Cycle Pennine Lancashire initiatives. The focus of the network is travel to employment and education and also travel within the visitor economy. Both elements are intended to support economic growth. However, cycle infrastructure will also support active travel. The first stage of the project will be to identify the components of a strategic cycle network from the point of view of the user, with the intention that this network is intended for day to day use rather than by cycle enthusiasts.
How does it improve and benefit the environment?	By making cycling attractive and convenient for commuting to work and to education, the network will open up opportunities to those who cannot afford to use a car, will help to reduce car use among current car owners and will also provide facilities for active travel that will support health education programmes. Other parts of the network will be targeted, branded and marketed for the leisure economy.
Are there any adverse environmental impacts and how are these mitigated?	There could be limited local damage to the environment from the development of cycle facilities, but this should be outweighed by the new routes providing green corridors for wildlife. More cycle use will bring more people into the countryside, but the impact on tranquillity is likely to be minimal. Where such issues do occur, mitigation will need to be built into the design of the routes. Where the routes share roads with motorised traffic, road safety will have to be a key consideration.
Conclusion	The benefits of providing high quality, well maintained routes that provide convenient commuting options and link to public transport for longer journeys far outweigh any disbenefits.
Project: Local Links	
What is the project?	One thing all these communities have in common is the need for good local links, the local footpaths and routes that facilitate short journeys to school, to the shops or to enjoy being out and about. These journeys are key to local economies and to health and well-being. Local links are also the ones that make it easy to use other means of transport. If local travel is difficult, then making longer distance journeys becomes even more difficult as well. Local links are therefore vital to the economy and local businesses, as well as to our communities.
How does it improve and benefit the environment?	Providing local links that people want to use will be key to supporting local economies and therefore reducing deprivation. Active travel in particular will benefit from these links, with all the health and well being benefits that it brings. Local links will also enhance green infrastructure.
Are there any adverse environmental impacts and how will these be mitigated?	Adverse impacts could occur if the local links are not designed with personal security in mind, however discussions with the community and high quality design should mitigate such considerations. As with the cycle routes, local links will need to be maintained and routes should coordinate with public transport. The opportunity should be taken to actively use local links to provide green infrastructure.
Conclusion	The benefits of providing high quality, well maintained local links that provide convenient commuting options and link to public transport for longer journeys far outweigh any disbenefits.



4.8. These projects all represent the beginning of delivery programmes, for both the two highway authorities and our partners, and as such there is not yet a level of detail available that would allow a detailed assessment of the environmental consequences of the measures that will result. Detailed assessment will follow, forming part of the development of the project options and of the resultant scheme delivery.

4.9. Three schemes are identified as part of the masterplan as still under development:

- Whinney Hill Link Road, Hyndburn
- North Valley Corridor Improvements, Colne
- A56 Colne to Foulridge Bypass

4.10. The first of these is a developer led scheme and the appraisal of it will be carried out as part of the on-going development and design of the scheme by Lancashire County Council. The North Valley Corridor Improvements are all within the existing carriageway and will reduce congestion, offering environmental benefits and consequences discussed as part of the Burnley-Pendle Growth Corridor project.

4.11. The A56 Colne to Foulridge bypass is a proposal to amend an existing road scheme, the A56 Villages Bypass, that has a route protected from Colne to Earby. Whilst this scheme will be the subject of a full environmental appraisal as options are developed, because the changes to the route are proposed within the masterplan, it is appropriate to provide a high level assessment of the M65 to Yorkshire Corridor Study options that have informed development of the scheme so far. These are shown in the box below.

The M65 to Yorkshire corridor study was carried out to establish whether the case for a bypass still existed and if so whether the existing scheme was the right one to take forward. The study concluded that a bypass was still likely to be needed but that a shorter route would provide a more viable and effective scheme.

The study initially identified nine options for delivery of a full bypass with the scope of the original scheme. However, only the six options that were most effective at relieving congestion in the Colne were taken forward to a desktop design stage. It must be noted that the options were assessed in relation to the existing Villages Bypass scheme and not as a complete new route.

The SEA directive was combined with the existing transport appraisal process in England to get The New Approach to Appraisal (NATA). NATA is used to assess the transport projects by considering their impact on:

- Biodiversity/Natural Environment – particularly flora/fauna
- Heritage/Built Environment – Leeds and Liverpool canal and other listed places
- Infrastructure – public utilities
- Landscape – tranquillity and visual intrusion
- Population – impact on people, including health/road safety
- Noise and Vibration – from use and from construction
- Air quality – Mainly CO2 from congestion
- Water quality – impacts on watercourses and run off from the scheme
- Cumulative effects

The table below shows the effect of each option on the SEA criteria. An empty box in the table indicates negligible/no effect, the green circle is indicative of positive change and the cross is for adverse impact.

Environment sub-objective	Red Option	Blue Option	Brown Option	Pink Option	Purple Option	Green Option
Biodiversity	⊗		⊗	⊗	⊗	
Heritage	⊗	⊗	⊗	⊗	⊗	
Infrastructure	⊗			⊗	⊗	
Population	⊙	⊙	⊙	⊙	⊙	
Noise & Vibration	⊙	⊙	⊙	⊗	⊗	⊗
Air Quality	⊙	⊙	⊙			
Landscape	⊗	⊗	⊗	⊗	⊗	⊗
Water Quality						
Cumulative effect	⊗	⊗	⊙	⊗	⊗	⊗

The cumulative effect suggests that the Brown route should be the preferred option. However, if the impact on the potential reinstatement of the Colne to Skipton railway is discounted, there is less distinction between the Red and Brown options, although the Red option potential alignment is closer to housing in Colne and does not provide the road safety benefits of the Brown and Blue alignments.

5 Mitigation and Monitoring

Mitigation

5.1. Mitigation of the risks inherent in this Highways and Transport Masterplan has been discussed for each project in the Plan and certain themes have emerged:

- Options resulting from the further work proposed in the masterplan will need to be carefully considered in the light of this Environmental Report and further assessment carried out as needed, particularly if unanticipated issues are apparent.
- There is a need to promote biodiversity where possible in schemes. This may be as simple as ensuring that new infrastructure links to existing wildlife corridors or that maintenance regime are species friendly.
- Maintenance in areas of historic significance must take into account visual amenity.
- Where possible, public realm enhancements should improve open space provision. This is particularly the case for walking and cycling infrastructure.
- Air quality improvements and noise reduction should be considered in all schemes, particularly connected to maintenance and sustainable transport provision.
- The contribution of surface water run-off to pollution and flood risk must be acknowledged and specific mitigation put in place.
- Although the focus of the Masterplan is on diversifying the economic opportunities, the needs of disadvantaged communities must not be forgotten. Access from these communities is a key consideration for the Masterplan.
- Although not specifically addressed in the further work, the changing demographics of East Lancashire must increasingly be considered, particularly the challenges presented by an ageing population, together with the increased birth-rate above the national average.
- Public attitudes to the needs of the environment vary greatly across East Lancashire and may present a challenge to greater use of sustainable transport modes. Education and social marketing may be required to overcome a reluctance to switch modes.
- Improvements in health will be dependent on an acceptance of sustainable modes of travel.
- Due attention must be paid in all projects to the specific needs of users, particularly those who may be disabled or experience greater challenges in travelling.
- Road safety must be at the forefront of option development.

Monitoring

- 5.2. The effectiveness of mitigation measures can only be gauged by monitoring appropriate indicators.
- 5.3. The purpose of monitoring is to measure the environmental effects of a plan, to measure success against the plan's objectives and to provide useful information for future plans and programmes. Given the resources that intensive monitoring would entail, many of the indicators require data that is already being routinely collected. The monitoring programme will evolve over time as work programmes in this Highways and Transport Masterplan increase our knowledge and delivery options develop. The monitoring of individual schemes/proposals will be addressed at the individual project level.
- 5.4. There are four key areas that are either crucial to the success of the Masterplan or are at significant risk of adverse impact. The Masterplan supports:
- economic growth
 - reduced congestion
 - access to employment
 - access to education

There are however significant risks to:

- biodiversity
 - CO₂ emissions
 - air quality
 - deprivation
 - human health
- 5.5. Consideration has been given to these areas and the data collection that would be necessary to monitor activity in a reasonable way without duplicating work done elsewhere. The result is shown in the table below:

Subject	Monitored	Action
Economic Growth	Yes – Economic Development Unit	Utilise external measures
Congestion	Yes – Journey times	Monitor peak hour speeds on corridors with interventions
Access to employment	NO	Monitor changes in accessibility to key employment sites. Reduction in benefit claimants
Access to education	NO	Monitor changes in accessibility to key
Asset maintenance	Yes – Asset manager	Utilise external measures
Biodiversity	Yes – Single List	Utilise external measures
CO ₂ emissions	Yes - Nationally	No suitable data locally
Air quality	Yes – District AQMAs	Utilise external measures
Deprivation	Yes - Nationally	No suitable data locally
Human Health	Yes	Utilise external measures

Conclusions

- 6.1. This draft Environmental Report identifies the broad-scope environmental implications of the East Lancashire Highways and Transport Masterplan. However, as the masterplan identifies further work streams, rather than specific schemes, it is not possible to determine the full extent of environmental impacts. Individual Environment Impact Assessments will need to be undertaken as part of future option identification where appropriate.
- 6.2. The masterplan does seek to target over-reliance on car journeys which is a major contributor to CO2 emissions and localised poor air quality, noise, visual intrusion, community severance, road safety and poor levels of usage of active transport options.
- 6.3. The masterplan is intended to help facilitate economic growth and as such there is a real risk that car ownership and dependence on the car could be perpetuated. This is particularly the case if car ownership is encouraged in groups who currently do not own a car. The masterplan must therefore ensure that, particularly for non car owners, effective alternatives to the car are provided by public transport, cycling and walking improvements as proposed.
- 6.4. The other significant risk identifiable at this stage is that of safety. As proposals develop, the safety of users must be taken into consideration at the earliest stages. This should include both personal security and road safety.
- 6.5. Overall, the masterplan has the potential to have a significant positive impact on the environment and population of East Lancashire, providing mitigation is put in place against the risks identified here and against any risks that develop as the masterplan itself develops.

Appendix 1: Environmental Context

Environment

1. The baseline data underpinning this assessment is taken from the Environment Report underpinning the LTP3. The data is not generally replicated here. Exceptions are made for key data. Consideration is also given to significant changes in policy affecting the environment.

Natural Environment

2. The current state of BHSs in East Lancashire is given below:
 - **Blackburn with Darwen** - 103 Biological Heritage Sites and 5 Regionally Important Geological / Geomorphological sites covering areas of 3,703ha and 48.6ha respectively.
 - **Burnley** - 41 Biological Heritage Sites and 5 Regionally Important Geological / Geomorphological sites covering areas of 994ha and 473ha respectively.
 - **Hyndburn** - 32 Biological Heritage Sites and 2 Regionally Important Geological / Geomorphological Sites covering areas of 525ha and 253ha respectively.
 - **Pendle** - 62 Biological Heritage Sites and 2 Regionally Important Geological / Geomorphological Sites covering areas of 1,295ha and 14ha respectively.
 - **Ribble Valley** – 291 Biological Heritage Sites and 23 Regionally Important Geological / Geomorphological Sites covering areas of 5,608ha and 661 respectively.
 - **Rossendale** - 52 Biological Heritage Sites and 9 regionally important geological / geomorphological sites covering areas of 2,297ha and 321ha respectively.

Historic Environment

3. The National Heritage List for England produced by English Heritage provides up to date information on the number and type of nationally designated historic places. In total there are almost 2,000 such places in East Lancashire, including 100 Grade II* and 26 Grade I listed buildings.
 - **Blackburn with Darwen** - currently 216 Listed Buildings, 13 Conservation Areas and 6 Scheduled Ancient Monuments respectively, as well as 6 Registered Parks and Gardens.
 - **Burnley** - currently 302 Listed Buildings, 10 Conservation Areas and 23 Scheduled Ancient Monuments respectively, as well as 5 Registered Parks and Gardens.
 - **Hyndburn** - currently 109 Listed Buildings, 10 Conservation Areas and 1 Scheduled Ancient Monuments respectively, as well as 0 Registered Parks and Gardens
 - **Pendle** - currently 319 Listed Buildings, 26 Conservation Areas and 11 Scheduled Ancient Monuments respectively, as well as 0 Registered Parks and Gardens.
 - **Ribble Valley** – currently 821 Listed Buildings, 22 Conservation Areas and 28 Scheduled Ancient Monuments respectively, as well as 4 Registered Parks and Gardens.
 - **Rossendale** - currently 266 Listed Buildings, 9 Conservation Areas and 2 Scheduled Ancient Monuments respectively, as well as 1 Registered Parks and Gardens.



Air Quality

4. Under the Environmental Protection Act 1995, each district in Lancashire is required to review and assess air quality in their area. National Air Quality Objectives have been set by Government for seven pollutants (Benzene, 1,3 Butadiene, Carbon Monoxide, Lead, Nitrogen Dioxide, Particulates and Sulphur Dioxide). Air pollution is measured and predictions made as to how it will change in the following few years. If a local authority finds any places where the objectives are not likely to be achieved, it must declare an Air Quality Management Area (AQMA) and then put in place a Local Air Quality Action Plan.
5. The current AQMAs declared in East Lancashire are shown in the table below.

Air Quality Management Areas (AQMAs)

District Authority	Location of AQMA	Area included	Date of Declaration	
Blackburn with Darwen Borough Council	Accrington Road and Burnley Road	Incorporating sections of Accrington Road, Longton Street and Burnley Road, Blackburn	08/02/2012	
	Four Lane Ends	Incorporating sections of Revidge Road, Lammack Road, Pleckgate Road and Shear Brow.	08/02/2012	
	Blackmoor Intack	Incorporating sections of Stopes Brow, Roman Road, Blackmoor Road and Wisteria Drive.	08/02/2012	
	Bastwell		An area encompassing the junction between Accrington Road, Whitebirk Road, St Ives Road and Shadsworth Road in Intack, Blackburn.	18/10/2005
				18/10/2005
	A666 between Robert Street and Wraith Street	An area encompassing a section of Whalley New Road in Bastwell, including the junctions with Maple Street, Plane Street and Whalley Range.	18/10/2005	
	Witton	An area along the A666 (Duckworth Street/Market Street/Bolton Road) in Darwen, between Robert Street and Wraith Street	18/10/2005	
	Earcroft	An area encompassing the junction of Redlam, Preston Old Road and Buncer Lane in Witton, Blackburn.	18/10/2005	
Intack	An area encompassing the junction between Accrington Road, Whitebirk Road, St Ives Road and Shadsworth Road	18/10/2005		

		in Intack, Blackburn.	
Burnley Borough Council	Duke Bar	An area around the junctions of Briercliffe Road with Colne Road and Swinless Street in Burnley.	12/10/2007
Hyndburn Borough Council			
Pendle Borough Council	Windsor Street	Windsor Street, Colne and Shipton Road, Colne between the junction with Windsor Street/Byron Road and Temple Street/Oak Street.	01/04/2010
Ribble Valley	Whalley Road	Comprises of Whalley Road, Clitheroe and the area which extends in either direction of these roads	31/05/2010
Rossendale Borough Council	Bacup Road	Area surrounding junction St Mary's Way/Bury Road	08/01/2013
	Manchester Road	Approximately 0.5km of road stretching from Park Avenue / Manchester road Junction to the Manchester Road / Haslingdon Road roundabout	08/01/2013

<http://aqma.defra.gov.uk/list.php>

CO2 Emissions

6. East Lancashire has a wide divergence in terms of the sources for CO 2 emissions. Overall, 50% of East Lancashire's emissions were attributable to industry and commerce sector sources, 29% to the domestic sector, 21% to transport and a minor residual and 0.5% to land use, land use change and forestry. These numbers are dramatically different to those for Lancashire as a whole (14 districts). The totals were: industry and commerce 38%, domestic 30.5%, transport 29% and land use and change 2%.
7. Expressed in terms of per capita (per resident) in order to make allowance for the different size of areas, total CO2 emissions in the 14 district Lancashire County Council area, at 6.8 tonnes per annum, were marginally lower than the UK average of 6.9 tonnes. In considering such per capita ratios it should be noted that while emissions per resident may be a useful measure for domestic emissions, emissions from industry and road transport are driven by many factors other than the size of the resident population so these ratios should be interpreted with caution.
8. Road transport emissions include freight and passenger transport, both private and for business purposes. The estimates of road transport CO2 are made based on the distribution of traffic, therefore some of the emissions within an authority represent through traffic, or part of trips into or out of the area whether by residents or non-residents.

Climate Change

9. Climate Change is often seen as a 'global' issue with impacts such as rises in sea level, flooding, temperature increases and extreme weather having much less effect on

the North West of England than other parts of the world. Whilst the North West may not expect to experience some of these extremes there will be changes in local weather patterns that may cause disruptions to business and distress to individuals here in Lancashire. However, by the predictive nature of the science, the likely change to our climate is one of the most difficult environmental variables to quantify succinctly in a report such as this. Option 2 of the Highways and Transport Masterplan, sets out an engineering solution to improve connectivity within East Lancashire, and to the adjoining areas of Greater Manchester and Central Lancashire.

10. The UK Climate Projections (UKCP09) provide climate information designed to help those needing to plan how they will adapt to a changing climate and is the fifth generation of climate information for the UK. Projections are broken down to a local level across the UK and illustrate the potential range of changes and the level of confidence in each prediction.
11. The projections are given as the value averaged over each of seven future overlapping 30 year time periods, stepped forward by a decade, starting with 2010–2039. The use of 30 year time periods reduces the effect of uncertainty due to natural internal variability. These future time periods are referred to for simplicity by their middle decade, starting from the 2020s (2010–2039) and ending with the 2080s (2070–2099). All changes are expressed relative to a modelled 30 year baseline period of 1961–1990.
12. There are uncertainties in future emissions. Though small over the next two or three decades, mainly because of climate system inertia, these uncertainties will be substantial in the second half of the century. UKCP09 therefore use three different scenarios for future emissions. These were decided, following consultation, as the A1FI, A1B and B1 scenarios in the IPCC Special Report on Emission Scenarios (SRES) — renamed for simplicity in UKCP09 as High, Medium and Low respectively.
13. The High emission scenario was used to produce projections for the Lancashire Adaptation Wizard which is available on the internet for use by anyone interested in climate change in the county (Lancashire Climate Change Projections). These projections cover 9 areas of Lancashire and are not replicated here.
14. Extreme events are also predicted to increase and UKCP09 also includes prediction tools for these. These tools have been recently updated and work remains to revisit the Lancashire predictions. It is anticipated that this will be completed for subsequent ER updates.
15. The affect of Climate change on Lancaster will be significant. The Environment Agency as the lead water management body for England has produced River Catchment Flood Management Plans for all rivers across the country which outlines the major future issues for areas in relation to climate change. Lancashire will see: sea level rise, an increase in peak river flows and as a result an increase in the number of properties at risk of flooding.
16. East Lancashire is covered by the River Ribble Catchment Flood Management Plan. The plan predicts a 20 percent increase in peak flows and a 94 percent increase in the number of properties likely to flood as a result of climate change by 2100. This is translated into an increased flood depth of 0.3m in Burnley and Colne and 0.2m in Blackburn and Nelson.

Access / Open Space / Recreation

17. East Lancashire has a network of 3,547 km of public rights of way, including 355 km of Bridleways. Access is also promoted through the Lancashire Countryside Service which manages country parks (including Wycoller in Pendle), and a host of other sites (picnic sites, recreation sites, access areas, etc) that together offer a range of opportunities for people to enjoy the Lancashire countryside.
18. Access to the countryside is partly managed through the implementation of the Countryside and Rights of Way Act. The Act requires every highway authority in England and Wales to prepare a Rights of Way Improvement Plan. The Lancashire Rights of Way improvement Plan (ROWIP) has been produced to meet the requirements of the Countryside and Rights of Way Act 2000 (CROW). The ROWIP assesses the extent to which rights of way meet the present and likely future needs of the public, the opportunities provided by rights of way for exercise and other forms of open air recreation and enjoyment and the accessibility of rights of way to blind and partially sighted persons and others with mobility problems.
19. The key commitments of the ROWIP are to:
 - improve access to the rights of way network on the urban fringe and encourage more people to enjoy the benefits of walking.
 - wherever possible take opportunities to develop or create multi user routes where all can enjoy better access, including the less mobile, horse riders, cyclists, families and walkers.
 - work with the landowning and farming communities to improve access and look to assist them in resolving land management issues where access is concerned. Including the new rights of access to open countryside.
 - continue to develop an integrated network of bridleway routes, which can also cater for cyclists.
 - work with motorized users who wish to promote responsible use of the right of way network where legal.
 - wherever possible make changes to the rights of way network that will improve access for those with mobility problems or other disabilities

Landscape

20. The upland landscape of East Lancashire is particularly diverse, including Pendle Hill (which lies within part of the Forest of Bowland AONB), the Forest of Trawden and the Pennine Moors, which are frequently defined by steep sided clough valleys .
21. In 2007 Lancashire County Council created a landscape classification system based on the former Countryside Commission's Character of England Map. According to the landscape classification system there are 15 Landscape Character Types and Areas in Pennine Lancashire. These include: Suburban, Moorland hills, Moorland plateaux, Undulating lowland farmland, Moorland fringe, Historic core, Rolling Upland Farmland, Industrial Foothills and Valleys, Industrial Age, Enclosed Uplands, Settled Valleys, Reservoir Valleys, Farmed Fringes, Drumlin Field, Valley Floodplains.
22. The East Lancashire area is dominated by two character types. In the south of the plan area the dominant area type is industrial foothills and valleys and in the north it is undulating lowland farmland.

Population

Deprivation

23. Many areas suffer the problems of multiple deprivation such as poor health, high infant mortality, low life expectancy, large numbers of benefit claimants, low skill levels, poor housing quality and high levels of worklessness. A major concern is the direction of change, which suggests that deprivation is becoming even more entrenched across Lancashire. In comparison between the 2007 and 2010 Indices of Deprivation, 10 of the 12 county districts, (excluding Rossendale and Wyre) have worse rankings than in 2007.
24. The most deprived district in the county is Burnley, ranked as the 21st most deprived nationally, 10 places worse than its 2007 ranking, placing the area within the 10% most deprived in England. Due to this worsening position, Burnley has now replaced Blackburn with Darwen as the second most deprived district in the wider Lancashire sub region, behind Blackpool.
25. However, if the ranking is based on the degree of deprivation experienced by the most deprived decile (10%) of the district's population, called the local concentration, then Blackburn with Darwen (7th), Burnley (4th) Hyndburn (27th), and Pendle (29th) are all in the worst decile in the country. This indicates the very severe deprivation in these districts. In comparison Rossendale is ranked 123rd and Ribble Valley 312th (out of 326 local authorities). As noted earlier in the report in East Lancashire there are 16 lower super output areas¹ (LSOA) in the worst 1% in the country. The wards that have LSOAs in the worst 5% have been highlighted as priority neighbourhoods.
26. The position in Lancashire is worsening, with the percentage of LSOAs falling into the most deprived 10% increasing from 15.5% to 17.4%, between 2007 and 2010. In contrast the percentage of LSOAs from the most affluent 10% has increased from 1.2% to 5.4% suggesting the gap is widening between the most and least deprived areas.
27. The deprivation dimension figures from the 2011 census have recently been released and provide detailed information for Lancashire. The dimensions of deprivation used to classify households are the following four indicators based on selected household characteristics:
 1. Employment: any member of a household (who is not a full-time student) is either unemployed or long-term sick.
 2. Education: no person in the household has at least a level 2 education, and no person aged 16-18 is a full-time student.
 3. Health and disability: any person in the household has general health rated 'bad' or 'very bad' or has a long-term health problem.
 4. Housing: household accommodation is either overcrowded, with an occupancy rating of -1 or less, or is in a shared dwelling, or has no central heating.

¹ Lower super output areas (LSOAs) are units of geographic boundary developed by the Office for National Statistics. LSOAs each contain a minimum population of 1,000 persons and on average (mean) contain a population of 1,500 persons. There are 32,482 LSOAs in England.

28. For the 12-district Lancashire area 43.0% of households were classified as 'not deprived', which is slightly higher than the England and Wales rate of 42.3%. The table below shows the figures for East Lancashire.

Area	Not deprived	Deprived in one dimension	Deprived in two dimensions	Deprived in three dimensions	Deprived in four dimensions
Blackburn with Darwen	35.9	32.1	22.8	8.3	0.8
Burnley	36.2	31.3	23.5	8.1	0.8
Hyndburn	37.9	31.6	22.7	7.2	0.7
Pendle	37.3	32.2	22.5	7.4	0.6
Ribble Valley	53.3	30.1	13.9	2.6	0.2
Rossendale	43.5	30.5	19.7	5.8	0.5
Lancashire (12-districts)	43.0	31.7	19.5	5.3	0.5
Lancashire (14 districts)	41.2	31.8	20.5	6.0	0.6
North West	40.5	31.7	20.8	6.4	0.6
England and Wales	42.3	32.6	19.3	5.2	0.5

29. In East Lancashire fuel poverty is a significant issue for most districts. Revised fuel poverty statistics for 2011 have recently been published by the government. The new results use a 'low income, high cost' definition of fuel poverty that supersedes the former definition based on households spending 10% or more of their income on fuel.
30. The table below shows the number and percentage of fuel-poor households in East Lancashire districts and the ranking in comparison with the other authorities in England (where one is the worst out of 326 authorities).

Area	Number	Percentage	Rank*
Blackburn with Darwen	7,367	13.4%	43
Burnley	5,721	15.4%	11
Hyndburn	5,120	15.0%	14
Pendle	6,064	16.0%	5
Ribble Valley	3,011	12.6%	76
Rossendale	3,783	13.1%	56
Lancashire-12	65,525	13.1%	-
Lancashire-14	85,036	13.7%	-
North West	372,332	12.5%	-
England	2,390,053	10.9%	-

31. Not surprisingly, East Lancashire has a higher proportion of homes in council tax band 'A' (the lowest band), with Pendle (62.2%) and Burnley (61.7%) having the highest percentages. The table below shows the percentage breakdown of properties in each council tax band.

	Band A %	Band B%	Band C%	Band D %	Band E %	Band F %	Band G %	Band H %
Blackburn with Darwen	58.6	15.0	13.7	7.0	3.3	1.3	0.9	0.1
Burnley	61.7	12.3	15.0	6.7	3.1	0.8	0.3	0
Hyndburn	59.3	14.8	14.9	7.3	2.4	0.7	0.5	0.1
Pendle	62.2	11.2	10.7	7.8	4.3	2.4	1.3	0.1
Ribble Valley	14.1	19.3	19.3	17.7	13	8.2	7.5	0.8
Rossendale	51.4	15.4	13.0	10.4	6.0	2.1	1.4	0.1
Lancashire 12	37.6	19.4	18.5	12.	7.1	3.4	1.9	0.2
Lancashire 14	40.3	20.1	17.7	11.0	6.2	2.9	1.7	0.1
North West	41.8	19.9	17.5	10.1	5.8	2.8	1.9	0.2
England	24.8	19.6	21.8	15.3	9.4	5.0	3.5	0.6

Population

32. Between 2001 and 2011 the Lancashire county area (12 districts) saw a 3% increase in population, in comparison to the North West (5%) and England and Wales (7%).
33. More specifically the resident population of the 12-authority Lancashire area stood at 1,175,979 in mid-2012. This represented an increase of 0.3% over the previous year, lower than the rate for England and Wales (0.7%) and the North West (0.4%). The 2012 mid-year population estimates for East Lancashire show population increases between 2011-12 in Ribble Valley (0.5%), Rossendale (0.5%) and Burnley (0.1%); Hyndburn shows a decrease of 0.4%, with Pendle (0.0%), and Blackburn with Darwen (0.0%) remaining the same; overall, Lancashire-12 shows an increase of 0.4%.
34. In terms of the age profile of Lancashire, the county has fewer 25 - 44 year olds than regional and national averages, but a higher proportion of residents aged 65 and over. The age of the remainder of the population is broadly comparable to the national picture.
35. In the youngest age group (0-14 years) four districts from the east of the county, Blackburn with Darwen (21.7%), Hyndburn (19.1%), Pendle (19.3%) and Burnley (18.7%), show the highest proportions, reflecting above average birth rates compared to England (17.7%). Rossendale (11.9%) and Ribble Valley (11.9%) have lower

proportions of 15-24 year olds than Lancashire-12 (13.2%) and national (12.9%) comparisons.

36. The table below show the mid-year population breakdowns (percentage) by age group for East Lancashire districts, Lancashire (12 districts) and England.

Age group	Blackburn with Darwen %	Burnley %	Hyndburn %	Pendle %	Ribble Valley %	Ross'dale %	Lancs -12 %	England %
0-4	7.7%	6.9%	6.7%	7.2%	4.9%	6.4%	5.9%	6.3%
9 yrs	7.2%	6.1%	6.3%	6.2%	5.6%	5.9%	5.6%	5.8%
10-14yrs	6.9%	5.7%	6.0%	5.9%	6.4%	5.9%	5.6%	5.6%
15-19yrs	7.0%	6.2%	6.5%	6.0%	6.3%	6.1%	6.4%	6.1%
20-24yrs	6.3%	6.3%	6.1%	6.1%	4.7%	5.6%	6.9%	6.8%
25-29yrs	7.2%	6.7%	6.4%	7.0%	4.3%	5.7%	5.9%	6.8%
30-44yrs	20.8%	19.2%	19.8%	19.5%	17.2%	20.2%	18.5%	20.3%
45-59yrs	18.0%	19.8%	19.3%	19.1%	22.8%	21.3%	20.3%	19.6%
60-64yrs	5.1%	6.2%	6.0%	6.3%	6.9%	6.5%	6.3%	5.6%
65-69yrs	4.3%	5.5%	5.5%	5.4%	6.8%	5.7%	5.9%	5.2%
70-74yrs	3.2%	3.9%	3.9%	3.7%	4.8%	3.7%	4.4%	3.8%
75-79yrs	2.5%	3.1%	3.0%	3.1%	4.0%	2.8%	3.5%	3.2%
80-84yrs	1.8%	2.3%	2.3%	2.4%	2.8%	2.1%	2.6%	2.4%
85-89yrs	1.1%	1.4%	1.3%	1.4%	1.7%	1.3%	1.6%	1.5%
90+yrs	0.6%	0.8%	0.7%	0.8%	1.0%	0.8%	0.9%	0.8%

37. Projections suggest that over the next 25 years the overall population for the Lancashire county area will increase by 8.6%, which is similar to the North West forecast but substantially below the estimated national increase of 18%. This translates into an additional 100,000 people in Lancashire. Some localities in the east of the county will see either minimal increases; such as Hyndburn (2%), or in the case of Burnley a population decline of 2.7%.

38. As with the UK as a whole the Lancashire county area is faced with demographic changes in the long-term that will see the working age population grow at a much slower rate than the population of older people, aged 65 years plus. Projections for the period 2011 - 2021 show that the county area will face the challenge of an ageing population without significant growth in the numbers of younger residents, which will impact noticeably upon the Lancashire economy.

39. There will be a reduction in the numbers of younger people from birth up to 24 years old, with in particular decreases of 8.1% in 15-19 year olds and 5.5% in 20-24 year olds. There are also forecast reductions in the ages between 35 years and 59 years. These reductions are not offset by projected increases in other age groups and will mean a reduction in the overall resident working age population. From 65 years onwards, there are some quite dramatic increases in all older age groups, such as increases of 49% in 70-79 year olds, 73% in 80-84 year olds and 120% in 85 to 89 year olds, vividly demonstrating the future ageing of the Lancashire population. This will result in an increase in the demand for certain public services in the longer-term.

Unemployment

40. On the whole Lancashire has a relatively low unemployment rate, but this overall picture masks significant levels of unemployment and economic inactivity in the more deprived parts of Lancashire. Worklessness is particularly acute in some localities, with over 110,000 Lancashire residents considered to be workless.

41. Lancashire has higher rates of 18 to 24 year olds on the claimant count than national averages, with 32.7% compared to 29.5% nationally, although the levels of claimants in the county since 2004 remain consistently similar. The county performs relatively well in respect of longer-term JSA claimants, with the percentage of people claiming for more than a year and up to 3 years at 10.3% in Lancashire, substantially below the 16.9% in the UK. Only 0.1% of claimants are on the JSA claimant count for more than 3 years in Lancashire compared to 0.9% nationally.

42. In East Lancashire there are high levels of JSA claimant counts (July 2013 figures) in several districts. Both Blackburn with Darwen and Burnley have the highest level of claimants. For Burnley, Bank Hall (9.3%) and Danehouse with Stoneyholme (8.8%) record over twice the rate for the North West (3.9%) and Great Britain (3.4%); significantly above the Lancashire-12 rate (2.8%). In Blackburn with Darwen, Wensley Fold (9.3%) and Shadsworth with Whitebirk (8.8%) having the highest claimant counts. In Hyndburn, Central ward (5.7%) and Springhill (7.1%) have the highest claimant counts. There is a similar picture in Pendle (Bradley: 6.0%, Southfield: 5.7%) and Rossendale (Irwell: 4.6%, Stackstead: 4.8%). There are no wards in Ribble Valley with rates above the county, regional or national figures.

43. According to the Annual Survey of Hours and Earnings 2012, residence-based earnings in East Lancashire (with the exception of Ribble Valley), are lower than the figure for Lancashire-12 (£372.10), the North West (£378.00), and Great Britain (407.50).

	Residence based	Workplace based
Blackburn with Darwen	£317.2	£351.40
Burnley	£367.30	£374.60
Hyndburn	£336.40	£350.20
Pendle	£362.40	£363.10
Ribble Valley	£440.20	£408.00
Rossendale	£378.70	£324.30
Lancashire-12	£372.10	£365.10
North West	£378.00	£378.00
Great Britain	£407.50	£406.80

44. The average gross household income in East Lancashire (with the exception of Ribble Valley and Rossendale) is lower than for Lancashire-12. The table below has the average (mean) gross income and the average (median) gross income for the districts in East Lancashire.

	Average (mean) gross income	Percentage change (mean) gross income), 2012-13	Average (median) gross income
Blackburn with Darwen UA	£31-32,000	-0.6%	£23-24,000
Burnley	£31-32,000	-2.0%	£24-25,000
Hyndburn	£31-32,000	-0.4%	£24-25,000
Pendle	£31-32,000	-2.0%	£24-25,000
Ribble Valley	£39-40,000	-0.3%	£31-32,000
Rossendale	£34-35,000	-1.3%	£27-28,000
Lancashire-12	£34,200	-0.6%	£26,500
North West	£33,800	-0.6%	£26,000
Great Britain	£36,000	0.0%	£28,000

45. Low household income can be the result of unemployment, retirement, poor quality/low paid employment, or other economic inactivity. The relationship between unemployment/low income and poor health is well documented. It can increase health inequalities, through people engaging in negative lifestyle behaviours such as smoking, drinking and reduced physical activity levels. It can lead to physical and mental health problems, including stress, depression and anxiety and a lack of social integration, support and social participation provided through quality work. A reduced income can lead to lower living standards in the form of poor housing, cold living conditions and fuel poverty.

Education and Skills

46. Educational achievement in the Lancashire county area is mixed with some areas performing well but others, particularly in East Lancashire, showing results significantly below the national average. In 2012 Burnley had the lowest percentage in the county of pupils achieving at least 5 GCSE grade A*-C passes or equivalent including English and maths at 48.0%. Despite this position, Burnley's performance has continually improved over recent years.
47. Overall Lancashire's skills profile is broadly comparable to national averages and slightly better than the regional position. In terms of higher level skills there are 31.6% of Lancashire working age residents qualified to NVQ level 4 and above compared to 28.7% in the North West and 31.1% nationally. Level 3 qualifications stand at 52.6% for Lancashire, with 49.6% in the region and 50.7% nationally. The county has 69.9% residents qualified to NVQ level 2, higher than the North West, with 66.8%, and England, with 67.0%. Overall Lancashire also compares more favourably in terms of residents with no qualifications, with 10.8% in Lancashire, 12.1% regionally and 11.3% nationally.
48. At a more local level there is a strongly contrasting skills picture. There are high proportions of working age residents in Burnley (43.8%), Hyndburn (41.9%), Pendle (41.5%), Rossendale (37.7%) and Blackburn with Darwen (43.1%) with few or no

qualifications i.e. below NVQ 2. Residents from Lancashire's deprived areas record low skills levels significantly above national comparisons, with poor educational attainment and a lack of qualifications directly linked to worklessness in these areas.

49. Increasingly NVQ level 2 qualifications are considered a minimum requirement for the workforce, as employers seek individuals with employability skills. This presents a significant barrier to employment for a substantial proportion of Lancashire residents with low or no skills.
50. A key issue for Lancashire's economy is an insufficient number of people with higher level qualifications and too many low or unskilled individuals. Employers will, to a greater extent, demand higher level qualifications as the norm and more people with higher level skills are needed to support the shift to a higher value economy and for Lancashire to compete economically.

Crime

51. The levels of crime are varied across the districts in East Lancashire; Burnley (96.9 per 1,000 of the population) has the highest crime rate in Lancashire-12 (60.4), whilst Ribble Valley has the lowest (27.7).
52. The following table shows the wards with the highest and lowest rates for all crime for each district in East Lancashire (April 2011-March 2012).

District	Ward highest	Rate	Ward lowest	Rate
Blackburn with Darwen	Shear Brow	182.5	North Turton with Tockholes	25.8
Burnley	Daneshouse with Stoneyholme	284.1	Cliviger with Worsthorne	25.4
Hyndburn	Barnfield	167.2	Baxenden	23.9
Pendle	Waterside	135.5	Blacko and Higherford	25.8
Ribble Valley	Derby and Thornley	50.3	Wilpshire	10.5
Rossendale	Stackstead	81.5	Helmshore	23.0

Source: [MADE community ward safety map](#)

53. Crime and disorder problems on public transport are a serious concern for transport providers, service users and the community. A public transport system where people can travel easier and safer is a key corporate priority for Lancashire County Council and in Lancashire there is in excess of 62 million bus passenger journeys made each year. There were nearly 15 million entries and exits at railway stations in Lancashire. Crime and incidents on the railway system in Lancashire has reduced by 18% (September 2009-August 2010) compared to the previous 12 months. Safer Travel unit statistics show that there was a reduction of 15% April 2009 – March 2010, when compared with the previous period. Incidents on school buses fell by 5% and incidents on public buses fell by 28%. However, there has been an increase in the second quarter of 2010 (July to September 2010) on public buses.
54. Crime and anti-social behaviour on public transport discourages people from using it and contributes to increased road usage. A Department for Transport survey found that 11.5% more journeys would be made on public transport if passengers felt they were more secure. This would equate to 7.13 additional bus journeys and 1.5 million more railway station entry and exits in Lancashire each year.

Human Health

55. The variations that exist in life chances in Lancashire can be measured by life expectancy, health outcomes, and quality of life. Lancashire is diverse and varied in terms of social issues facing the county, with large areas experiencing issues including poor health, deprivation, social exclusion, low educational attainment, limited employment opportunities, and poor housing and neighbourhoods.
56. There are affluent districts that have pockets of deprivation, particularly in rural locations, where access to services can be restricted. The relationship between the social issues and lower life expectancy / poorer health is complex and is strongly correlated with measures of socio-economic status and other wider determinants of health such as the natural and built environment (public realm), community, lifestyle behaviours and the local economy.
57. The health challenges facing the county are examined in detail in Lancashire's Joint Strategic Needs Assessment (JSNA), which provides an overview of the health status of the population. The key transport-related health issues are:
- casualty rates particularly among children and vulnerable road users
 - poor self-reported health and well-being
 - increasing rates of obese and overweight residents in the population
 - cardiovascular diseases
 - diabetes
58. The health of people in East Lancashire is poor, compared to the England averages. Life expectancy at birth amongst males and females (except for Ribble Valley) is significantly worse than for England.

Area	Female life expectancy	Significance to England	Male life expectancy	Significance to England
England	82.9	-	78.9	-
Blackburn with Darwen	80.5	worse	75.7	worse
Burnley	80.6	worse	75.6	worse
Hyndburn	80.4	worse	75.8	worse
Pendle	80.9	worse	77.7	worse
Ribble Valley	83.2	no difference	79.3	no difference
Rossendale	80.9	worse	76.2	worse

Source: [JSNA health inequalities Lancashire](#)

59. In the most deprived areas of East Lancashire, the difference in life expectancy is particularly marked. As the table below shows, males living in the most deprived areas of Burnley will live on average 13.7 years less than males in the least deprived. In Pendle females will live 9.7 years less than their counterparts in the most affluent areas.

	Males	Females
Local authority	Slope Index of Inequality	Slope Index of Inequality
Median value of upper tier LA results in England	8.9	5.9
Median value of lower tier LA results in England	7.7	5.6
Lancashire-12	10.3	7.6
Blackburn with Darwen	13.0	7.4
Burnley	13.7	6.3
Hyndburn	11.3	9.0
Pendle	12.4	9.7
Ribble Valley	-0.7	4.6
Rossendale	6.7	6.4

Source: [Slope Index of Inequality, 2006-10](#)

60. With regards to disability-free life expectancy, there are large variations. Men in Ribble Valley can expect to have 12.7 years free from disability (at age 65), which is the best rate in Lancashire. In comparison, men in Hyndburn will have 7.7 years free from disability. A similar picture emerges for females – in Ribble Valley women on average will have 13.3 years free from disability, in direct contrast with only 5.2 years in Pendle.

District	Male disability-free life expectancy	District	Female disability-free life expectancy
Ribble Valley	12.7	Ribble Valley	13.3
Pendle	9.3	Hyndburn	10.3
Rossendale	8.6	Rossendale	10.0
Blackburn with Darwen	8.4	Blackburn with Darwen	7.6
Burnley	8.4	Burnley	6.8
Hyndburn	7.7	Pendle	5.2
North West	9.3	North West	9.8
England	10.2	England	10.9

Source: [JSNA health inequalities – healthy life expectancies](#)

61. The behavioural risk factors for many long-term conditions (such as cancer, coronary heart disease, and chronic obstructive pulmonary disease) include physical inactivity; whilst the associated medical risks of inactivity include high blood pressure, being overweight or obese and having diabetes.
62. Walking and cycling for transport can be the most appropriate physical activity option, offering the potential for daily physical activity of sufficient frequency and intensity. Even low levels of walking can have great potential for health gain and can be undertaken by the most inactive.
63. Whilst walking and cycling can contribute to physical activity objectives in the public health outcomes framework, they can also provide other benefits, including improving

local air quality through CO2 reductions, and increasing social interaction and social capital.

64. However, as previously noted, the poor quality of many public spaces makes walking, cycling and the use of public transport unattractive and compounds perceived fears about crime and safety. Levels of traffic congestion and a lack of facilities addressing the needs of cyclists and pedestrians may further discourage residents from using sustainable transport options as their transport preference.
65. Whilst there are risks associated with walking and cycling (see road safety section below), physical inactivity is riskier than being active; Department for Transport (DfT) road traffic casualties for 2012 reported 118 cyclists killed on the road, with 420 pedestrian deaths. In comparison, there were 32,647 deaths from coronary heart disease attributed to inactivity (British Heart Foundation statistics 2010). Therefore, it is imperative that further cycling (and walking) opportunities are appropriately exploited.

Road Safety

66. Perceptions of safety on the road continue to be a major barrier to sustainable travel options. There has been a 7% reduction in pedestrian deaths in Great Britain between 2011 and 2012 (Department for Transport), however, the number of seriously injured pedestrians increased by 2% to 5,559. There were a total of 25,218 reported pedestrian casualties in 2012, down 4% in comparison with 2011. The number of cyclists killed increased 10% between 2011 and 2012, whilst, the number of seriously injured cyclists increased by 4% to 3,222. The number of seriously injured cyclists continues to increase, a trend that has been observed over the past eight years.
67. The number of people injured in road traffic collisions (RTC) in Lancashire has been decreasing year on year. However, the rate (per thousand of the population) for Lancashire is still above both the North West and England rates. Regrettably, 38 people were killed and 612 were seriously injured (KSI) on the roads in Lancashire during 2011 as drivers, passengers, pedestrians or cyclists. These RTC also place burdens on emergency and health services and have an economic impact on communities. Many accidents are avoidable and Lancashire's Road Safety Strategy 2011 - 2021 will deliver actions that will aim to reduce the number of accidents that occur in future.
68. The issues and priorities in East Lancashire:
 - In Ribble Valley the 16 to 25 year age group represent 31% of all those killed and seriously injured (Lancashire-12: 27%)
 - The rate of killed and seriously injured casualties as car occupants amongst 16-25 year olds, per head of population, in Ribble Valley is the worst in Lancashire
 - In Hyndburn children and young people aged up to 25 years represent 50% of all the killed and seriously injured casualties (Lancashire-12: 40%)
 - The 0-15 year age group represents 22% of all those killed and seriously injured in Hyndburn (Lancashire-12: 13%)
 - In Burnley children and young people aged up to 25 years represent 51% of all the killed and seriously injured casualties (Lancashire-12: 40%)
 - The 16 to 25 year age group represents 32% of all those killed and seriously injured in Burnley (Lancashire-12: 27%)



- In Burnley 83% of all children killed and seriously injured were pedestrians (Lancashire-12: 67%)
 - In Pendle children and young people aged up to 25 years represent 47% of all the killed and seriously injured casualties (Lancashire-12: 40%)
 - The 0-15 year age group represents 25% of all killed and seriously injured in Pendle (Lancashire-12: 13%)
 - In Rossendale children and young people aged up to 25 years represent 47% of all the killed and seriously injured casualties in Rossendale (Lancashire-12: 40%)
 - Rossendale has the worst rate for 20-25 year olds killed or seriously injured
 - In Blackburn with Darwen 47 children were killed or seriously injured between 2009-11; the worst rate in the country
69. The JSNA Health Inequalities report states that accidents are one of the top ten causes of reduced life expectancy of both sexes in Lancashire. For road traffic collisions, the most vulnerable age group are young adults.
70. Lancashire Opinions on Policing (LOOP) Survey 2 found that dangerous / inconsiderate driving / speeding cars was one of the top three things that made people feel unsafe. The Living in Lancashire panel was asked in June 2010 what the main problems in their local area are; 45% felt that speeding cars or motorbikes was the biggest issue.
71. Significant progress has been made in tackling road safety issues over recent years, with accident reduction rates that are better than the national average. The progress made highlights what can be done and reinforces the belief that we can go further in improving the safety of our highway network.
72. Reducing the number of road traffic casualties can make the biggest change to cycling and walking rates. Perceptions of unsafe roads may be the biggest barrier to encouraging people to walk or cycle more, however, there is evidence that the greater the number of cyclists/pedestrians, the safer the roads and pavements become (Jacobsen 2003, Robinson 2005).

Vehicle Ownership and Modes of Travel to Work

73. According to the latest census figures, 32.3% of households in Burnley; 30.5% in Blackburn with Darwen; 28.2% in Hyndburn; 26.8% in Pendle and 21.5% in Rossendale had no car or van in 2011. In Burnley 68.7% of people travel to work by car, 8.9% take public transport and 12.4% walk or cycle. In Hyndburn, 70.9% travel to work by car, 7.1% take public transport and 11.5% walk or cycle. In Pendle, 69.2% travel to work by car, 6.1% go by public transport and 14.0% walk or cycle. In Rossendale, 73.6% travel to work by car, 6.2% take public transport and 8.2% walk or cycle. In Blackburn with Darwen, 68.4% travel to work by car, 7.0% go by public transport and 13.2% walk or cycle.

Self-Reported Health and Wellbeing

74. In Lancashire self-perceived poor health is associated with deprivation, with the experience of poor health more pronounced at the bottom of the social gradient. People from the most deprived areas are at higher risk poor mental health and of developing mental health problems, as are their children. They are twice as likely to consult their GP for help with mental health; they are also more likely to commit



suicide, especially when they are young. Those in the most deprived areas are six times more likely to experience extreme anxiety and depression as those in the more affluent areas.

75. For self-reported health only 42.9% of people in Burnley rated their health as 'very good', compared with Hyndburn (43.1%), Pendle (43.6%), Blackburn with Darwen (45.4%), Rossendale (46.2%), Ribble Valley (51.5%), Lancashire-12 (45.9%), North West (46.5%) and England and Wales (47.1%).
76. At the other end of the scale, 7.7% of people in Burnley reported their health as 'bad' or 'very bad' (Lancashire-12 6.3%, North West 6.8%, England and Wales 5.6%) compared with Hyndburn (7.6%), Blackburn with Darwen (7.3%), Pendle (7.0%), Rossendale (6.5%), and Ribble Valley (4.0%)
77. Other factors which may affect a person's health and wellbeing include unemployment, which has a number of adverse effects. These can include reduced psychological wellbeing and a greater incidence of self-harm, depression and anxiety. Conversely, quality employment opportunities have a protective effect on an individual's mental health. The on-going public sector cuts are likely to mean further increases in the claimant count and a potential increase in self-reported poor health and lower levels of wellbeing.
78. Poor housing is an aspect of deprivation associated with poor mental health. Some indication of the quality of housing in the county is provided by its value and its condition. Often poor housing is located in areas where crime and fear of crime exists. This is also a significant factor associated with poor mental health outcomes. There is a significant inequality in crime levels, with those in the most deprived areas in Lancashire many times more likely to be a victim of crime than those in the least deprived areas.

Obesity

79. In the UK, past trends predict that by 2030 the prevalence of obesity will rise from 26% to 41-48% in men, and from 26% to 35-43% in women. This would equate to 11 million more obese adults by 2030, 3.3 million of whom would be older than 60. In the UK, the rise in obesity is expected to be associated with increased cases of diabetes, heart disease and stroke, and cancer. In addition, the increasing prevalence of debilitating disorders such as osteoarthritis would affect the duration of the person's healthy lifespan. Medical costs associated with treatment of these long-term conditions are estimated to increase by £1.9-2 billion per year in the UK by 2030 (www.nhs.uk).
80. Estimates of obesity in Lancashire show a greater relationship to deprivation than is the case nationally. The estimates suggest that obesity levels are higher than the national pattern would predict.
81. Obesity in childhood is linked to a range of diseases in adult life including diabetes, coronary heart disease and depression. In Lancashire obesity and underweight prevalence are highest in the most deprived parts of the sub-region. However, there is a strong inverse relationship between deprivation and childhood obesity as children in the most deprived areas are the least likely to be overweight.

82. Obesity levels for adults and children are not significantly different from the England rates (with the exception of Burnley which are significantly higher for children only). The table below shows the rates.

District	% of obese reception year children	% of obese year 6 children	% of obese adults
Blackburn with Darwen	10.0	17.9	24.6
Burnley	11.1	21.0	24.5
Hyndburn	10.2	18.6	25.1
Pendle	10.0	17.9	24.4
Ribble Valley	10.2	16.2	20.9
Rossendale	10.0	17.6	23.5
Lancashire-12	9.5	17.6	22.5
England	9.6	19.0	24.1

Source: [Local Health Profiles](#) from Public Health England


83. Whilst this appears to be an acceptable position for East Lancashire, encouraging further decreases in the numbers of people who are obese or overweight and increasing physical activity levels (through walking and cycling amongst other measures) would be beneficial in improving health in other areas.


Coronary Heart Disease

84. Premature death from coronary heart disease (CHD) occurs across Lancashire at higher levels than for England as a whole, although some districts have lower rates of premature death than would be expected.
85. In East Lancashire, the statistics show all districts have significantly worse rates of mortality from CHD (all ages) compared to England (standardised mortality rate = 100). The highest rates are in Blackburn with Darwen (161.5), Hyndburn (148.0), Rossendale (138.2) and Burnley (130.9). Whilst Ribble Valley (116.6) and Pendle (119.9) are slightly lower they are still significantly worse than for England.
86. In general, those in deprived areas of the county are six times more likely to die of CHD than those living elsewhere. One of the main contributors to CHD is smoking and tobacco use (including hookah/shisha pipes). Across East Lancashire there are high rates of smoking/tobacco use. In comparison with England (20%) and the North West (22.1%), Blackburn with Darwen has the highest rate (27.2%), followed by Rossendale (23.4%), Pendle (23.2%) and Burnley (23%).
87. The table below shows mortality from smoking, including from heart disease and stroke (both smoking attributed).

District	Number of smoking related deaths	Number of deaths from heart disease (smoking attributed)	Number of deaths from stroke (smoking attributed)
Blackburn with Darwen	321	51	17
Burnley	331	52	14
Hyndburn	305	48	17
Pendle	218	40	10
Ribble Valley	198	31	7
Rossendale	302	46	13
England	210	30	10
North West	263	39	13

Source: Local tobacco control profiles for England: <http://www.tobaccoprofiles.info/>

 Significantly higher than England

 No significant difference to England

Diabetes

88. Diabetes is a condition where the body is unable to produce the insulin required to convert glucose (sugar) from food sources into energy for its cells. All cells in the body need this energy to function properly and if the insulin production is faulty this results in very high, and potentially dangerous, levels of glucose in the blood.
89. There are two types of diabetes: type 1 and type 2. Type 2 diabetes is related to lifestyle but additional risk factors are inherent in specific populations. Type 2 diabetes usually develops in people over the age of 40, although it can appear from the age of 25 in those who are of South Asian or Black/African Caribbean heritage. South Asian populations are more likely to develop diabetes than other groups. There are also links with deprivation, which complicates the issue further as black/minority ethnic (BME) communities tend to live in areas of deprivation. Higher rates of death are expected in those areas with larger BME communities. There is a strong social gradient to death from diabetes, with those in the most deprived areas many times more likely to die than those living in less deprived areas. There is a stronger association between deprivation and death from diabetes in Lancashire than nationally.
90. The table below shows the mortality rates from diabetes (all ages) in East Lancashire in comparison with the North West and England. The figures are directly age standardised and are per 100,000 of the population.

District	Males DSR	Females DSR	All persons DSR
Blackburn with Darwen	6.7	6.2	6.2
Burnley	5.7	5.8	5.6
Hyndburn	7.6	5.5	6.5
Pendle	2.2	2.9	2.7
Ribble Valley	2.9	/	1.8
Rossendale	9.8	6.8	7.9
Lancashire-12	6.2	4.5	5.2
North West	5.9	4.1	4.9
England	6.0	4.3	5.1



Source: Mortality from diabetes (ICD10 E10-E14): 2008-2010

<https://indicators.ic.nhs.uk/webview/>

91. The increasing prevalence of diabetes will have an impact on future mortality figures. The cause of many health conditions can be the result of a myriad of factors including genetic risk, an individual's lifestyle and environmental/social factors. It is well evidenced that modifying unhealthy lifestyle behaviours (tobacco use, a poor diet, alcohol consumption and physical inactivity) can have the largest effect on reducing the incidence and impact of poor health and long-term health conditions.

Appendix 2: Habitat Regulations Screening Assessment

Introduction

1. This report considers the likelihood of significant adverse effects on internationally-important wildlife sites within and around Lancashire. The wildlife sites in question are known as European wildlife sites and are designated under the Habitats and Birds Directives set by the European Commission.
2. The Habitats Directive and Birds Directive provide for the establishment of wildlife protection areas across Europe. These areas are designated either as Special Areas for Conservation (SAC) or as Special Protection Areas (SPA). Sites may also be classified under the Ramsar convention. Collectively, these sites form the Natura 2000 network.
3. Development proposals with the potential to adversely affect these sites (either directly or indirectly) are subject to preventative controls set out in the Conservation of Habitats and Species Regulations 2010. These regulations seek to avoid development in areas which are likely to cause harm to the conservation interests of these sites or, where harm is unavoidable, to secure compensatory measures in return. In the case of proposals which would have a significant adverse effect, there must be an overriding public interest in the proposal.
4. Protection is also afforded to these areas from policies leading to development. Plans and policies with the potential to adversely impact on the conservation interests of European wildlife sites require screening to determine whether the plan is likely to result in a significant adverse effect.
5. In accordance with The Conservation Natural Habitats, &c. (Amendment) Regulations 2007 and European Communities (1992) Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna, the County Council is required to undertake a screening exercise of the likely significant effects of their plan, in this case the East Lancashire Highways and Transport Masterplan

Description of Plan and Review of Habitats Regulations Assessment (HRA)

East Lancashire Highways and Transport Masterplan

6. Lancashire County Council and Blackburn with Darwen Council are the transport authorities for East Lancashire responsibility for a network of local roads, cycle lanes, bridges and traffic control infrastructure.
7. Highways and Transport Masterplan are area-specific action plans for districts and/or defined areas based on strategic transport priorities set out in the highway authorities' Local Transport Plans (LTP).
8. The Highways and Transport Masterplan for East Lancashire sets out the ideas for a future highways and transport strategy to 2023 and beyond. Crucially the Masterplan links economic development strategies and adopted spatial planning strategies to the wider strategic policy objectives of the two councils as well as setting out how we can deliver the programme.

9. The Masterplan:

- Outlines current land and transport use in Central Lancashire
 - Considers the impact of adopted development plans on the area in the future
 - Suggests the strategic highway and transport measures that we believe will be needed to support plans for future growth and development
 - Outlines funding mechanisms, delivery programmes and associated risks.
10. This Masterplan is required in order to provide greater certainty about the schemes that will be implemented to 2023, and it is these schemes that could result in direct development and have therefore been subject to the HRA.
11. The strategic nature of the policies within the Masterplan means that it is not considered meaningful or realistic to try to undertake a HRA assessment of the policies themselves. Rather, it is the schemes within the Masterplan (which the policies give rise to) that could result in direct development which potentially adversely affects a Natura 2000 site. The schemes identified within the Masterplan are presented on Map 1 and in Appendix A.

Habitats Regulations Assessment Process

12. The regulations require an assessment to be undertaken of the 'likely significant effects' of a plan or project on sites of international nature conservation importance. The East Lancashire Highways and Transport Masterplan can only be approved where it has been satisfied that there will be no adverse effect on the integrity of the international nature conservation sites.
13. Stage one of the Habitat Regulations Assessment process is to undertake a screening exercise of the proposed project or plan to assess whether any likely significant effects will arise as a result. In this case the options and schemes within the Highways and Transportation Masterplan will be assessed.
14. Assessment of the significance of effects is undertaken by considering the schemes identified in the Highways and Transport Masterplan in relation to the designated European and International nature conservation sites and whether any likely significant effects would compromise the condition of the site in an adverse way.
15. Where no likely significant effects are identified then there is no need for further work at this stage. If significant effects are identified it may be necessary to undertake a full Appropriate Assessment of those parts of the plan causing the effect.

Natura 2000 Sites

16. Natura 2000 is the collective term for the various European designated sites that are of exceptional importance due to the type of habitat and in particular their rare, endangered or vulnerable state.
17. These sites include:
- Special Protection Areas (SPAs) designated under the EU 'Wild' Bird's Directive;
 - Special Conservation Areas (SCAs) designated under the EU 'Habitats Directive' and Offshore Marine Sites (OMS);

- Ramsar Sites designated as wetland sites of international importance at the Iranian International Wetlands Convention at Ramsar.

Methodology

18. The screening assessment will firstly identify and gather information on the sensitivity and vulnerability of features of interest of Natura 2000 sites, in East Lancashire and up to 15km beyond.
19. The East Lancashire Highways and Transport Masterplan schemes and proposals are then subjected to a three stage screening process.

Stage One: The first will identify those schemes that will directly lead to some form of development that may have a potential impact (Direct Development). If no Direct Development will occur as a result of the scheme, or not within the timeframe of the Masterplan, then the scheme can be screened out at this stage. Proposals identified as having "*No direct development*" have been screened out at this stage. The plan identifies a number of proposals within its area that are being led by Strategic Partners, but are not within the Scope of the Masterplan. Responsibility for undertaking the HRA for these schemes lies with the delivery agency. This assessment has considered the potential for these schemes to have in-combination impacts with other schemes in the plan. A number of schemes are currently in progress or have full approval; these schemes are also screened out at Stage One.

1. **Stage Two:** If the scheme itself does, or could, lead to Direct Development then it will need to undergo a second stage assessment, using the 'source-pathways-receptors' approach, to see if any of the potential impacts listed below are likely or uncertain. If there are potential impacts then any pathways for the potential impacts to reach a Natura 2000 site will be assessed. Proposals identified as having "*No mechanism for a likely significant adverse effect*" or "*No pathway of impact to reach Natura 2000 site*" have been screened out at this stage. In some cases it may be that the Highways and Transport Masterplan proposes a scheme where the outcomes (and likely impacts) are not currently known.
2. **Stage Three:** The third stage will consider schemes that could lead to significant impacts and whether these can be avoided or mitigated.

Analysis of Potential Impacts / Pathways

20. In order to assess whether any likely significant effects will impact upon the Natura 2000 sites, as a result of a scheme or schemes identified in the East Lancashire Highways and Transport Masterplan, or in-combination with other plans, it is necessary firstly to identify potential impacts that could cause a likely significant effect on the habitats or species for which a Natura 2000 site is identified.
21. The following direct and indirect impacts of development have been identified:
 - **Air Quality** – Changes in the composition of air quality as a result of development or an increase in traffic levels in the vicinity of a Natura 2000 site that could damage vegetation and harm species dependent on these habitats.
 - **Water Quality** – Changes in the quality of water composition in the watershed as a result of development in or near to the Natura 2000 site, and increased pollution that



could alter the water quality entering the water network and could damage vegetation and habitats/ species at these sites.

- **Hydrology** – Changes in the hydrological cycle affected by altered drainage, heat, surface run off, loss of permeable surfaces etc. which can result in drought or flooding of Natura 2000 sites that could damage vegetation or harm species living in these habitats.
- **Habitat Species / Damage and Disturbance** – Damage to habitats and disturbance of species within Natura 2000 sites. Also disturbance to species travelling to and from sites and damage to external habitats utilized by species. Impacts could result from restricted migratory routes or impacts on food resources or breeding grounds resulting in increased ecological fragmentation and isolation. Impacts may be long-term or short-lived e.g. during construction.
- **Recreational / Visitor Pressure** – Disturbance to habitats and to species as a result of significant increases in the number of people visiting Natura 2000 sites.

N.B. Impacts to habitats outside the site boundary, or disturbance to species utilizing the site whilst they are outside the site boundary (eg feeding, moving between roosting and feeding areas or on migration) may also adversely affect the integrity of a Natura 2000 site. Also, impacts that could result in increased ecological fragmentation and isolation of sites should be considered.

22. There is also a need to establish a set of particular pathways where potential impacts may be able to find a path to a Natura 2000 site. Where no pathways exist to the Natura 2000 site, the potential impacts can be ruled out as they will not have a likely significant effect on the site.

23. Potential pathways include:

- **Wind** – An assessment of whether the potential impacts outlined above, specifically air quality can reach the Natura 2000 sites via the prevailing wind.
- **River Network** – As assessment of whether potential impacts, specifically water quality, and hydrology are connected via the river network to the Natura 2000 sites.
- **Roads** – Distance to Natura 2000 sites in relation to the road network and the feasibility of air, noise and light pollution from increased traffic on the roads, due to a higher population or greater accessibility across Lancashire.
- **Species movement** – Distance between Lancashire and the Natura 2000 sites and the location of other important habitats within the boundary of the plan such as Sites of Special Scientific Interest (SSSI), Biological Heritage Sites and Local Nature Reserves.

24. If any schemes remain likely to have an effect on a Natura 2000 site and a pathway connects the impact to the site then a further assessment will be required. This will assess whether any avoidance measures (such as mitigation measures) can be used to negate the potential impact. All schemes where the impacts can be neutralised by some form of avoidance or mitigation can then be screened out. Any schemes left in will then need to be subject to a further assessment.

25. Appendix A presents the full results of the assessment in tabular format. The table incorporates a traffic light system to highlight the screening process. All schemes that are highlighted in 'green' in the Potential Impacts column conclusion were screened out of this assessment at stage one as having no likely significant effects. All schemes that are highlighted in 'orange' were screened out in the second stage. If any schemes are highlighted in 'red' this means that a significant likely effect could

potentially arise and measures have been put in place to ensure that the potential impacts can be appropriately addressed.

The Assessment

Masterplan Overview

Identification of Natura 2000 Sites

26. The Habitats Regulations Assessment identified 5 Natura 2000 sites as either located wholly or partially within East Lancashire or within a 15km buffer of the plan area. These sites are identified in Table 1, below. Some Natura 2000 designations share or have overlapping boundaries. Details of these sites are given in Appendix B.

27. The table below provides details on these Natura 2000 sites including habitat and species specifics and site vulnerabilities.

Table 1. Natura 2000 designations (within 15km of the masterplan area)

Sites located wholly or partially within Lancashire

Site	SAC	SPA	Ramsar site	Marine SPA	Marine SAC	Marine Conservation Zone
Bowland Fells		*				
Calf Hill & Cragg Woods	*					
Craven Limestone Complex	*					
Ingleborough Complex	*					
Malham Tarn			*			
Morecambe Bay	*	*	*			
North Pennine Dales Meadows	*					
North Pennine Moors	*	*				
Peak District Moors (South Pennine Moors Phase 1)		*				
Ribble						*
Ribble & Alt Estuaries		*	*			
Rochdale Canal	*					
South Pennine Moors	*	*				



Inclusion of the extra sites will require the site details in Appendix B of the HRA to be updated.

Assessment of likely significant effects

28. No schemes in East Lancashire were identified as having potential adverse effects upon Natura 2000 sites. Appendix A gives the results of the screening process.
29. With regards to future scheme delivery, full EIAs and HRAs will be required as options for scheme delivery are developed and as these could potentially include proposals that adversely affect a Natura 2000 site, it is recommended to utilise the following additional information:
 - details of sites and areas for proposed for development, together with information on operational impacts (where feasible) (e.g. timing of operations, noise, visual disturbance, dust and traffic).
 - information on potential pathways will be assembled (including river corridors, known feeding/roosting areas, flyways and known networks of existing habitats) as necessary for the location of development sites/areas being assessed.
 - for proposals outside of designated sites, the assessments will identify whether the area (including adjoining land) is used by species protected under the Regulations (e.g. using existing habitat surveys, species records, and specialist advice).
 - conservation objectives of wildlife sites which might be affected to be compiled from relevant citation reports.

Relationship with other Plans and Programmes

30. An assessment was made of the potential for schemes within the East Lancashire Highways and Transport Masterplan to result in adverse impacts on a Natura 2000 site, in combination with proposals being put forward by other plans within the masterplan area.

Conclusion

31. The East Lancashire Highways and Transport Masterplan has undergone a Habitat Regulations Screening Assessment (HRA) in line with the guidance and legislation. This report documents a comprehensive and logical account of this screening process.
32. The majority of schemes were considered to be small in scale and located far enough away from, and with no identifiable pathways to, the Natura 2000 sites that they were unlikely to lead to any significant impacts.
33. Three schemes were identified which could potentially give rise to adverse impacts:
 - Centenary Way Viaduct Major Maintenance Scheme, Burnley;
 - A56 Colne to Foulridge Bypass;
 - Whinney Hill Link Road, Hyndburn
34. All of these schemes are at an early stage of development and it is not possible at present to accurately determine potential impacts at this time, Consequently these schemes will have full Strategic Environmental Assessment, including HRA, as outlined in paragraph 29.
35. There were a number of schemes located outside a European site but which could be subject to a potential pathway such as a river or windblown pollution. This was due to the site's location or the particular characteristics of the protected site. These have been identified but were ultimately not considered to have any significant impact given other legislative controls and/or the distances between the source and receptor.
36. As a result of the screening process no schemes proposed in East Lancashire were identified as potentially having a significant effect on Natura 2000 sites.
37. No schemes proposed in East Lancashire (are considered to have the potential to give rise to 'in combination' effects arising from proposals being put forward by other plans within the LTP area.
38. Any development that is likely to have a significant effect on a European site, either alone or in combination with other plans and projects, will be subject to assessment under Part 6 of the Conservation of Habitats and Species Regulations 2010 at project application stage. If it cannot be ascertained that there would be no adverse effects on site integrity the project will have to be refused or pass the tests of Regulation 62 in which case any necessary compensatory measures will need to be secured in accordance with Regulation 66 of the Conservation of Habitats and Species Regulations 2010.
39. In conclusion, this HRA report finds the East Lancashire Highways and Transport Masterplan to have no likely significant effects on the identified Natura 2000 sites and it is not deemed necessary to carry out an 'appropriate assessment' at this stage.

Appendix A. Habitats Regulations Screening Results

East Lancashire Highways and Transport Masterplan

Project	Delivery Agency	Current Status	HRA Stage One Screening	HRA Stage Two Screening	HRA Stage Three Screening
Manchester Road Railway Station Upgrade Burnley	Network Rail	Under Construction	Strategic Partner scheme. No in-combination impacts with other Masterplan schemes	N/A	
Todmorden West Curve Reinstatement	Network Rail	Committed	Strategic Partner scheme. No in-combination impacts with other Masterplan schemes	N/A	
Pennine Reach Darwen/Blackburn/Accrington	LCC/BwDBC	Committed	Work currently in progress		
Clitheroe to Manchester Rail Corridor Improvements (Blackburn to Bolton)	Network Rail	Programmed	Strategic Partner scheme. No in-combination impacts with other Masterplan schemes	N/A	
Haslingden Road Corridor Improvements Blackburn	BwDBC	Committed	Pre-construction. Full approval given.	N/A	
Centenary Way Viaduct Major Maintenance Scheme, Burnley	LCC	Programmed	Will result in direct development	In Transport of Lancashire Major Scheme Programme. Details of potential impacts unknown.	Scheme will have full Strategic Environmental Assessment, including HRA
Rawtenstall Bus Station	LCC	Programmed	Work currently in progress	N/A	

Project	Delivery Agency	Current Status	HRA Stage One Screening	HRA Stage Two Screening	HRA Stage Three Screening
Nelson to Rawtenstall Bus Corridor Improvements	LCC	Programmed	Work currently in progress	N/A	
A56 Colne to Foulridge Bypass	LCC	Pre-Programme	Will result in direct development	At option definition stage. Details of potential impacts unknown.	Scheme will have full Strategic Environmental Assessment, including HRA
Whinney Hill Link Road, Hyndburn	LCC	Pre-Programme	Will result in direct development	Scheme currently under development. Details of potential impacts unknown.	Scheme will have full Strategic Environmental Assessment, including HRA
M65 Junction 4 Improvements	Highways Agency	Pre-Programme	Strategic Partner scheme. No in-combination impacts with other Masterplan schemes	N/A	
M65 Junction 5 Improvements	Highways Agency	Committed	Strategic Partner scheme. No in-combination impacts with other Masterplan schemes	N/A	
East Lancashire Connectivity Study (ELCS)	LCC	Programmed	No direct development	N/A	
M65 Burnley / Pendle Growth Corridor Improvements (ELCS)	LCC	Pre-Programme	No direct development	N/A	
A59 Ribble Valley Growth Corridor Improvements (ELCS)	LCC	Pre-Programme	No direct development	N/A	

Project	Delivery Agency	Current Status	HRA Stage One Screening	HRA Stage Two Screening	HRA Stage Three Screening
Rawtenstall to Manchester Bus Corridor Improvements (ELCS)	Highways Agency	Pre-Programme	Strategic Partner scheme. No in-combination impacts with other Masterplan schemes	N/A	
Cuerden / Whitebirk / Samlesbury Growth Triangle (ELCS)	LCC / BwDBC & Highways Agency	Pre-Programme	No direct development	N/A	
East Lancashire Rail Network Improvements (ELCS)	Rail Industry	Pre-Programme	Strategic Partner scheme. No in-combination impacts with other Masterplan schemes	N/A	
Freckleton Street Link Road, Blackburn	BwDBC	Under Construction	Work currently in progress	N/A	
Completion of the Blackburn Town Centre Orbital route	BwDBC	Pre-Programme	Will result in direct development. No mechanism for a likely significant adverse effect	N/A	
Darwen East Distributor Route	BwDBC	Pre-Programme	Will result in direct development. No mechanism for a likely significant adverse effect	N/A	
Fishmoor Link Road	BwDBC	Pre-Programme	Will result in direct development. No mechanism for a likely significant adverse effect	N/A	
East Lancashire Strategic Cycle Network	LCC/BwDBC	Pre-Programme	Will result in direct development. No mechanism for a likely significant adverse effect	N/A	

Appendix B: Natura 2000 sites

When undertaking an appropriate assessment of impacts at a site, **all** features of European importance (both primary and non-primary) need to be considered.

Bowland Fells	Status: SPA	Area: 16002.31 hectares
SPA		Vulnerability
<p>This site is predominantly comprised of heath & scrub, bogs & marshes and dry grassland, with a small coverage of broad-leaved deciduous woodland.</p> <p>This site qualifies under Article 4.1 of the Directive (79/409/EEC) as during the breeding season it regularly supports populations of European importance of Hen Harrier (<i>Circus cyaneus</i>) and Merlin (<i>Falco columbarius</i>).</p> <p>The site qualifies under Article 4.2 of the Directive (79/409/EEC) as during the breeding season it supports populations of European importance of the Lesser Black Backed Gull.</p>		<p>The expansive blanket bog and heather dominated moorland provides suitable habitat for a diverse range of upland breeding birds. Favourable nature conservation status of the site depends on appropriate levels of sheep grazing, sympathetic moorland burning practice, sensitive water catchment land management practices and on going species protection. Since designation as an SPA, many localised problems of over-grazing have been controlled through management agreements or the Countryside Stewardship Scheme. To date approximately 20% of SPA is under Section 15 management agreements and Countryside Stewardship to stimulate heather regeneration in order to produce better moorland for grouse and raptors alike. Burning plans and stocking levels have also been agreed for all other areas of the SPA through Site Management Statements, whilst problems of raptor persecution continues to be addressed by the RSPB in conjunction with North West Water, English Nature and Lancashire Constabulary.</p>
Source: Joint Nature Conservation Committee		

Calf Hill & Cragg Woods	Status: SAC	Area: 34.43 hectares
SAC features of European importance		Vulnerability
<p>Annex I habitats that are a primary reason for selection of this site</p> <p>91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles</p> <p>These old sessile oak woods occupy north- and south-facing slopes of a valley on millstone grit. Oak dominates in the canopy with birch <i>Betula</i></p>		<p>Calf Hill and Cragg Woods support one of the most extensive stands of upland oak woodland in Lancashire, in addition to a well-developed alder/ash woodland on lower flushed slopes along the valley bottom. Currently there is limited intervention in land-use/management terms. There is also no immediate need for woodland management in order to safeguard the interest of the site. However, in the long-term it would be desirable to repair some of the walls/fences at the far eastern most end of Calf Hill Wood in order to control sheep grazing from the adjacent fell. Some grazing is considered desirable (to help maintain the diversity of the ground flora) but it would be beneficial to be able to exclude sheep altogether for certain times of the year, or altogether for a limited period in order to encourage natural regeneration. In addition, since the canopy of the oak woodland is fairly dense and natural</p>

<p>sp., rowan <i>Sorbus aucuparia</i> and holly <i>Ilex aquifolium</i>. The ground flora ranges from areas of abundant bilberry <i>Vaccinium myrtillus</i>, through grassy areas, to rich moss carpets. Small areas of alder <i>Alnus glutinosa</i> flushes also occur.</p> <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site</p> <p>91E0 <u>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion, Alnion incanae, Salicion albae</i>)</u> * Priority feature</p> <p>Annex II species that are a primary reason for selection of this site</p> <p>Not applicable.</p> <p>Annex II species present as a qualifying feature, but not a primary reason for site selection</p> <p>Not applicable.</p>	<p>regeneration is quite limited, it would be desirable over the long-term to instigate small-scale selective fellings/silvicultural thinning, whilst felling a small stand of planted larch/pine (<0.5 ha) and replacing it with oak/birch.</p> <p>The Abbeystead's woodland management proposals for the woodland complex as a whole already recognise these problems and do not conflict with nature conservation objectives for the site. In fact, it is hoped that repairs to fences/walls at the easternmost end of Calf Hill Wood will be undertaken in the next few years, whilst a programme of selective woodland thinning and small fellings will be instigated in the not too distant future under WGS.</p>
<p>Source: Joint Nature Conservation Committee</p>	

<p>Craven Limestone Complex</p>	<p>Status: SAC</p>	<p>Area: 5328.5 hectares</p>
<p>SAC features of European importance</p>		<p>Vulnerability</p>
<p>Annex I habitats that are a primary reason for selection of this site 3140 <u>Hard oligo-mesotrophic waters with benthic vegetation of</u></p>		<p>The diversity of interest of the limestone pavements, grasslands and springs is dependent on there being a range of grazing intensities, from moderate to light to areas with no livestock grazing. Heavy livestock or rabbit grazing has been</p>

[Chara spp.](#)

Malham Tarn in northern England is considered the best example of an upland stonewort *Chara*-dominated lake in England. It is an example of a lake on limestone and is the highest marl lake in the UK. The water drains from surrounding Carboniferous limestone and is calcareous and low in plant nutrients, although the Tarn has a large catchment and some nutrient enrichment to the system has occurred in the past, slightly reducing the floristic richness.

6210 [Semi-natural dry grasslands and scrubland facies: on calcareous substrates \(*Festuco-Brometalia*\)](#)

The Craven Limestone Complex in northern England is the second most extensive area of calcareous grassland in the UK, and represents the NVC type CG9 *Sesleria albicans* – *Galium sternerii* grassland. The site exhibits an exceptional diversity of structural types, ranging from hard-grazed open grasslands, through to tall herb-rich grasslands on ungrazed cliff ledges, such as at Malham Cove, in woodland margins and around **8240 Limestone pavements** and screes. It is thus an important example of grassland-scrub transitions.

6410 [Molinia meadows on calcareous, peaty or clayey-silt-laden soils \(*Molinia caeruleae*\)](#)

Craven is one of three sites representing ***Molinia meadows*** in the northern England centre of distribution. This site contains what are believed to be the largest expanses of M26 *Molinia caerulea* – *Crepis paludosa* mire in the UK, amidst **7230 Alkaline fens** and **7110 active raised bog** communities of the Malham Tarn area; smaller fragments are associated with meadows, wood edges and river banks elsewhere on the site.

7110 [Active raised bogs](#) * Priority feature

Malham Tarn Moss represents **Active raised bogs** in central northern England, in an area overlying limestone where wetlands are more typically base-rich fens. It displays a classic raised dome with transition from raised bog (base-poor) to base-rich conditions at the bog margin where it interfaces with land influenced by water from the limestone. It has an unusual mixture of bog-moss *Sphagnum*-rich and hair-grass *Deschampsia*-dominated vegetation.

damaging and the Wildlife Enhancement Scheme and other forms of agrienvironmental agreement are being used, successfully, to promote appropriate management. Removal of limestone pavement for sale as rockery stone and limestone quarrying have both caused problems in the past but are now well controlled through Limestone Pavement Orders and the development planning process. The raised bog has suffered some past drainage but the hydrology has been made secure and the site is carefully managed. Malham Tarn is vulnerable to nutrient enrichment in the catchment and action has been taken to minimise such inputs.

7220 [Petrifying springs with tufa formation \(*Cratoneurion*\)](#) * Priority feature

Craven is one of three Carboniferous limestone sites in northern England selected for **petrifying springs with tufa formation**. The site contains extensive complexes of tufa-forming springs associated with a wide range of other habitats, including **7230 Alkaline fens**, calcareous grasslands, **8240 Limestone pavements**, cliffs and screes. Locally calcareous springs emerge within areas of acid drift supporting heath and acid grassland. The flora of these habitat mosaics is outstandingly species-rich and includes many rare northern species, such as alpine bartsia *Bartsia alpina* and bird's-eye primrose *Primula farinosa*.

7230 [Alkaline fens](#)

There are large fen systems at Great Close and Ha Mire, principally of the NVC type M10b *Carex dioica* – *Pinguicula vulgaris* mire, *Briza media* – *Primula farinosa* sub-community. They are exceptionally species-rich types with frequent bird's-eye primrose *Primula farinosa* and grass-of-Parnassus *Parnassia palustris* alongside rarities such as broad-leaved cottongrass *Eriophorum latifolium*, hair sedge *Carex capillaris*, alpine bartsia *Bartsia alpina* and dwarf milkwort *Polygala amarella*. Where irrigation is more extensive there are transitions to M9a *Carex rostrata* – *Calliergon cuspidatum/ giganteum* mire, *Campylium stellatum* – *Scorpidium scorpioides* sub-community. This community is also developed extensively around the lagg of Tarn Moss, where there are transitions with M26b *Molinia caerulea* – *Crepis paludosa* mire, *Festuca rubra* sub-community and W3 *Salix pentandra* – *Carex rostrata* fen carr woodland. There are also extensive M10 *Carex dioica* – *Pinguicula vulgaris* spring-fed flush fens throughout the site, typically associated with calcareous grassland and limestone scars.

8240 [Limestone pavements](#) * Priority feature

Craven is one of four sites representing **Limestone pavements** in northern England. It is selected on the basis of its size and as an example of mid-altitude pavement. There is a wide range of transitions to other habitats, including **6210 semi-natural dry grasslands**, **7230 Alkaline fens** and **9180 *Tilio-Acerion* forests**. Despite being accessible to grazing sheep, these pavements provide a refuge for downy currant *Ribes spicatum* and, occasionally, alpine cinquefoil *Potentilla crantzii* and

baneberry *Actaea spicata*.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

6130 [Calaminarian grasslands of the *Violetalia calaminariae*](#)

9180 [Tilio-Acerion forests of slopes, screes and ravines](#) * Priority feature

Annex II species that are a primary reason for selection of this site

1092 [White-clawed \(or Atlantic stream\) crayfish](#) *Austropotamobius pallipes*

Craven in northern England supports strong populations of **white-clawed crayfish *Austropotamobius pallipes*** in the limestone streams feeding Malham Tarn, and in Malham Tarn itself. This site is well-isolated and is therefore an important refuge, unlikely to be invaded by non-native crayfish species.

1163 [Bullhead](#) *Cottus gobio*

Craven represents **bullhead *Cottus gobio*** in calcareous, upland becks and streams in the northern part of its range in England. The clean calcareous waters with their stony bottoms support good numbers of bullhead.

1902 [Lady's-slipper orchid](#) *Cypripedium calceolus*

Craven Limestone Complex is the single remaining native site for **Lady's-slipper orchid *Cypripedium calceolus***. Formerly reduced to a single plant, careful habitat management, together with hand-pollination of the few flowers that appear, and more recently re-establishment of plants from *ex-situ* propagation, has led to a steady increase in the size of the colony.

Annex II species present as a qualifying feature, but not a primary reason for site selection

Not applicable.

Source: Joint Nature Conservation Committee

Ingleborough Complex	Status: SAC	Area: 5769.28 hectares
SAC features of European importance		Vulnerability
<p>Annex I habitats that are a primary reason for selection of this site</p> <p>5130 Juniperus communis formations on heaths or calcareous grasslands</p> <p>Ingleborough represents upland Juniperus communis formations on a calcareous substrate in northern England. It occurs here at its highest altitude on limestone in the UK. Amid stands of calcareous grassland it has the only large stands of juniper on 8240 Limestone pavements at high altitude in the UK. The scrub is of the relatively species-poor type typical of these situations.</p> <p>7230 Alkaline fens</p> <p>Spring-fed flush fens of NVC type M10 <i>Carex dioica</i> – <i>Pinguicula vulgaris</i> mire are extensive across Ingleborough, commonly associated with calcareous grassland types, but also found amidst acid grasslands and heathland communities. They are often species-rich communities, in which rare or locally distributed species such as bird’s-eye primrose <i>Primula farinosa</i>, black bog-rush <i>Schoenus nigricans</i>, few-flowered spike-rush <i>Eleocharis quinqueflora</i> and flat-sedge <i>Blysmus compressus</i> are frequent.</p> <p>8210 Calcareous rocky slopes with chasmophytic vegetation</p> <p>Ingleborough is one of three sites representing the Calcareous rocky slopes with chasmophytic vegetation found in northern England. Crevice communities occur on extensive limestone scars and are characteristic of the area. The flora has a mix of</p>		<p>The diversity of interest of the limestone pavements, juniper and limestone rock habitats is dependent on there being a range of grazing intensities, from moderate to light to areas with no livestock grazing. Heavy livestock or rabbit grazing has been damaging and the Wildlife Enhancement Scheme and other forms of agrienvironmental agreement are being used, successfully, to promote appropriate management. Removal of limestone pavement for sale as rockery stone and limestone quarrying have both caused problems in the past and are now addressed through Limestone Pavement Orders, the development planning process and the provisions for review of existing permissions under the Habitats Regulations.</p>

northern and southern species, including purple saxifrage *Saxifraga oppositifolia*, yellow saxifrage *S. aizoides*, alpine meadow-grass *Poa alpina*, hoary whitlowgrass *Draba incana*, lesser meadow-rue *Thalictrum minus*, wall lettuce *Mycelis muralis* and baneberry *Actaea spicata*.

8240 [Limestone pavements](#) * Priority feature

Ingleborough is one of four sites in northern England representing **Limestone pavements** on Carboniferous limestone. It has the most extensive series of **Limestone pavements** in the UK, varying from moderate altitude to montane in character (300-640 m). The pavements range from those where grazing is completely excluded (Colt Park Wood National Nature Reserve), to some where grazing is restricted (pavements amidst cattle-grazed pastures) and others within common land intensively grazed by sheep. Characteristic species include baneberry *Actaea spicata* (more abundant here than elsewhere), great bellflower *Campanula latifolia*, found only here as a limestone pavement species, lily-of-the-valley *Convallaria majalis*, marsh hawk's-beard *Crepis paludosa*, wall lettuce *Mycelis muralis*, lesser meadow-rue *Thalictrum minus* and mountain melick *Melica nutans*. Among the ferns, green spleenwort *Asplenium viride*, brittle bladder-fern *Cystopteris fragilis* and hard shield-fern *Polystichum aculeatum* occur on most pavements. Rigid buckler-fern *Dryopteris submontana* and limestone fern *Gymnocarpium robertianum* are widespread but much less abundant than at Morecambe Bay Pavements. Dog's mercury *Mercurialis perennis* and wood sorrel *Oxalis acetosella* occur on most

<p>pavements.</p> <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site</p> <p>6210 Semi-natural dry grasslands and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>)</p> <p>6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)</p> <p>7130 Blanket bogs * Priority feature</p> <p>7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>) * Priority feature</p> <p>9180 Tilio-Acerion forests of slopes, screes and ravines * Priority feature</p> <p>Annex II species that are a primary reason for selection of this site</p> <p>Not applicable.</p> <p>Annex II species present as a qualifying feature, but not a primary reason for site selection</p> <p>Not applicable.</p>	
Source: Joint Nature Conservation Committee	

Malham Tarn	Status: Ramsar	Area: 286.26 hectares
Ramsar		Vulnerability
<p>A wetland comprising areas of open water, fen, soligenous fen and raised bog. These habitats hold important communities of rare plant species and wetland invertebrates, and are of types now highly restricted due to drainage and land use changes.</p> <p>Contains the highest marl lake in Britain, along with acidophilous bog, calcareous fen and soligenous Mire (Ramsar criterion 1).</p> <p>Supports the nationally rare alpine bartisia <i>Bartsia alpina</i> and narrow small</p>		

<p>reed <i>Calamagrostis stricta</i> and seven nationally scarce species. Supports five listed British Red Data Book invertebrates including the caddis fly <i>Agrypnia crassicornis</i> (Ramsar criterion 2).</p>	
--	--

<p>Source: Joint Nature Conservation Committee</p>
--

Morecambe Bay	Status: SAC/SPA/Ramsar		Area: see below
SAC features of European importance Area: 61506.2237404.6 hectares	SPA Area: 37404.6 hectares	Ramsar	Vulnerability
<p>Annex I habitats that are a primary reason for selection of this site</p> <p>1130 Estuaries</p> <p>Morecambe Bay in north-west England is the confluence of four principal estuaries, the Leven, Kent, Lune and Wyre (the latter lies just outside the site boundary), together with other smaller examples such as the Keer. Collectively these form the largest single area of continuous intertidal mudflats and sandflats in the UK and the best example of muddy sandflats on the west coast. The estuaries are macro-tidal with a spring tidal range of 9 m. The significant tidal prisms of the estuaries result in the Bay being riven by large low-water channel systems. The Kent, Leven and Lune estuaries have been modified variously by railway embankments, flood embankments and training walls but support extensive intertidal areas. Although cobble 'skears' and shingle beaches occur at their mouths, the estuaries consist predominantly of fine sands and muddy sands. The estuaries support dense invertebrate communities, their composition</p>	<p>This site is predominantly comprised of tidal rivers, estuary, mud flats, sand flats and lagoons. There are also areas of salt marshes/pastures, sand dunes/sand beaches and shingle.</p> <p>This site qualifies under Article 4.1 of the Directive (79/409/EEC) as during the breeding season the area regularly supports populations of European importance of <i>Sterna sandvicensis</i>.</p> <p>The site qualifies under Article 4.2 of the Directive (79/409/EEC) as over winter the area regularly supports populations of European importance of <i>Anas acuta</i>, <i>Anser rachyrhynchus</i>, <i>Arenaria interpres</i>, <i>Calidris alpina alpina</i>, <i>Calidris canutus</i>, <i>Haematopus ostralegus</i>, <i>Limosa lapponica</i>, <i>Numenius arquata</i>, <i>Pluvialis squatarola</i>, <i>Tadorna tadorna</i> and <i>Tringa tetanus</i>. On passage the area regularly supports significant populations of <i>Charadrius hiaticula</i>.</p> <p>The site also qualifies under Article 4.2 of the Directive (79/409/EEC) as having an internationally important assemblage of birds. During the breeding season the area regularly supports 61,858 seabirds and over winter the area regularly supports 210,668 waterfowl.</p>	<p>Morecambe Bay lies between the coasts of South Cumbria and Lancashire, and represents the largest continuous intertidal area in Britain. Morecambe Bay comprises the estuaries of five rivers and the accretion of mudflats behind Walney Island. The area is of intertidal mud and sandflats, with associated saltmarshes, shingle beaches and other coastal habitats. It is a component in the chain of west coast estuaries of outstanding importance for passage and overwintering waterfowl (supporting the third-largest number of wintering waterfowl in Britain), and breeding waterfowl, gulls and terns.</p> <p>It is a staging area for migratory waterfowl including internationally important numbers of passage ringed plover <i>Charadrius hiaticula</i> (Ramsar criterion 4).</p> <p>It has waterfowl assemblages of international importance (Ramsar criterion 5) and in winter 223,709 waterfowl have been recorded. It also has waterfowl species/ populations occurring at levels of international importance (Ramsar criterion 6).</p>	<p>SAC</p> <p>There are a wide range of pressures on Morecambe Bay but the site is relatively robust and many of these pressures have only slight or local effects on its interests. The interests depend largely upon the coastal processes operating within the Bay, which have been affected historically by human activities including coastal protection and flood defence works.</p> <p>Opportunities to reverse coastal squeeze are being explored. The saltmarsh is traditionally grazed and is generally in favourable condition for its bird interest. Most of the saltmarsh is traditionally grazed and is utilised by breeding, wintering and migrating birds for feeding, roosting and nesting purposes. Positive management is being secured through NGO reserve management plans, English Nature's Site Management Statements and Coastal Wildlife Enhancement Scheme, the European Marine Site Management Schemes for the Duddon Estuary and Morecambe Bay, and the Duddon Estuary and Morecambe Bay Partnerships. These aim for sustainable use of</p>

<p>reflecting the salinity and sediment regimes within each estuary. Extensive saltmarshes and glasswort <i>Salicornia</i> spp. beds are present in the Lune estuary, contrasting with the fringing saltmarshes and more open intertidal flats of the Leven and Kent estuaries. Most of the saltmarshes are grazed, a characteristic feature of north-west England. In the upper levels of the saltmarshes there are still important transitions from saltmarsh to freshwater and grassland vegetation. Water quality is generally good.</p> <p>1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>Morecambe Bay in north-west England is the confluence of four principal estuaries, the Leven, Kent, Lune and Wyre (the latter lies just outside the site boundary), together with other smaller examples such as the Keer. Collectively these form the largest single area of continuous intertidal mudflats and sandflats in the UK and the best example of muddy sandflats on the west coast. At low water, large areas of sandflats are exposed, and these range from the mobile fine sands of the outer Bay to more sheltered sands in the inner areas. With increasing shelter in the Bay's adjoining</p>			<p>the site, taking account of other potential threats including commercial fisheries, aggregate extraction, gas exploration, recreation and other activities.</p> <p>SPA</p> <p>The site is subject to a wide range of pressures such as land-claim for agriculture, overgrazing, dredging, overfishing, industrial uses and unspecified pollution. However, overall the site is relatively robust and many of those pressures have only slight to local effects and are being addressed thorough Management Plans. The breeding tern interest is very vulnerable and the colony has recently moved to the adjacent Duddon Estuary. Positive management is being secured through management plans for non-governmental organisation reserves, English Nature Site Management Statements, European Marine Site Management Scheme, and the Morecambe Bay Partnership.</p>
---	--	--	--

estuaries, finer sediments settle out and form extensive mudflats, supporting a particularly rich and diverse range of infaunal species.

1160 [Large shallow inlets and bays](#)

Morecambe Bay in north-west England is the second-largest embayment in the UK, after the Wash. It is a large, very shallow, predominantly sandy bay bordered on the south by the channel of the Lune estuary and on the north by Walney Channel. At low tide vast areas of intertidal sandflats are exposed, with small areas of mudflat, particularly in the upper reaches of the associated estuaries. The sediments of the bay are mobile and support a range of community types, from those typical of open coasts (mobile, well-sorted fine sands), grading through sheltered sandy sediments to low-salinity sands and muds in the upper reaches. Apart from the areas of intertidal flats and subtidal sandbanks, Morecambe Bay supports exceptionally large beds of mussels *Mytilus edulis* on exposed 'scars' of boulder and cobble, and small areas of **1170 Reefs** with fucoid algal communities. Of particular note is the rich community of sponges and other associated fauna on tide-swept

pebbles and cobbles at the southern end of Walney Channel.

1220 [Perennial vegetation of stony banks](#)

Morecambe Bay represents **Perennial vegetation of stony banks** in north-west England. Walney Island on the shores of Morecambe Bay is a barrier island fringed by shingle with a partial sand covering. Two areas of exposed vegetated shingle occur at the extremes of the barrier. The southern area has been highly modified by eutrophication from a large gull colony, resulting in communities that are unusually species-rich for pioneer shingle vegetation. Perennial rye-grass *Lolium perenne*, common chickweed *Stellaria media* and biting stonecrop *Sedum acre* are constant elements, with dove's-foot crane's-bill *Geranium molle* an unusual and important feature.

1310 [Salicornia and other annuals colonising mud and sand](#)

Two types of pioneer saltmarsh are represented at Morecambe Bay in north-west England. Pioneer glasswort *Salicornia* spp. saltmarsh occurs intermittently along the coastline of the bay, forming a transition from the extensive intertidal sand and mudflats to the distinctive

saltmeadows at this site. The sea pearlwort *Sagina maritima* community occurs in open pans on the upper marsh.

1330 Atlantic salt meadows
(*Glauco-Puccinellietalia*
***maritimae*)**

Morecambe Bay is characteristic of saltmarshes in north-west England, with large areas of closely grazed upper marsh. The mid-upper marsh vegetation is strongly dominated by the saltmarsh-grass/fescue *Puccinellia/Festuca* communities, of which over 1,000 ha occur here, and by smaller areas of saltmarsh rush *Juncus gerardii* community. NVC type SM18 *Juncus maritimus* community is also more strongly represented here than elsewhere in England. The plant species include both southern elements, such as lesser centaury *Centaureum pulchellum*, and northern elements, such as saltmarsh flat-sedge *Blysmus rufus* and few-flowered spike-rush *Eleocharis quinqueflora*.

2120 Shifting dunes along the
shoreline with *Ammophila*
***arenaria* ('white dunes')**

Shifting dune vegetation forms a major component of the active sand dune systems at the entrance to Morecambe Bay on Walney Island and the Duddon

Estuary at Sandscale Haws. A small area is also present at the entrance to the Wyre. Sandscale Haws supports a mosaic of shifting communities, which form a continuous block around the seaward edge of this site. There are transitions to **2110 Embryonic shifting dunes**. The prograding shingle spits at either end of Walney Island support dune systems at South End and North End Haws. Species associated with these shifting dunes include sea holly *Eryngium maritimum*, sea spurge *Euphorbia paralias*, Portland spurge *Euphorbia portlandica* and sea bindweed *Calystegia soldanella*.

2130 [Fixed dunes with herbaceous vegetation \(grey dunes\)](#) * Priority feature

Sandscale Haws at the entrance to the Duddon Estuary supports the largest area of calcareous **fixed dunes** in Cumbria, which contrast with the acidic dunes at the adjacent North End Haws on Walney Island. South End Haws on Walney Island supports a smaller area of fixed dunes. North Walney and Sandscale in particular show well-conserved structure and function. The fixed dunes support a rich plant diversity including wild pansy *Viola tricolor*, lady's bedstraw *Galium verum*,

common restharrow *Ononis repens* and the uncommon dune fescue *Vulpia membranacea* and dune helleborine *Epipactis dunensis*.

2190 [Humid dune slacks](#)

Dune slacks are particularly well-represented at Sandscale Haws, the largest calcareous dune system in Cumbria. The slacks support a good range of vegetation communities and are very species-rich. Several uncommon species including marsh helleborine *Epipactis palustris*, dune helleborine *Epipactis dunensis* and coralroot orchid *Corallorhiza trifida* occur.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

1110 [Sandbanks which are slightly covered by sea water all the time](#)

1150 [Coastal lagoons](#) * Priority feature

1170 [Reefs](#)

2110 [Embryonic shifting dunes](#)

2150 [Atlantic decalcified fixed dunes \(*Calluno-Ulicetea*\)](#) * Priority feature

2170 [Dunes with *Salix repens* ssp. *argentea* \(*Salicion arenariae*\)](#)

<p>Annex II species that are a primary reason for selection of this site</p> <p>1166 Great crested newt <i>Triturus cristatus</i></p> <p>The site, located on the southern shore of the Duddon estuary in north-west England, consists of a large sand dune complex containing both permanent and ephemeral waterbodies and man-made scrapes. Breeding colonies of great-created newts are known in approximately 20 of these ponds, and are believed to utilise 200 ha of the 282 ha site, foraging widely over foreshore, yellow dunes, dune-heath and scrub.</p> <p>Annex II species present as a qualifying feature, but not a primary reason for site selection Not applicable.</p>			
Source: Joint Nature Conservation Committee			

North Pennine Dales Meadows	Status: SAC	Area: 497.09 hectares
SAC features of European importance		Vulnerability
<p>Annex I habitats that are a primary reason for selection of this site</p> <p>6520 Mountain hay meadows</p> <p>The North Pennine Dales contain a series of isolated fields within several north Pennine and Cumbrian valleys. The site encompasses the range of variation exhibited by Mountain hay meadows in the UK and contains the major part of the remaining UK resource of this habitat type. The</p>		<p>These grasslands are dependent upon traditional agricultural management, with hay-cutting and no or minimal use of agrochemicals. Such management is no longer economic. Management agreements and ESA payments are being used to promote the continuation of traditional management. The refining of the prescriptions underpinning these schemes in the light of the findings of monitoring programmes is an important, continuing, part of delivering favourable condition.</p>

<p>grasslands included within the site exhibit very limited effects of agricultural improvement and show good conservation of structure and function. A wide range of rare and local meadow species are contained within the meadows, including globeflower <i>Trollius europaeus</i>, the lady's-mantles <i>Alchemilla acutiloba</i>, <i>A. monticola</i> and <i>A. subcrenata</i>, and spignel <i>Meum athamanticum</i>.</p> <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site</p> <p>6410 <u>Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)</u></p> <p>Annex II species that are a primary reason for selection of this site Not applicable.</p> <p>Annex II species present as a qualifying feature, but not a primary reason for site selection Not applicable.</p>	
<p>Source: Joint Nature Conservation Committee</p>	

<p>North Pennine Moors</p>	<p>Status: SAC/SPA</p>	<p>Area: see below</p>
<p>SAC features of European importance Area: 103109.42 hectares</p>	<p>SPA Area: 147246.41 hectares</p>	<p>Vulnerability</p>
<p>Annex I habitats that are a primary reason for selection of this site</p> <p>4030 <u>European dry heaths</u></p> <p>The North Pennine Moors (along with the North York Moors) hold much of the upland heathland of northern England. At higher altitudes and to the wetter west and north of the site complex, the heaths grade into extensive areas of 7130 blanket bogs. The most abundant heath communities are H9 <i>Calluna vulgaris</i> – <i>Deschampsia flexuosa</i> heath and H12 <i>Calluna vulgaris</i> – <i>Vaccinium myrtillus</i> heath. There are also examples of H18 <i>Vaccinium myrtillus</i> – <i>Deschampsia flexuosa</i>, H10 <i>Calluna vulgaris</i> – <i>Erica cinerea</i> and H21 <i>Calluna vulgaris</i> – <i>Vaccinium myrtillus</i> – <i>Sphagnum capillifolium</i></p>	<p>This site is predominantly comprises: heath, bogs, marshes and fen and some grassland, with a small coverage of broad-leaved deciduous woodland.</p> <p>This site qualifies under Article 4.1 of the Directive (79/409/EEC) as during the breeding season it regularly supports populations of European importance of Hen Harrier (<i>Circus cyaneus</i>) and Merlin (<i>Falco columbarius</i>). Perigrine Falcon (<i>Falco peregrinus</i>) and Golden Plover (<i>Pluvialis apricaria</i>).</p>	<p>SAC</p> <p>All interest features have been affected by excessive livestock grazing levels across parts of the site. These have been, and are still, encouraged by headage payments, but agreements with graziers and moorland owners, including those in Wildlife Enhancement and Countryside Stewardship schemes, are starting to overcome the problems of overgrazing. In places, the difficulty of reaching agreements on commons, which cover much of the site, means that successes are limited at present, and continues to prevent restoration. Drainage of wet areas can also be a problem; drains have been cut across many areas of blanket bog, disrupting the hydrology and causing erosion, but in most</p>

heaths.

5130 [Juniperus communis formations on heaths or calcareous grasslands](#)

The North Pennine Moors includes one major stand of juniper scrub in Swaledale as well as a number of small and isolated localities. The Swaledale site grades into heathland and bracken *Pteridium aquilinum* but the core area of juniper is of W19 *Juniperus communis* – *Oxalis acetosella* woodland with scattered rowan *Sorbus aucuparia* and birch *Betula* spp.

7130 [Blanket bogs](#) * Priority feature

The North Pennine Moors hold the major area of **blanket bog** in England. A significant proportion remains active with accumulating peat, although these areas are often bounded by sizeable zones of currently non-active bog, albeit on deep peat. The main NVC type is M19 *Calluna vulgaris* – *Eriophorum vaginatum* blanket mire, but there is also representation of M18 *Erica tetralix* – *Sphagnum papillosum* blanket mire and some western localities support M17 *Scirpus cespitosus* – *Eriophorum vaginatum* blanket mire. Forms of M20 *Eriophorum vaginatum* blanket mire predominate on many areas of non-active bog.

7220 [Petrifying springs with tufa formation \(Cratoneurion\)](#) * Priority feature

The **petrifying springs** habitat is very localised in occurrence within the North Pennine Moors, but where it does occur it is species-rich with abundant bryophytes, sedges and herbs including bird's-eye primrose *Primula farinosa* and marsh valerian *Valeriana dioica*.

8220 [Siliceous rocky slopes with chasmophytic vegetation](#)

parts these are being blocked and the habitat restored under agreements. Burning is a traditional management tool on these moorlands, which contributes to maintaining high populations of SPA breeding birds. However, over-intensive and inappropriate burning is damaging to heath and blanket bog and further agreements are needed with the landowners to achieve sympathetic burning regimes. Restoration, to some degree, of a mosaic of more natural habitats across parts of the site is desirable. Acid and nitrogen deposition continue to have damaging effects on the site.

SPA

The North Pennine Moors covers nearly 150,000 hectares and is largely heather moorland, either as blanket bog or drier heathland, with smaller associated areas of wetland, grassland, bracken, scrub, woodland and cliff. The habitats and qualifying breeding bird populations are mostly dependant upon stock grazing and burning at sympathetic levels. The continuation of these practices relies on their profitability, including any subsidy or incentive payments. Over-grazing, over-burning and other forms of intensive agricultural or sporting management (e.g. drainage) may be damaging. These issues are being partly addressed through management agreements and related incentives. Further legislation relating to Common land and reform of the Common Agricultural Policy would achieve sustainable solutions.

Recreational activity may be problematic but is addressed through Site Management Statements and through continuing working with Local Authorities to manage access. There is evidence that acidic and nitrogen deposition are having

Acidic rock outcrops and screes are well-scattered across the North Pennine Moors and support vegetation typical of **Siliceous rocky slopes with chasmophytic vegetation** in England, including a range of lichens and bryophytes, such as *Racomitrium lanuginosum*, and species like stiff sedge *Carex bigelowii* and fir clubmoss *Huperzia selago*.

91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

Birk Gill Wood is an example of **old sessile oak woods** well to the east of the habitat's main distribution in the UK. However, this sheltered river valley shows the characteristic rich bryophyte and lichen communities of the type under a canopy of oak, birch *Betula* sp. and rowan *Sorbus aucuparia*. The slopes are boulder-strewn, with mixtures of heather *Calluna vulgaris*, bilberry *Vaccinium myrtillus* and moss carpets in the ground flora.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

4010 Northern Atlantic wet heaths with *Erica tetralix*

6130 Calaminarian grasslands of the *Violetalia calaminariae*

6150 Siliceous alpine and boreal grasslands

6210 Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*)

7230 Alkaline fens

8110 Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*)

damaging effects on the vegetation and hence on the bird populations. Such issues are being addressed through existing pollution control mechanisms. Within this large site there is scope to enhance many of the more natural habitats and species whilst maintaining the core SPA interests.

<p>8210 <u>Calcareous rocky slopes with chasmophytic vegetation</u></p> <p>Annex II species that are a primary reason for selection of this site Not applicable.</p> <p>Annex II species present as a qualifying feature, but not a primary reason for site selection</p> <p>1528 <u>Marsh saxifrage</u> <i>Saxifraga hirculus</i></p>		
<p>Source: Joint Nature Conservation Committee</p>		

Ribble & Alt Estuaries	Status: SPA/Ramsar	Are: 12412.31 hectares
SPA	Ramsar	Vulnerability
<p>This site comprises two estuaries, together with an extensive area of sandy foreshore along the Sefton Coast. The site consists of extensive sand and mud flats and in the Ribble Estuary, large areas of saltmarsh. There are also areas of coastal grazing marsh located behind the sea embankments. The intertidal flats are rich in invertebrates, on which waders and wildfowl feed.</p> <p>This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of Common Tern (<i>Sterna hirundo</i>) and Ruff (<i>Philomachus pugnax</i>), which are species listed on Annex 1 of the Directive. Over winter the site supports populations of European importance of Bar-tailed Godwit (<i>Limosa lapponica</i>), Bewick's Swan (<i>Cygnus columbianus bewickii</i>), Golden Plover (<i>Pluvialis apricaria</i>) and Whooper Swan (<i>Cygnus Cygnus</i>), which are species listed on Annex 1 of the Directive.</p> <p>The site qualifies under Article 4.2 of the Directive</p>	<p>A large area including two estuaries which form part of the chain of west coast sites which fringe the Irish Sea. The site is formed by extensive sand and mudflats backed, in the north, by the saltmarsh of the Ribble Estuary and, to the south, the sand dunes of the Sefton Coast. The tidal flats and saltmarsh support internationally important populations of waterfowl in winter and the sand dunes support vegetation communities and amphibian populations of international importance.</p> <p>Its sand dunes support up to 40% of the Great Britain population of Natterjack Toads (Ramsar criterion 2).</p> <p>It has waterfowl assemblages of international importance (Ramsar criterion 5) Species with peak counts in winter of 222,038 waterfowl.</p> <p>It has waterfowl species /populations occurring at levels of international importance (Ramsar criterion 6). Species regularly supported during the breeding season: Lesser black-backed gull</p>	<p>Overall, the dunes, intertidal flats and saltmarsh enjoy a relatively robust status and a favourable condition. However, the site is, in places, subject to pressure from recreation, built development (including coastal defence), wildfowling and industry, including sand-winning. Wildfowling is not considered to have a significant impact in terms of direct take; resulting disturbance is effectively managed through the provision of refuge areas and strict regulation on shooting activities. Military activities only take place at Altcar Rifle</p> <p>Range which is adjacent to the Alt Estuary. Recreation is informal and of relatively low intensity along most of the Sefton Coast and in the Ribble Estuary. There is no longer a registered beach airfield at Sefton, however occasional landing of pleasure craft may be requested during large events. Beach activities are managed by the Beach Management Plan. Sand-winning was addressed during a Public Inquiry in August 2001, with the result that detailed environmental monitoring will now be</p>

<p>(79/409/EEC) by supporting populations of European importance of Lesser Black-backed Gull (<i>Larus fuscus</i>) during the breeding season. On passage it also supports populations of European importance of Ringed Plover (<i>Charadrius hiaticula</i>) and Sanderling (<i>Calidris alba</i>). Over winter it supports populations of European importance of Black-tailed Godwit (<i>Limosa limosa islandi</i>), Dunlin (<i>Calidris alpina alpina</i>), Grey Plover (<i>Pluvialis squatarola</i>), Knot (<i>Calidris canutus</i>), Oystercatcher (<i>Haematopus ostralegus</i>), Pink-footed Goose (<i>Anser brachyrhynchus</i>), Pintail (<i>Anas acuta</i>), Redshank (<i>Tringa tetanus</i>), Sanderling (<i>Calidris alba</i>), Shelduck (<i>Tadorna tadorna</i>), Teal (<i>Anas crecca</i>) and Wigeon (<i>Anas penelope</i>).</p>	<p>(<i>Larus fuscus graellsii</i>). Species with peak counts in spring/autumn:</p> <p>Ringed plover (<i>Charadrius hiaticula</i>), Grey plover (<i>Pluvialis squatarola</i>), Red knot (<i>Calidris canutus islandica</i>), Sanderling (<i>Calidris alba</i>), Black-tailed godwit (<i>Limosa limosa islandica</i>), Common redshank (<i>Tringa totanus tetanus</i>) and Lesser black-backed gull (<i>Larus fuscus graellsii</i>). Species with peak counts in winter: Bewick's swan (<i>Cygnus columbianus bewickii</i>), Whooper swan (<i>Cygnus Cygnus</i>) and Pink-footed goose (<i>Anser brachyrhynchus</i>).</p> <p>Petalwort (<i>Petalophyllum ralfsii</i>) is noteworthy flora present at the site.</p>	<p>incorporated into the renewed planning permission. Much of the site attracts beneficial land management via the implementation of agreed plans for three NNRs, two LNRs and other initiatives developed by the Sefton Coast Partnership. These plans/initiatives are addressing a number of these pressures, whilst other pressures will be addressed following procedures under the Habitat Regulations. Wider land management issues are being developed via the neighbouring Ribble and Mersey Estuary Strategies. The issue of grazing pressure on the saltmarsh will be addressed through a management agreement to reduce the grazing pressure.</p> <p>Although there is little evidence of sea-level rise so far, the extent and distribution of habitats remains vulnerable to changes in the physical environment, either natural or man-induced. In contrast the coast at Formby Point and Ainsdale is suffering intense erosion which is being investigated through the Sefton Shoreline Management Plan, and beach management practices have effectively encouraged the creation of considerable areas of embryo dunes on the upper shore elsewhere. The Ribble Estuary is also evolving as sediment patterns are changing and saltmarsh continues to accrete following past land-claim and the closure of Preston Docks. The intertidal habitats are vulnerable to accidental pollution from the nearby Mersey Estuary and the Irish Sea oil and gas fields. Oil spill contingency plans are being updated to deal with such events. The Ribble in particular has failed to meet the requirements of the Bathing Waters Directive. Government Office North West and the Environment Agency are investigating likely sources of pollution that may</p>
---	--	---

		have caused this.
Source: Joint Nature Conservation Committee		

Rochdale Canal	Status: SAC	Area: 25.55 hectares
SAC features of European importance		Vulnerability
<p>Annex I habitats that are a primary reason for selection of this site Not applicable</p> <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site Not applicable.</p> <p>Annex II species that are a primary reason for selection of this site 1831 Floating water-plantain <i>Luronium natans</i></p> <p>Rochdale Canal supports a significant population of floating water-plantain <i>Luronium natans</i> in a botanically diverse waterplant community which also holds a wide range of pondweeds <i>Potamogeton</i> spp. The canal has predominantly mesotrophic water. This population of <i>Luronium</i> is representative of the formerly more widespread canal populations of north-west England.</p> <p>Annex II species present as a qualifying feature, but not a primary reason for site selection Not applicable.</p>		<p>This partially restored section of the Rochdale Canal extends approximately 20 km from Littleborough to Failsworth, passing through urban and industrialised parts of Rochdale and Oldham and the intervening areas of agricultural land (mostly pasture). The canal contains important habitats for submerged aquatic plants and emergent vegetation, including extensive colonies of <i>Luronium natans</i>.</p> <p>The canal is to be subject to a major restoration scheme to open it up for full navigation from Manchester to Yorkshire, including the SSSI / pSAC section. English Nature is working together with partners to ensure the restoration is sensitively done in order to preserve the interest of the site. However, there are concerns about future boat movements as the possible impacts are not fully known at this stage.</p>
Source: Joint Nature Conservation Committee		

South Pennine Moors (Phase 2)	Status: SAC/SPA	Area: see below
SAC features of European importance Area: 64983.13 hectares	SPA Area: 20936.53 hectares	Vulnerability
Annex I habitats that are a primary reason for	This site is predominantly comprises: heath, bogs,	SAC

<p>selection of this site</p> <p>4030 European dry heaths</p> <p>The site is representative of upland dry heath at the southern end of the Pennine range, the habitat's most south-easterly upland location in the UK. Dry heath covers extensive areas, occupies the lower slopes of the moors on mineral soils or where peat is thin, and occurs in transitions to acid grassland, wet heath and 7130 blanket bogs. The upland heath of the South Pennines is strongly dominated by heather <i>Calluna vulgaris</i>. Its main NVC types are H9 <i>Calluna vulgaris</i> – <i>Deschampsia flexuosa</i> heath and H12 <i>Calluna vulgaris</i> – <i>Vaccinium myrtillus</i> heath. More rarely H8 <i>Calluna vulgaris</i> – <i>Ulex gallii</i> heath and H10 <i>Calluna vulgaris</i> – <i>Erica cinerea</i> heath are found. On the higher, more exposed ground H18 <i>Vaccinium myrtillus</i> – <i>Deschampsia flexuosa</i> heath becomes more prominent. In the cloughs, or valleys, which extend into the heather moorlands, a greater mix of dwarf shrubs can be found together with more lichens and mosses. The moors support a rich invertebrate fauna, especially moths, and important bird assemblages.</p> <p>7130 Blanket bogs * Priority feature</p> <p>This site represents blanket bog in the south Pennines, the most south-easterly occurrence of the habitat in Europe. The bog vegetation communities are botanically poor. Hare's-tail cottongrass <i>Eriophorum vaginatum</i> is often overwhelmingly dominant and the usual bog-building <i>Sphagnum</i> mosses are scarce. Where the blanket peats are slightly drier, heather <i>Calluna vulgaris</i>, crowberry <i>Empetrum nigrum</i> and bilberry <i>Vaccinium myrtillus</i> become more prominent. The uncommon cloudberry <i>Rubus</i></p>	<p>marshes and fen with grassland and a small area of open water.</p> <p>This site qualifies under Article 4.1 of the Directive (79/409/EEC) as during the breeding season it regularly supports populations of European importance of Short-eared Owl (<i>Asio flammeus</i>), Merlin (<i>Falco columbarius</i>) and Golden Plover (<i>Pluvialis apricaria</i>).</p> <p>It also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting a breeding assemblage including: Common Sandpiper (<i>Actitis hypoleucos</i>), Dunlin (<i>Calidris alpina schinzii</i>), Twite (<i>Carduelis flavirostris</i>), Snipe (<i>Gallinago gallinago</i>), Curlew (<i>Numenius arquata</i>), Wheatear (<i>Oenanthe oenanthe</i>), Whinchat (<i>Saxicola rubetra</i>), Redshank (<i>Tringa tetanus</i>), Ring Ouzel (<i>Turdus torquatus</i>) and Lapwing (<i>Vanellus vanellus</i>).</p>	<p>The South Pennine Moors SAC is largely enclosed on two sides by large industrial urban areas, which means that large numbers of people use the area for recreational activities. Around two-thirds is within the Peak District National Park. Land management is primarily driven by agriculture, rough grazing for sheep, and grouse-shooting.</p> <p>Access management has been a key issue, and with proposals under the Countryside and Rights of Way Act, will continue as such. Mechanisms for addressing access management issues include a range of fora, research and the role of organisations such as the Peak District National Park and its Ranger Service. Accidental fires can cause extensive damage to vegetation. The National Park Authority has produced a strategic Fire Plan and areas are closed to the public at times of high fire risk.</p> <p>Maintenance of the ecosystems relies primarily on appropriate grazing levels and burning regimes. There are a number of key pressures upon the site; these include overgrazing by sheep, burning as a tool for grouse moor management and inappropriate drainage through moor-gripping. All these issues are being tackled, and an integrated management strategy and conservation action programme has been produced as part of an EUfunded LIFE project for the area to the north of the National Park. Within the Park, the MAFF-funded North Peak and South West Peak Environmentally Sensitive Areas are important mechanisms in attempts to achieve balanced management. MAFF's Countryside Stewardship Scheme and English Nature's Wildlife Enhancement Scheme (WES) are also being used to achieve favourable management. Management of the site, especially north of the National Park, is</p>
---	--	---

chamaemorus is locally abundant in bog vegetation. Bog pools provide diversity and are often characterised by common cottongrass *E. angustifolium*. Substantial areas of the bog surface are eroding, and there are extensive areas of bare peat. In some areas erosion may be a natural process reflecting the great age (9000 years) of the south Pennine peats.

91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

Around the fringes of the upland heath and bog of the south Pennines are blocks of **old sessile oak woods**, usually on slopes. These tend to be dryer than those further north and west, such that the bryophyte communities are less developed (although this lowered diversity may in some instances have been exaggerated by the effects of 19th century air pollution). Other components of the ground flora such as grasses, dwarf shrubs and ferns are common. Small areas of alder woodland along stream-sides add to the overall richness of the woods.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

4010 Northern Atlantic wet heaths with *Erica tetralix*

7140 Transition mires and quaking bogs

Annex II species that are a primary reason for selection of this site

Not applicable.

Annex II species present as a qualifying feature, but not a primary reason for site selection

Not applicable.

further complicated by the large number of commons. The National Park Authority owns a significant area of moorland, as does the National Trust.

Atmospheric pollution over the last few hundred years has depleted the lichen and bryophyte flora and may be affecting dwarf-shrubs. The impact has arguably been greatest on blanket bog, wet heath and transition mire where the bog-building *Sphagnum* mosses have been largely lost. Combined with historical overgrazing, burning (accidental and deliberate), drainage and locally trampling, large areas of blanket bog have become de-vegetated and eroded. It is unclear at this stage whether the effects are irreversible. Attempts over recent decades to reverse these processes have achieved mixed and limited results. The combination of these effects means that most if not all of the blanket bog will not be classed as favourable according to English Nature's condition assessment criteria. Whilst all efforts can be made to control current factors such as current grazing and burning patterns, current atmospheric pollutant levels and access impacts, it is unclear whether this can fully mitigate the long-term influence of the historical factors such as atmospheric pollution, past burning and overgrazing. The situation is further complicated by a view that some erosion features can be considered natural phenomena of intrinsic interest. It may not therefore always be appropriate to try and revegetate bare peat even if suitable techniques exist.

The former extensive cover of woodland has declined over many centuries to the point that it is fragmented, relatively small-scale and largely restricted to steeper valley sides. There is no woodland included in the site to the north of the

		<p>National Park. Remaining woods are often unfenced and open to grazing which restricts tree regeneration. In some <i>Rhododendron</i> has invaded, choking out native flora. These issues are being tackled through the Forestry Commission's Woodland Grant Scheme and Challenge Fund for creating new native woodland, MAFF's North Peak ESA and English Nature's WES though more incentive and resources are needed. As well as restoring existing stands of woodland there is an emphasis on re-creation to expand and link fragments which inevitably involves changing existing habitats. This will raise questions over the balance of vegetation types we wish to see on the site but given woodland would naturally have covered much of the area we need to treat it's expansion seriously. The flora of woodlands, quality as with bog and heath, has suffered from poor air quality. Again, it is less clear what can be done to reverse this situation other than to try and ensure continued improvements in air quality to allow affected species to recolonise if they can.</p> <p>SPA</p> <p>The South Pennine Moors SPA (Phase 2) is flanked two sides by large industrial urban areas, which means that large numbers of people use the area for recreational activities. Maintenance of the ecosystems on which the birds depend relies on appropriate grazing levels and burning regimes, and overgrazing by sheep is a key pressure on the site. Management of grazing is further complicated by the presence of a large number of commons within the SPA. Pressures outside the site, in particular the loss of bird feeding areas through agricultural intensification, increase the vulnerability of the bird populations. All these issues are being tackled through the production of an integrated management strategy and</p>
--	--	--

		conservation action programme as part of EU-funded LIFE project, which has brought together statutory and voluntary bodies and the private sector in a wide-ranging partnership.
Source: Joint Nature Conservation Committee		

Appendix 3: Equality Impacts Assessment (EqIA)

What in summary is being considered?

As the local transport and highway authority for Lancashire, the County Council is responsible for the preparation of a local transport plan (LTP) that sets out a strategy and priorities for transport and travel in the area and a delivery programme for transport improvements, sustainable travel, road safety and maintenance.

In order to determine its future transport planning and investment priorities, and provide a sound and defensible basis for decisions affecting development across Lancashire, the County Council has embarked on an ambitious programme to put in place highways and transport masterplans to cover the county.

The East Lancashire Highways and Transport Masterplan has been developed jointly with Blackburn with Darwen Council.

The East Lancashire Highways and Transport Masterplan seeks to deliver good, reliable connections for people, goods and services whilst offering choice, facilitating travel on foot, by cycle, bus and rail as well as by car and goods vehicle. It should:

- Support the economic development of East Lancashire and of the county as a whole.
- Work to address deprivation
- Promote community resilience
- Increase healthy behaviour
- Reduce the area's carbon footprint

To do this, the masterplan seeks to ensure that:

- Sustainable travel becomes the choice wherever possible, even in rural areas.
- Strategic employment sites flourish and are well connected nationally and internationally.
- Local developments and business are supported and have the strategic and local connections that they need to succeed.
- People from all communities are able to access the employment and education opportunities that are available both in East Lancashire and further afield.
- Active travel is encouraged and supported, making walking and cycling safe and easy choices for local journeys.
- Public realm improvements support both new development and existing communities and enhance the appearance and safety of sustainable travel routes.
- Visitors find the area attractive and easy to travel around without a car.

These objectives fall into a number of themes which are grouped into 3 strands:

- Connecting East Lancashire
- Travel in East Lancashire and
- Local Travel

Connecting East Lancashire looks at how East Lancashire connects to other areas, particularly to the rest of the county and neighbouring growth areas to make sure that its people, economy and housing markets are more fully integrated to areas of opportunity.

Travel in East Lancashire is about the links between East Lancashire's towns and the major employment and housing locations.

Local Travel takes up the challenge of making sure that everyone, regardless of their background or where they live, can get to the services and opportunities that they need, from education and employment to leisure and health.

The 3 strands are closely linked to each other. Easy local travel, by walking and cycling, needs to feed into the bus and rail networks for longer journeys. The bus and rail networks themselves need to connect properly both for journeys in East Lancashire and to the wider area. No matter how far from East Lancashire people and goods are going, the connections to strategic road and rail networks must work to make national and international travel as easy as possible.

Is the decision likely to affect people across the county in a similar way or are specific areas likely to be affected – e.g. are a set number of branches/sites to be affected? If so you will need to consider whether there are equality related issues associated with the locations selected – e.g. greater percentage of BME residents in a particular area where a closure is proposed as opposed to an area where a facility is remaining open.

The Masterplan is the third in a series of documents that will set out LCC's highways and transportation strategy across the county. This document is specific to East Lancashire. The demographics of the area have been taken into account in the development of the masterplan and form part of the evidence presented in the Environmental Report on the masterplan.

Could the decision have a particular impact on any group of individuals sharing protected characteristics under the Equality Act 2010, namely:

Age

**Disability including Deaf people Gender reassignment Pregnancy and maternity
Race/ethnicity/nationality Religion or belief**

Sex/gender

Sexual Orientation

Marital Status

Yes, if considerations of such groups are not considered as part of the further work to be undertaken as a result of the approval of the masterplan. See below.

If you have answered "No" in relation to all the protected characteristics, please briefly document your reasons below and attach this to the decision-making papers. (It goes without saying that if the lack of impact is obvious, it need only be very briefly noted.

Question 1 – Background Evidence

What information do you have about the different groups of people who may be affected by this decision – e.g. employees or service users (you could use monitoring data, survey data, etc to compile this). As indicated above, the relevant protected characteristics are:

Age

Disability including Deaf people Gender reassignment/gender identity

Pregnancy and maternity Race/Ethnicity/Nationality

Religion or belief

Sex/gender

Sexual orientation

Marriage or Civil Partnership status (in respect of which the s. 149 requires only that due regard be paid to the need to eliminate discrimination, harassment or victimisation or other conduct which is prohibited by the Act).

All residents of and visitors to East Lancashire will be affected by the masterplan. Whilst we have information on some of the characteristics above, information is lacking on others. However, given the size of the area under consideration, it is safe to assume that all of the above groups will be represented within users of the highways and transportation network.

The ageing population is a particular concern in the masterplan and there is a commitment to ensure that all users can benefit from the transport infrastructure put in place or that alternatives are available.

Question 2 – Engagement/Consultation

How have you tried to involve people/groups that are potentially affected by your decision? Please describe what engagement has taken place, with whom and when.

Please ensure that you retain evidence of the consultation in case of any further enquiries. This includes the results of consultation or data gathering at any stage of the process)

The Masterplan has been the subject of public consultation over the course of winter 2013. As well as making the consultation documents available online and through libraries and council offices, specific stakeholder groups were approached.

Question 3 – Analysing Impact

Could your proposal potentially disadvantage particular groups sharing any of the protected characteristics and if so which groups and in what way?

It is particularly important in considering this question to get to grips with the actual practical impact on those affected. The decision-makers need to know in

clear and specific terms what the impact may be and how serious, or perhaps minor, it may be – will people need to walk a few metres further to catch a bus, or to attend school? Will they be cut off altogether from vital services? The answers to such questions must be fully and frankly documented, for better or for worse, so that they can be properly evaluated when the decision is made.

The Masterplan sets out our highways and transportation strategy for East Lancashire. The strategy includes all modes of transport and the public realm. The strands are specifically intended to ensure that everyone, regardless of protected characteristic, can benefit from the strategy. Specific options arising from the work will be evaluated separately for any potential impact on all groups sharing protected characteristics and the overall impact of the strategy will be monitored to ensure that no group suffers any dis-benefit.

The Masterplan has the potential to improve highways and transport for a number of groups of people. Without the improvements the Masterplan sets out, travel will become more difficult for all people across East Lancashire; age and disability groups could face significant extra difficulties. Under this Masterplan, more vulnerable travel users will benefit from better and safer transport and from a more user friendly public realm that has been designed with the needs of these groups in mind.

Question 4 –Combined/Cumulative Effect

Could the effects of your decision combine with other factors or decisions taken at local or national level to exacerbate the impact on any groups?

If Yes – please identify these.

The Masterplan sets out a strategy to achieve an integrated transport system that will be open and accessible to all users. There are substantial funding requirements to achieve this. Changes to current funding regimes by central government and as currently established for developers could have an adverse effect on the development of the strategy. Age and disability groups could see a potentially greater adverse impact than other users if the strategy is limited in this way.

Question 5 – Identifying Initial Results of Your Analysis

As a result of your analysis have you changed/amended your original proposal?

The Masterplan as proposed represents the most cost effective way to ensure the future success of the East Lancashire area for all users and visitors. It will enable the needs of specific groups to be provided for and will therefore ensure more equitable access to transport and to public spaces.

Question 6 - Mitigation

Please set out any steps you will take to mitigate/reduce any potential adverse effects of your decision on those sharing any particular protected characteristic. It is important here to do a genuine and realistic evaluation of the effectiveness of the mitigation contemplated. Over-optimistic and over-generalised assessments are likely to fall short of the —due regard requirement.

Also consider if any mitigation might adversely affect any other groups and how this might be managed.

At this stage, no mitigation is needed. As the further work proposed in the masterplan comes forward during the life of the Masterplan, options will need to be individually be assessed for any potential negative impact and mitigation measures taken accordingly.

Question 7 – Balancing the Proposal/Countervailing Factors

At this point you need to weigh up the reasons for the proposal – e.g. need for budget savings; damaging effects of not taking forward the proposal at this time – against the findings of your analysis. Please describe this assessment. It is important here to ensure that the assessment of any negative effects upon those sharing protected characteristics is full and frank. The full extent of actual adverse impacts must be acknowledged and taken into account, or the assessment will be inadequate. What is required is an honest evaluation, and not a marketing exercise. Conversely, while adverse effects should be frankly acknowledged, they need not be overstated or exaggerated. Where effects are not serious, this too should be made clear.

Any adverse effects will come during the course of the strategy as options are developed. It will therefore be vital to assess the impact of proposals as they are developed further.

Question 8 – Final Proposal

In summary, what is your final proposal and which groups may be affected and how?

The Masterplan sets out our highways and transportation strategy for East Lancashire. The 3 core strands of the strategy are roads, public transport and public realm. These strands are specifically intended to ensure that everyone, regardless of protected characteristic, can benefit from the strategy.

Question 9 – Review and Monitoring Arrangements

Describe what arrangements you will put in place to review and monitor the effects of your proposal.

All projects taken forward under this masterplan will be expected to demonstrate that the impact of options is being assessed during the development of final proposals. Groups sharing protected characteristics and the overall impact of the strategy will be monitored as far as possible to ensure that no group suffers any dis-benefit. We will work closely with our consultations groups to ensure that their views are part of the decision making process as the strategy is implemented.