

Local Transport Plan 2011-2021

Central Lancashire Highways and Transport Masterplan

**Environmental Report Addendum
March 2013**

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Non Technical Summary

1. An Environmental Report, published in November 2010, documented the possible environmental impacts of the draft 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 the county. This second addendum presents the Draft Environmental Report on the Central Lancashire Highways and Transport Masterplan. It builds on the work undertaken for the Local Transport Plan and provides the basis for further environmental evaluation to be carried out during the implementation of the Masterplan
3. This Environmental Report addendum represents the first stage in documenting the likely environmental effects of implementing the proposed schemes set out in the Central Lancashire Highways and Transport Masterplan (CLHTM). It is acknowledged that the Masterplan is a strategic document and does not represent the final schemes that will be proposed and that, consequently, no detailed designs have been drawn up.
4. Throughout this Environmental Report addendum consideration is given to how the Highways and Transport Masterplan for Central Lancashire aligns to key priorities and principles detailed in Lancashire County Council's Local Transport Plan (LTP3) 2011- 2021 and the Central Lancashire Core Strategy (2012). These are the two documents which have significantly guided the development of the Masterplan.
5. Both the Local Transport Plan and the Central Lancashire Core Strategy have been the subject of Environmental Reports. Both reports have been accepted as appropriate assessments of environmental impact and of required mitigation.
6. The Central Lancashire Highways and Transport Masterplan sits within the LTP3. It is the county council's proposal for meeting the infrastructure requirements of the adopted Central Lancashire Core Strategy and as such is constrained to support accepted development proposals.
7. Key issues raised by the environmental assessment presented in this report are:
 - Central Lancashire sees a high reliance on private transport and typically **greater travel distances** than in more populous metropolitan areas. This is causing increasing congestion throughout the area. **Congestion** and **carbon emissions** in Central Lancashire have steadily increased due to a sustained economic growth and a relatively dispersed urban area which demands greater travel distances.

- Public health in Central Lancashire is a substantial problem 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.
 - **Air quality** problems exist in parts of South Ribble and Chorley, most notably around the M6/M61/M65 intersections at Bamber Bridge. Specific air quality problems are associated with congestion hotspots and enclosed urban environments. Poor air quality can also impact on people's health and hence 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 Preston. 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; this is particularly the case in parts of Preston. 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 Lancashire a better place to live. Protecting and improving our environment are not key priorities in the early years of the Strategy and so extra care will need to be taken to get the most environmental benefit from what is done and limit any damage.
 - Our **historic environment** and our **landscape** are also significant assets and to protect them we will have to make sure that any work carried out is in keeping with the area.
 - Making sustainable transport modes like walking, cycling and public transport more attractive will not only reduce our impact on the natural environment, but will reduce **noise** and help to preserve tranquillity. It will also help to reduce the county's **CO2** footprint and help to improve **air quality** in our urban areas and reduce the number of Air Quality Management Areas (AQMAs) across the Central Lancashire authorities of Preston, South Ribble and Chorley.

- **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 the county. Preston is within the top 50 most deprived districts in England and there are areas of severe deprivation in other districts. Since these indices were published, there has been an economic downturn that has had a significant impact on the North West.
 - The **public health** system is changing in England and the county council will have greater responsibilities to improve health and wellbeing which will make promoting sustainable transport even more important.
9. The Central Lancashire Masterplan and the schemes within it do have risks attached to them. The most significant risks identified are that:
- Prioritising investment in the 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.
 - Our landscape will suffer as a result of the potentially higher cost of more attractive schemes.
10. Mitigation of the risks inherent in this Masterplan has been discussed for each project in the Plan and certain themes have emerged:
- All schemes will need detailed assessment as the Masterplan is implemented, 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 particularly those connected to sustainable transport provision.
 - The contribution of surface water runoff 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 varies greatly across the county 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.
 - Particular attention will need to be given to the design of new roads (Preston Western Distributor, the upgrading of the South Ribble Western Distributor (the A582) and the completion of the Penwortham Bypass and the New Ribble Bridge where their construction and presence could pose significant impacts on the downstream Ribble and Alt Estuaries Natura 2000 site. Appropriate mitigation should be built into the design from the first stages.
 - The design of the New Ribble Bridge should be sympathetic visually to its surrounding environment as detrimental visual impact could become a significant concern.
11. Effective monitoring will be carried out to make sure that the Plan meets its targets and that any negative impacts are minimised. The monitoring will allow future Implementation Plans to address mitigation issues over the life of the Strategy.
12. The consultation Masterplan identified the broad-scope environmental implications of implementing the proposed schemes. However, as the Masterplan does not identify specific details of the schemes at this stage, it is not possible to determine the full extent of environmental impacts. Individual Environment Impact Assessments (EIA) of each scheme will need to be undertaken in future.
13. However, the Masterplan does seek to target over reliance on car journeys which is a major contributor to congestion and localised poor air quality, road safety and poor levels usage of sustainable transport options.
14. There is as yet little consideration with regards to maximising biodiversity and flood risk management in all the proposed schemes. However, it is recognised that the Masterplan is in its draft stage and that designs for schemes have yet to be drawn up. It is recommended that the relevant sites and concerns outlined in this SEA are taken into consideration from the outset of the design stage to ensure adequate mitigation of potential significant environmental effects is afforded to protected habitats from the outset.

1. Introduction

- 1.1. An Environmental Report, published in November 2010, documented the possible environmental impacts of the draft 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 represents the Draft Environmental Report on the Central Lancashire Highways and Transport Masterplan. It builds on the work undertaken for the Local Transport Plan and provides the basis for further environmental evaluation to be carried out during the implementation of the Masterplan.
- 1.3. 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”*.
- 1.4. This Environmental Report represents the first stage in documenting such likely environmental effects of implementing the proposed schemes set out in the Central Lancashire Highways and Transport Masterplan (CLHTM). It is acknowledged that the Masterplan is a strategic document and does not represent the final schemes that will be proposed. It is also recognised that, consequently, no detailed designs have been drawn up.
- 1.5. 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.
- 1.6. The overriding emphasis throughout the Masterplan, and indeed in the LTP3, is to support sustainable economic growth, not only now but also in the future. By this, we mean balancing 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.
- 1.7. Lancashire County Council, as the transport and highways authority for Lancashire, has a duty to determine any likely significant effects that may arise from the proposed schemes in the Central 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.

- 1.8. This report shows how we have considered three options for the development of highways and transport in Central Lancashire, why we have rejected two of those options and how we will ensure that the schemes put forward within our preferred option, as adopted in the Masterplan, will be the subject of appropriate environmental appraisal.

2. Policy Context and Priorities

- 2.1. Throughout this Environmental Report consideration is given to how the Highways and Transport Masterplan for Central Lancashire aligns to key priorities and principles detailed in Lancashire County Council's Local Transport Plan (LTP3) 2011- 2021 and the Central Lancashire Core Strategy (2012). These are the two documents which have significantly guided the development of the Masterplan.
- 2.2. The Local Transport Plan sets out transport priorities in Lancashire until 2021. 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.
- 2.3. In the early years of the Plan, particular emphasis was given to supporting the Lancashire economy through improving the links between areas of economic opportunity and their prospective workforce and markets, to investing in the safety of our children and young people and to ensuring our network of roads, bridges, streetlights, public spaces and other assets remains fit for purpose.
- 2.4. The Central Lancashire Core Strategy, the overarching planning policy document for the three districts of Preston, South Ribble and Chorley, which was adopted by all three authorities in summer 2012, sets out the broad development strategy for Central Lancashire until 2026. Its purpose 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 it sets out where development will occur up to 2026 and indicates what strategic investment is necessary to deliver it.
- 2.5. Both the Local Transport Plan and the Central Lancashire Core Strategy have been the subject of Environmental Reports. Both reports have been accepted as appropriate assessments of environmental impact and of required mitigation.
- 2.6. The Central Lancashire Highways and Transport Masterplan sits within the LTP3. It is the county council's proposal for meeting the infrastructure requirements of the adopted Central Lancashire Core Strategy and as such is constrained 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 the Central Lancashire District Councils through the obligation of significant developer contributions collected through the Community Infrastructure Levy (CIL), to ensure the delivery and success of these strategic improvements will resonate throughout the sub-region.
- 2.9. This master planning exercise puts the County Council in a position to demonstrate that affordable and deliverable improvements can be made to the highways and transport network to support Central Lancashire's development strategy. 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 Key Challenges

- 3.1. Central Lancashire, the economic and administrative centre of Lancashire, possesses a large and diverse economy that has grown rapidly over the last 30 years. It boasts an LEP public/private collaboration delivering the Lancashire Enterprise Zone which covers the two BAE systems sites at Samlesbury, in South Ribble, and Warton, in Fylde, the University of Central Lancashire (UCLan), as well as a teaching hospital. Furthermore, the area has a strong retail and service sector supported by a strong high-tech and knowledge-based business presence, excellent national road and rail links and a large mobile workforce.
- 3.2. Central Lancashire, a single employment area, has demonstrated its economy is strong, resilient and growing even in times of austerity. To ensure the ongoing success and expansion of this economy, the County Council must ensure an approach to infrastructure delivery in and around development opportunities in order to unlock land for growth and to promote sustainable development and transport options. The adopted Central Lancashire Core Strategy and emerging individual Site Allocation Local Plans for the three districts are advanced plans for accommodating new development, whilst this Masterplan shows we have a committed programme for new transport investment.
- 3.3. Central Lancashire sees a high reliance on private transport and typically **greater travel distances** than in more populous metropolitan areas. This is causing increasing congestion throughout the area. **Congestion** and **carbon emissions** in Central Lancashire have steadily increased due to a sustained economic growth and a relatively dispersed urban area which demands greater travel distances.
- 3.4. Public health in Central Lancashire is a substantial problem which has wide ranging consequences. Walking and cycling can make a particularly important contribution towards improving **health**.
- 3.5. 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.
- 3.6. **Air quality** problems exist in parts of South Ribble and Chorley, most notably around the M6/M61/M65 intersections at Bamber Bridge. Specific air quality problems are associated with congestion hotspots and enclosed urban environments. Poor air quality can also impact on people's health and hence remains a priority to implement effective mitigation and development measures to alleviate congestion in identified areas.
- 3.7. 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 Preston. The number of child casualties in these areas remains a key issue.

- 3.8. **Deprivation** exists in a number of areas, despite strong economic growth in the wider sub-region; this is particularly the case in parts of Preston. 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.
- 3.9. However, there are positives. Peak hour congestion, a good measure of overall traffic, has started to stabilise in some urban areas of Central Lancashire and peak time traffic flows have reduced in Preston, although this may be a short term impact of the current economic climate. Similar reductions have not been seen in other areas where overall traffic volumes continue to rise.
- 3.10. Ignoring on-going congestion problems is likely to undermine the economic growth of Central Lancashire. The delivery of new employment and much needed residential development will be made more difficult as businesses find it difficult to operate and as employees, suppliers and customers find it more difficult to travel. Furthermore, the health and safety of residents, and the environment, is likely to suffer.

Environmental Context

- 3.11. The **natural environment** is significant to both the economy and to making Lancashire a better place to live. Key issues and challenges to the Masterplan are:
- 3.12. 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.
- 3.13. 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.
- 3.14. 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.
- 3.15. Lancashire County Council hosts the Lancashire Environment Record Network, 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 Implementation Plan projects to be understood.

- 3.16. Central Lancashire's **historic environment** is a significant cultural asset which public realm and transport improvements have the potential to make positive contributions to this environment if sensitively implemented.
- 3.17. The **landscape** of Central Lancashire is diverse. As well as being home to our agricultural and horticultural sectors, the landscape provides an important recreational resource supporting our 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.
 - The urban landscape will be sensitive to changes in public realm and to levels of congestion.
 - A shift to quieter transport modes will bring some noise reduction, as would ensuring freight transport uses appropriate roads.
- 3.18. 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 masterplans 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.
- 3.19. **Flooding** is an important concern for the authority. The Flood and Water Management Act 2010 and the Flood Risk Regulations 2009 both impose 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.
- 3.20. Lancashire as a whole faces a range of issues in relation to **climate change**. Issues which are anticipated to impact on Central Lancashire include:
- Hotter, drier summers with more frequent summer heatwaves and winters are warmer but wetter are likely.
 - Extreme weather events will become more common, bringing a greater risk of flooding and storm surges, with damage from high winds becoming more frequent.

- 3.21. Total CO₂ emissions in the 3-authority Central Lancashire sub-region in 2010 were estimated at 2.6 million tonnes. Overall, 29.5% of Central Lancashire emissions were attributable to industry and commerce sector sources, 31.3% to the domestic sector, 38.6% to road transport and a minor residual of 0.5% to land use, land use change and forestry. Reducing carbon emissions is therefore a major challenge 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.
- 3.22. Poor **air quality** has a significant negative impact on health, particularly in more deprived areas. Transport emissions are a 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 are six declared Air Quality Management Areas (AQMAs) in Central Lancashire which 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.
- 3.23. 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

- 3.24. 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 Lancashire, 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, it is more prevalent within Preston, compared with Chorley and South Ribble, which falls within the top 50 most deprived districts in England from the 2010 Indices of Deprivation.
- 3.25. 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 in late 2011 (for 2009), when the full extent of the challenge will become clearer.

Human Health

- 3.26. Changes to **public health system** in England have been proposed in the 'Healthy Lives, Healthy People: Our strategy for public health in England' white paper (July 2010) sets out a bold vision for a reformed public health system in England. With implementation in April 2013, it commits to a system in which:
- Local authorities take new responsibilities for public health. Local authorities' new public health responsibilities will be supported by a ring-fenced budget. Directors of Public Health will lead this work, as the principal adviser on health to the local authority.
 - Local authorities will be supported by a new integrated public health service, Public Health England. This will bring together in one body the diverse range of public health expertise currently distributed across the health system and will ensure access to expert advice, intelligence and evidence.
 - A stronger focus on the outcomes to achieve across the system to improve and protect health and to reduce inequalities in health.
 - Public health has a clear priority, is seen as a core part of business across Government and is supported with the resources to ensure the focus on public health interventions is maintained.
 - The commitment to reduce health inequalities is a priority for all parts of the public health system, drawing on the Marmot review to address the wider determinants of health, and complementing the role of the NHS to reduce inequalities in access to and outcome from health services.
- 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.
- 3.28. The varied geography of Central Lancashire, with highly populated urban areas and conurbations coupled with semi-rural and rural areas, each offers their own unique transport needs, social/neighbourhood problems, education and employment issues and access to green spaces/the natural environment. 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.

Assessment of Options and Schemes

4.1. The Draft Masterplan outlined identified and explored three broad options to approaching transport infrastructure issues within the Central Lancashire region. These are:

- **Option One – Business as usual**

Projects that are already programmed will be delivered and management of the transport network to make it as effective as possible. We would continue to support public transport, but improvements would be limited to small-scale schemes to improve the highway generally. Likewise, walking, cycling and public realm schemes would still go ahead, but would be on a small scale.

- **Option Two – Improve what we have**

We would deliver planned projects and manage the network to make it as effective as possible. We would also implement a major programme of sustainable transport measures, but without provision of further road capacity.

- **Option Three: Improve and extend**

This option builds on Option 2 but accepts that additions to existing highway infrastructure will be needed to support the development aspirations of Central Lancashire. This will make significant public transport improvements and enhance our public realm.

Assessment of Options

4.2. The level of development that is anticipated in Central Lancashire is unprecedented, with over 20,000 new homes and similar numbers of new jobs anticipated due to current plans and programmes.

4.3. This level of development cannot be contained within our current highways or transport networks. Furthermore, work carried out by independent consultants has demonstrated that neither Option 1 nor Option 2 would not be able to support development of the scale proposed without significant negative impacts on the highway and transportation networks.

4.4. The descriptions of Options 1 and 2, together with their SWOT analyses are shown below. These were published in the consultation document but are not included in the publication Masterplan.

Option 1: Business as usual

In this option, we will deliver the projects that are already programmed and would continue to manage the network to make it as effective as possible.

We would continue to support public transport as best we can, but improvements would be limited to small-scale schemes to improve the highway

generally. Likewise, walking, cycling and public realm schemes would still go ahead, but would be on a small scale.

However, an independent technical assessment of our options produced by transport consultants shows that, by 2026, the existing transport network will not be able to cope as it is.

Even without extra development, the growth in traffic that is likely to occur over time anyway will mean that the levels of congestion that we currently see in the morning rush hour will have become common for more of the working day and across a wider area. Because of the increased congestion, journey times will be unreliable, which will make it difficult for public transport and logistics to operate effectively. Road safety and air quality will also be worse. Traffic levels will make walking and cycling unpleasant on many roads including what are now our quieter streets.

This level of congestion would also have serious implications for the growth and economic development of the area. Existing business would find it increasingly difficult to operate as employees, suppliers and customers found it more difficult to travel. Future economic growth in the area could be less likely as investors looked at Central Lancashire's traffic problems.

Carrying on as we are is therefore not a long term option.

4.5. The SWOT analysis for Option 1 as published in the consultation document is reproduced below:

<p>Strengths</p>	<p>Weaknesses</p>
<p>Limited capital cost compared to other options.</p>	<p>Significant congestion for longer periods, on more roads and more frequently.</p>
<p>Limited disruption due to road network reconfiguration/improvements.</p>	<p>Poor gateway and public realm in major urban centres, Green Infrastructure and environmental appearance.</p>
<p>Opportunities</p>	<p>Congested routes deterring pedestrians and cyclists owing to reduced safety for pedestrians/cyclists/road users.</p>
	<p>Increase in number of air quality management areas (AQMAs).</p>
	<p>Public transport remains unattractive.</p>
	<p>Limited opportunity to improve tired city centre public realm and commercial centres.</p>
	<p>Threats</p>
	<p>Transport network unable to cope by 2026.</p>
	<p>Peak hour congestion 'spreading' and occurring more frequently and for longer.</p>
	<p>Growing car ownership and use.</p>
	<p>New development.</p>
	<p>Public transport operators could experience reduction in revenue and reduced services.</p>
	<p>Uncertainty among private investors.</p>
	<p>This option would mean the Central Lancashire Local Development Framework is unsound.</p>

Option 2: Improve what we have

The next step is to consider what we can do to improve what we have. In this option we would deliver the projects that are already programmed and would continue to manage the network to make it as effective as possible.

However, we would also implement a major programme of sustainable transport measures, but there would be no further road capacity provided. As well as walking and cycling improvements where possible, we would work to improve the main bus corridors into Preston and would do further work to develop Preston Railway Station into a fit-for-purpose hub for Central Lancashire. We would also look at whether Park and Ride would have the potential to reduce traffic.

Unfortunately, the technical assessment makes it clear that even a major programme of sustainable transport improvements is unlikely to have a significant impact. Experience from elsewhere shows that we would be unlikely to see a reduction in car trips of more than 5% at most.

Whilst a 5% reduction in car trips would be welcome, it would not compensate for even modest traffic growth between now and 2026 and so even with significant investment, we would only be slightly better off than with Option 1.

We would still have significant congestion, which would still have a major impact on our economy's viability and on future development. The main reason for the relatively small impact of Option 2 is that our current network does not have enough spare capacity to allow us to make significant changes to improve bus journey times and to enhance the public realm.

We cannot reduce congestion enough to make walking and cycling on major routes more pleasant, bus times more reliable and sustainable travel attractive. Without making sustainable travel attractive, we cannot reduce congestion.

- 4.6. The SWOT analysis for Option 2 as published in the consultation document is reproduced below:

Strengths	Weaknesses
Increased use of public transport.	Higher capital expenditure than Option 1.
Increased walking and cycling.	More disruption to highway network during implementation than Option 1.
Less costly than new road construction.	Significant congestion would remain in the longer term.
Limited disruption due to road network reconfiguration/improvements.	Congested routes still likely to deter pedestrians and cyclists.
	Bus journey times and unreliability unlikely to improve significantly.
	Limited improvement to public realm.
	Disruption to businesses and associated short term economic losses owing to road reconfiguration.
	Risk of increase in number of air quality management areas (AQMAs).
Opportunities	Threats
Improved safety for all road users.	Some peak hour congestion 'spreading' and occurring more frequently in the longer term.
Promote public transport as alternative to the car.	Growing car ownership and use.
Potential to increase popularity of walking and cycling as alternative modes of transport.	New development.
Public transport operators could experience an increase in revenue and expand services.	Reluctance to change travel behavior.
Improved public realm compared to current conditions.	Limited potential to attract businesses and incentive to investors.
	This option would mean the Central Lancashire Local Development Framework is unsound.

4.7. Although Options 1 and 2 were discounted and a third option developed, it was thought appropriate to include them in the consultation as evidence of why a third option was developed and proposed. A summary of this third option is included below, followed by a detailed assessment.

Option 3: Improve and extend

The final option investigated includes and builds on Option 2, but accepts that additions to existing highway infrastructure will be needed to support the development aspirations of Central Lancashire.

Because this option allows us to do far more to promote and prioritise public transport, walking and cycling, we will see a greater increase in the use of sustainable travel than Option 2 would achieve.

It is an accepted part of the legal framework that governs new development that developers are asked to contribute to the new public infrastructure, of any type, that their development requires. This will be the case in Central Lancashire, as this new capacity is required for the housing developments to go ahead.

As well as allowing development, however, this new road capacity will give us the opportunity to improve our use of the existing network. Without this, it will simply be too busy to allow public transport and active travel to prosper and everyone will suffer

the effects of increasing congestion ~ slower, unreliable journeys, more cars, poorer air quality and streets that are busy and unwelcoming.

By creating extra capacity, we will be able to accommodate new development, make far more significant public transport improvements and manage the highway network more effectively. It will also allow us to enhance our public realm to a far greater extent and to make walking and cycling the modes of choice.

The technical assessment shows that without new capacity in our highway network, we will simply exacerbate existing problems. This master planning process demonstrates that there are ways to solve these problems.

Although this option proposes new highway capacity, it is still in agreement with the County Council's strategic vision of a sustainable future where transport is fully integrated and where walking, cycling and public transport are an effective and obvious alternative to the private car.

With a new Central Lancashire Core Strategy now in place and a new Economic Partnership to take forward economic development, the time is right to set in place a masterplan for Highways and Transport that will both support Central Lancashire's economic ambitions and maximise the benefits of a high quality integrated transport network for its residents.

Option Three: Improve and extend	
What challenges does the Option aim to address?	<p>Continued growth of Central Lancashire's economy is a key focus throughout the Masterplan, Investment in transport improvements which support economic growth and regeneration underpin the Draft Masterplan.</p> <p>Measures stated in the Draft Masterplan which align to this policy include:</p> <ul style="list-style-type: none"> • Road improvements to prevent congestion by providing additional capacity and hence to improve public realm and improve wider connections • New road construction to unlock land allocated for development, to prevent congestion, and to improve wider east-west connections • Investment in improving sustainable transport options to provide local people with improved access and more sustainable options to travel to employment areas.
What environmental benefits will the Option provide?	<p>Poor economic performance in the economy in some areas has led to a range of social and environmental impacts with the end result that Lancashire now has some of the most disadvantaged communities in the country. In many cases, these communities are doubly affected impact of limited employment opportunities and deep-seated environmental and social problems.</p> <p>Measures to help deliver improved economic fortunes are likely to provide positive benefits to disadvantaged communities and,</p>

	<p>in turn, will begin to address many of these entrenched problems. In the long-term, this is likely to prove more sustainable and more organic than other individual interventions.</p> <p>Reduced congestion will mean fewer carbon emissions, improved localised air quality and public realm. Coupled with an increasing number of more reliable sustainable transport options, infrastructure investment will, in turn, also help to tackle health and social problems.</p>
<p>Will the Option have any adverse effects, are they acceptable and can these effects be reduced?</p>	<p>The focus on delivering better access to employment areas through new road infrastructure could perpetuate Lancashire's reliance on private transport.</p> <p>The primary focus on constructing and upgrading road infrastructure could divert attention away from the public realm and sustainable transport infrastructure, notably walking and cycling.</p> <p>The Draft Masterplan aims to avoid these risks by investing in sustainable transport solutions alongside constructing and upgrading road infrastructure. The infrastructure improvements being proposed will allow for far greater improvements to sustainable modes than would otherwise be possible. In addition, a programme of public realm improvements will be implemented to make sustainable transport as an attractive form of travel and appeal to residents the advantages of such forms of travel. This programme includes:</p> <ul style="list-style-type: none"> • Bus priority corridors to speed up journey times of public transport • Cottam park and ride railway station to provide local people with improved sustainable transport options • Railway station investment across the area, with the potential to reopen stations • Cycle paths and improved public realm to encourage walking and cycling <p>However, despite this, this Option will include the construction of the Penwortham Bypass which could be in close proximity to a handful of existing dwellings, and to All Hallows RC High School and Howick Cross Primary School.</p>
<p>Conclusions</p>	<p>Central Lancashire suffers from increasing congestion which it is anticipated will impact on both the Central Lancashire and the wider economies without investment in the both road infrastructure and sustainable transport. Furthermore high rates of car use and greater carbon footprints in some areas support</p>

	<p>the compelling need to move rapidly towards more sustainable forms of transport.</p> <p>In many cases, congestion and high car dependency result in other serious detrimental impacts on public health and other local environmental problems. In this context, the case for both supporting the economic development of the area to address the social problems experienced in the area and for the need to support environmental improvements is overwhelming. This is not to suggest that there are not local environmental issues that will need to be addressed. However, until detailed scheme design begins, these problems cannot be addressed.</p>
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Assessment of Schemes

4.8. There are 4 new highway schemes detailed in the Central Lancashire Masterplan to 2026:

- **Preston Western Distributor**

A new road linking the M55 near Bartle with the A583/A584 at Clifton, to support delivery of the North West Preston strategic housing location and improve access to the Strategic Road Network from the Enterprise Zone site at Warton. The scheme will reduce the need for traffic to travel through Preston City Centre. This new road presents opportunities to improve air quality and public realm and make better use of existing road space in and around the city centre and neighbouring towns.

- **A582 South Ribble Western Distributor Upgrade**

Capacity Improvement on the existing A582 between Cuerden and Penwortham Triangle to support delivery of the South Penwortham/North of Farington strategic housing location.

- **Completion of Penwortham Bypass**

Completion of Penwortham Bypass between the Broad Oak roundabout and Howick Cross, creating a direct link between the A582 at Broad Oak roundabout and the A59 west of Penwortham.

- **New Ribble Bridge**

A new bridge linking the new Preston Western Distributor to the Penwortham Bypass will relieve pressure on central Preston and existing river crossings whilst enabling water traffic to pass beneath with ease.

4.9. Two other road schemes are detailed, but these are existing schemes and have been the subject of detailed environmental appraisal.

4.10. Public transport and public realm schemes are not appraised here. The majority of these schemes are enhancements of existing infrastructure and any consideration of environment will require details of the schemes to be available

4.11. The following tables provide an assessment of each of the proposed schemes against key policies from LTP3, detailing the likely benefits and dis-benefits of the scheme and proposed measures.

Preston Western Distributor

Scheme:	Preston Western Distributor
Policies:	<ul style="list-style-type: none"> • Improving access into areas of economic growth and regeneration • Providing better access to education and employment • Maintaining our Assets
How does the scheme fit into the policy and are there any adverse effects?	<p>The proposed new road will link the M55 near Bartle with the A583/A584 at Clifton, to support delivery of the North West Preston strategic housing location and improved access to the Strategic Road Network from the Enterprise Zone site at Warton. Additional houses and employment sites mean additional people and, most often, cars. As the independent technical assessment has shown, the current road network would struggle without additional capacity resulting in congestion. Congestion could potentially put future development schemes under threat owing to the lack of network capacity to support anticipated growth projections. Quick and reliable transport infrastructure is crucial in economic and business terms and hence ensuring the network can cope is a priority. Furthermore, increased congestion may result in poorer air quality and reduced road safety in localised areas, for both road users and pedestrians.</p> <p>Providing access via a new link between the M55 and the A583 will enable easier access east-west providing travellers with options to avoid peak hour congestion in the city centre without having to use narrow country lanes. Not only does this improve driver safety but will divert traffic from having to go through the city centre, thus having a positive effect on air quality in such areas, and increase the efficiency of the road network bringing economic gains. Furthermore, Junction 1 of the M55 at Broughton is a busy junction. The western distributor will provide access to the motorway network without the need to use Junction 1, displacing some pressure from this junction.</p> <p>Although the link road may provide greater accessibility the new road infrastructure may also perpetuate Central Lancashire's reliance on private transport in the long term. Increasing reliance on private transport will lead to higher</p>

	<p>carbon emissions. The scheme attempts to avoid this risk as relieving Preston City Centre and the B5411 Woodplumpton Road and the A583 corridors of congestion will through enhancing sustainable travel modes; notably a bus priority route along the corridor and new railway station with parking facilities at Cottam.</p> <p>Furthermore, the new road will be built on greenfield, un-built land albeit following the line of the existing pylons to minimise further visual pollution. The main environmental concerns arise from the proximity of the proposed road to existing dwellings, and the crossing of the Lancaster Canal and Millenium Ribble Link, both in terms of short-term (construction) and long-term (house prices/pollution/drainage) impacts.</p>
Conclusion	<p>Although the proposed Preston Western Distributor may perpetuate Lancashire's reliance on private transport, it is considered that it is necessary to sustain and ensure future economic growth in the area. Despite this, however, it is believed that the new link road will relieve traffic congestion within Preston City Centre by diverting traffic to the west of the City over a new bridge. Ultimately it is intended to significantly improve local air quality as well as enhance more sustainable modes of travel such as public transport. Through public realm improvements this scheme also addresses the policy for 'Maintaining Our Assets.' New infrastructure will dramatically improve public satisfaction and so increase peoples feeling of safety, willingness to use public transport, and general satisfaction with the local community.</p>

Scheme:	Preston Western Distributor
Policy	<ul style="list-style-type: none"> • Improving People's Quality of Life and Wellbeing • Provide safe, reliable, convenient and affordable transport alternatives to the car
How does the scheme fit into the policy and are there any adverse effects?	<p>Through addressing the issue of potential congestion arising from the Strategic Housing Location/site, the new road gives the opportunity to provide and/or improve cycle and pedestrian routes. Such measures will prevent poor air quality, both in the immediate locality and in the wider areas (notably Preston City Centre and the AQMAs) and promote sustainable transport through walking and cycling.</p>
Conclusion	<p>There is an opportunity to consider, at the design stage, incorporating cycle and pedestrian routes along the road, particularly with connections to the Strategic housing location/site in order to encourage residents to walk and cycle.</p>

Scheme:	Preston Western Distributor
Policy	<ul style="list-style-type: none"> • Improve the safety of our streets for our most vulnerable residents • Reduce carbon emissions and its effects
How does the scheme fit into the policy and are there any adverse effects?	<p>Through diverting traffic away from Preston City Centre and taking traffic off narrow country lanes, localised carbon emissions will be lowered and the safety of relatively quiet country lanes and local city centre roads will be increased owing to the anticipated lower traffic count.</p> <p>However, the construction of a new road requires a lot of resources which, inevitably, will mean that the scheme itself is carbon-hungry.</p>
Conclusion	<p>The long term benefits of the scheme in allowing sustainable transport to be catered for and promoting modal shift away from the car will be great. The scheme will improve air quality in urban areas and will allow for a long term reduction in carbon emissions. We believe that this outweighs the carbon cost of the scheme, particularly as without the scheme, air quality and carbon emissions will become far greater problems in the future.</p>

Upgrading of the A582 South Ribble Western Distributor

Scheme:	Upgrade A582 South Ribble Western Distributor
Policy	<ul style="list-style-type: none"> • Improving access into areas of economic growth and regeneration • Providing better access to education and employment
How does the scheme fit into the policy and are there any adverse effects?	<p>The upgrading of the A582 South Ribble Western Distributor from a single to double carriageway is intended to improve capacity between Cuerden and Penwortham Triangle/Preston city centre, and ultimately support the delivery of the south of Penwortham/North of Farington strategic housing location with an anticipated additional 1,200 homes.</p> <p>The A582 is already under significant pressure as the main access westwards from Cuerden Green Strategic employment site is via the A582 and there is also a major issue of traffic from the A59 accessing the motorway network. This traffic currently either uses rural 'B' and/or unclassified roads or travels through Penwortham and Preston city centre.</p> <p>The upgrade will be expensive owing to the need to renew/enlarge two bridges along the route in addition to adding another lane.</p> <p>Without the upgrade, the existing A582 would struggle to</p>

	cope with additional vehicles and roads anticipated from residential development as well as the forecast increases in car journeys. Additionally, congestion would impact on local air quality, particularly around Penwortham Triangle, whilst longer journey times may pose economic implications for existing businesses.
Conclusion	Although there will be environmental repercussions of the scheme, they are compensated for through counteracting the consequences of ignoring increasing congestion, such as air quality. Furthermore, the improvements are to be made to an existing road rather than building a new road which will divert traffic travelling west away from Penwortham Triangle and Preston City Centre resulting in a more attractive and safer public realm in such areas.

Scheme:	Upgrade A582 South Ribble Western Distributor
Policy	<ul style="list-style-type: none"> • Improving People's Quality of Life and Wellbeing • Improve the safety of our streets for our most vulnerable residents
How does the scheme fit into the policy and are there any adverse effects?	<p>Through addressing the issue of potential congestion arising from the housing location/sites, the new road gives the opportunity to provide and/or improve cycle and pedestrian routes. Such measures will prevent poor air quality, both in the immediate locality and in the wider areas (notably Preston City Centre and the AQMAs) and promote sustainable transport through walking and cycling.</p> <p>The distributor improvements also allow for significant enhancement of public transport on a number of corridors and as such will allow much greater opportunities to use public transport.</p>
Conclusion	There is an opportunity to consider, at the design stage, incorporating cycle and pedestrian routes along the road, particularly with connections to the housing location/sites in order to encourage residents to walk, cycle and use public transport.

Scheme:	Upgrade A582 South Ribble Western Distributor
Policy	<ul style="list-style-type: none"> • Provide safe, reliable, convenient and affordable transport alternatives to the car • Reduce carbon emissions and its effects
How does the scheme fit into the policy and are there any adverse effects?	Through diverting traffic away from local centres in South Ribble and taking traffic off narrow country lanes, localised carbon emissions will be lowered and the safety of relatively quiet country lanes and local city centre roads will be

effects?	increased owing to the anticipated lower traffic count. However, the construction of a new road requires a lot of resources which, inevitably, will mean that the scheme itself is carbon-hungry.
Conclusion	The long term benefits of the scheme in allowing sustainable transport to be catered for and promoting modal shift away from the car will be great. The scheme will improve air quality in urban areas and will allow for a long term reduction in carbon emissions. We believe that this outweighs the carbon cost of the scheme, particularly as without the scheme, air quality and carbon emissions will become far greater problems in the future.

Completion of the Penwortham Bypass

Scheme:	Completion of Penwortham Bypass
Policy	Improving access into areas of economic growth and regeneration
How does the scheme fit into the policy and are there any adverse effects?	This scheme would have the main advantage of diverting traffic away from residential areas in and around Penwortham whilst speeding up journey times on the A582, and providing better access to the M55 from the A59 and to Cuerden Green strategic employment site. In doing so, it would bring economic gains through improved and reliable journey times and unlocking land for housing and employment development. The scheme offers the potential to support a Park and Ride facility. However, the cost of the scheme is high owing to the necessary purchase of land (the road route goes over a school playing field) and the need to build on marshland.
Conclusion	The scheme is the key to unlocking further major benefits from the A582 upgrade. It will allow traffic levels in Penwortham to be reduced as well as providing significant alternatives to both local car use and, for longer distance traffic, to taking cars into the city centre. As such, the longer term benefits are likely to outweigh the costs, although this will be the subject of further investigation.

Scheme:	Completion of Penwortham Bypass
Policy	Providing better access to education and employment
How does the	Access to education and employment would be significantly

scheme fit into the policy and are there any adverse effects?	improved, notably in terms of access to the strategically important Cuerden Green employment site. Land close to Kingsfold, south of Penwortham and north of Farington and Leyland, which has been allocated as a Strategic Housing Location in the Central Lancashire Core Strategy, would be easier to access.
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Scheme:	Completion of Penwortham Bypass
Policy	<ul style="list-style-type: none"> • Improving People's Quality of Life and Wellbeing • Improve the safety of our streets for our most vulnerable residents
How does the scheme fit into the policy and are there any adverse effects?	<p>Diverting major traffic flows around the outskirts of Penwortham is anticipated to have a significant positive effect on the public realm and streets. Previously busy routes will be much quieter and lower traffic flows will result in opportunities to improve public realm, implement sustainable travel solutions along such corridors, and ultimately to provide a safer and more attractive environment in which to live and travel. Through such improvements the "Improve the safety of our streets for our most vulnerable residents" policy is also addressed.</p> <p>However, the bypass is in close proximity to several existing dwellings, a primary school and a High School and the effect of road widening and/or an additional road will be felt by these residents. This is compensated for by the bypass avoiding going through any major town centres or residential areas.</p>

Scheme:	Completion of Penwortham Bypass
Policy	<ul style="list-style-type: none"> • Provide safe, reliable, convenient and affordable transport alternatives to the car • Reduce carbon emissions and its effects
How does the scheme fit into the policy and are there any adverse effects?	<p>The Penwortham Bypass is intended to lead to a long-term, sustained decrease in traffic flow along Liverpool Road through Penwortham. By diverting a considerable amount of traffic onto the Bypass, capacity will be unlocked on previously busy roads. This will enable sustainable transport solutions to be introduced and promoted in such areas. Such solutions will be more attractive to local residents as a result of increased safety, achieved through a reduction in traffic.</p> <p>Incorporated within the construction of the Penwortham Bypass will be sustainable transport opportunities, such as bus priority routes. Although the Bypass can be seen as perpetuating reliance on the car, it counteracts this by unlocking capacity for sustainable transport; a feat that would</p>

	be more difficult without upgrade and/or construction.
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New Ribble Bridge

Scheme:	New Ribble Bridge
Policies:	<ul style="list-style-type: none"> • Improving access into areas of economic growth and regeneration • Providing better access to education and employment • Maintaining our Assets
How does the scheme fit into the policy and are there any adverse effects?	<p>The proposed new bridge will link the Preston Western Distributer to the Penwortham Bypass at Howick Cross. It is intended to further support the delivery of the North West Preston Strategic Housing Location and improved access to the Strategic Road Network from the Enterprise Zone site at BAE Systems site at Warton. Additional houses and employment sites mean additional people and, most often, cars. As the independent technical assessment has shown, the current road network would struggle without additional capacity resulting in congestion. Congestion could potentially put future development schemes under threat owing to the lack of network capacity to support anticipated growth projections. Quick and reliable transport infrastructure is crucial in economic and business terms and hence ensuring the network can cope is a priority. Furthermore, increased congestion may result in poorer air quality and reduced road safety in localised areas, for both road users and pedestrians.</p> <p>Providing a new river crossing point and a new link between the Preston Western Distributer to the Penwortham Bypass will enable easier access both east-west and north-south providing travellers with options to avoid peak hour congestion in the city centre without having to use narrow country lanes. Not only does this improve driver safety but will divert traffic from having to go through the city centre, thus having a positive effect on air quality in such areas, and increase the efficiency of the road network bringing economic gains.</p> <p>Although the link road may provide greater accessibility the new road infrastructure may also perpetuate Central Lancashire's reliance on private transport in the long term. Increasing reliance on private transport will lead to higher carbon emissions. The scheme could attempt to avoid this risk by incorporating a cycle and pedestrian lane into the design of the bridge to ensure it's not exclusively used by motor vehicles.</p>

	The new bridge will be built on greenfield, un-built land albeit following the line of the existing pylons to minimise further visual pollution. The main environmental concerns arise from the proximity of the proposed bridge to the Lancaster Canal, the Millenium Ribble Link and Preston Marina and to the downstream, Ribble and Alt Natura 2000 site, both in terms of short-term (construction) and long-term (pollution/drainage/visual) impacts.
Conclusion	Although the proposed New Ribble Bridge may perpetuate Lancashire's reliance on private transport, it is considered that it is necessary to sustain and ensure future economic growth in the area. The new Ribble Bridge is intended to significantly improve the facilitation of east-west traffic movement in Central Lancashire and, in doing so, relieve traffic congestion within Preston City Centre. In addition, it is intended to make possible localised improvements in air quality through relieving congestion in busy areas and will support sustainable transport measures through the inclusion of cycle/pedestrian lane(s).

Scheme:	New Ribble Bridge
Policy	<ul style="list-style-type: none"> • Improving People's Quality of Life and Wellbeing • Provide safe, reliable, convenient and affordable transport alternatives to the car
How does the scheme fit into the policy and are there any adverse effects?	<p>The bridge will provide another crossing point over the Ribble which will help to prevent poor air quality, both in the immediate locality and in the wider areas (notably Preston City Centre and the AQMAs) and promote sustainable transport through walking and cycling.</p> <p>However, it is recognised that the bridge may have a negative visual impact on the environment which could, in turn, lead to a small impact on people's quality of life and wellbeing. This could be mitigated by implementing an outstanding design that could become a positive visual focus for the area.</p>
Conclusion	There is an opportunity to consider, at the design stage, incorporating cycle and pedestrian routes along the bridge in order to encourage walking and cycling both for residents and tourists.

Scheme:	New Ribble Bridge
Policy	<ul style="list-style-type: none"> • Improve the safety of our streets for our most vulnerable residents • Reduce carbon emissions and its effects
How does the	Through diverting traffic away from Preston City Centre and taking

<p>scheme fit into the policy and are there any adverse effects?</p>	<p>traffic off narrow country lanes, localised carbon emissions will be lowered and the safety of relatively quiet country lanes and local city centre roads will be increased owing to the anticipated lower traffic count.</p> <p>However, the construction of a new bridge requires a lot of resources which, inevitably, will mean that the scheme itself is carbon-hungry.</p>
<p>Conclusion</p>	<p>The long term benefits of the scheme in allowing sustainable transport to be catered for and promoting modal shift away from the car will be great. The scheme will improve air quality in urban areas and will allow for a long term reduction in carbon emissions. We believe that this outweighs the carbon cost of the scheme, particularly as without the scheme, air quality and carbon emissions will become far greater problems in the future.</p>

Mitigation and Monitoring

Mitigation

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

- All schemes will need detailed assessment as the Masterplan is implemented, 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 particularly those connected to 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 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 varies greatly across the county 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.
- Particular attention will need to be given to the design of new roads (Preston Western Distributer and Penwortham Bypass) and New Ribble Bridge where their construction and presence could pose significant impacts on the downstream Ribble and Alt Estuaries Natura 2000 site. Appropriate mitigation measures should be built into the design from the first stages.
- The design of the New Ribble Bridge should be sympathetic to its surrounding environment as adverse visual impact could become a significant concern.

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 at a local levels. The monitoring programme will evolve over time as the Masterplan itself evolves and our knowledge of its impact improves. The monitoring of individual schemes/proposals will be addressed at project level.
- 5.4. There are four key areas that are crucial to the success of the Masterplan. The Central Lancashire Masterplan should support:
- economic growth
 - reduced congestion
 - access to employment
 - access to education

There are however significant risks to:

- biodiversity
- CO₂ emissions
- air quality
- deprivation
- human health

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 below:

Subject	Monitored already?	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 educational facilities
Biodiversity	Yes – Single List	Utilise external measures
CO2 emissions	Yes - Nationally	No suitable data
Air quality	Yes – District AQMAs	Utilise external measures
Deprivation	Yes - Nationally	No suitable data
Human Health	Yes – by NHS partners	Utilise external measures

Conclusions

The consultation Masterplan identified the broad-scope environmental implications of implementing the proposed schemes. However, as the Masterplan does not identify specific details of the schemes at this stage, it is not possible to determine the full extent of environmental impacts. Individual Environment Impact Assessments (EIA) of each scheme will need to be undertaken in future.

However, the Masterplan does seek to target over-reliance on car journeys which is a major contributor to congestion and localised poor air quality, road safety and poor levels of usage of sustainable transport options.

There is as yet little consideration with regards to maximising biodiversity and flood risk management in all the proposed schemes. However, it is recognised that the Masterplan is in its draft stage and that designs for schemes have yet to be drawn up. It is recommended that the relevant sites and concerns outlined in this SEA are taken into consideration from the outset of the design stage to ensure adequate mitigation of potential significant environmental effects is afforded to protected habitats from the outset.

Appendix 1: Environmental Context

Environment

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

The current state of BHSs in Central Lancashire is given below:

- **Chorley** - 109 Biological Heritage Sites and 11 Regionally Important Geological/Geomorphological Sites covering areas of 3,226ha and 312ha respectively.
- **Preston** - 41 Biological Heritage Sites and 4 Regionally Important Geological/Geomorphological Sites covering areas of 521ha and 116ha respectively.
- **South Ribble** - 64 Biological Heritage Sites and 5 Regionally Important Geological/Geomorphological Sites covering areas of 536ha and 2.3ha respectively.

Air quality

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.

The current AQMAs declared in Central Lancashire are shown in the table below.

District	Location of AQMA	Area Included	Date of Declaration
Preston	Preston City Centre	An area encompassing a number of properties between Church Street and Percy Street adjacent to the junctions of these roads and the A6/A59 Ringway.	September 2005
	Plungington Road/Blackpool Road	An area encompassing a	September 2005

		number of properties in the vicinity of the junction of the A5085 Blackpool Road and Plungington Road.	
South Ribble	Priory Lane/A59, Penwortham	The stretch of road between the junction of Priory lane/Cop lane and the A59 Liverpool Road, Penwortham. From Kingsway to the north of Priory Lane; Queensway to Kingsway along the A59 Liverpool Road and up to and including property number 32 of Cop Lane.	2005
	A6/A675 Victoria Road, Walton-le-Dale	An area encompassing the A6/A675 Victoria Road in Walton-le-Dale between the Bridge Inn/Ribble Crescent to the north and the Yew Tree Inn to the south.	2005
	Leyland Road/Brownedge Road, Lostock Hall	An area encompassing the junction of Leyland Road and Brownedge Road, Lostock Hall and the roads leading up to it from the Fir Trees Road in the north, Avondale Drive to the east and St James' Close/Victoria Street to the south-east.	2005
	Station Road, Bamber Bridge	An area along Station Road, in Bamber Bridge between St Mary's Road/Eaveswood	2005

		Close to the north and Havelock Road/Church Road to the south.	
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CO₂ Emissions

Total CO₂ emissions in the 3-authority Central Lancashire sub-region in 2010 were estimated at 2.6 million tonnes. This represented 4.8% of the North West total of 53.8 million tonnes and 0.5% of the UK total. South Ribble has the lowest total CO₂ emissions of 800 thousand tonnes compared with Chorley's 817 thousand tonnes and Preston's 972 thousand tonnes. Overall, 29.5% of Central Lancashire emissions were attributable to industry and commerce sector sources, 31.3% to the domestic sector, 38.6% to road transport and a minor residual of 0.5% to land use, land use change and forestry.

Expressed in terms of per capita (per resident) Central Lancashire total CO₂ emissions, at 7.5 tonnes, were lower than the UK and 14-authority Lancashire average of 7.6. 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.

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. This is particularly significant and may provide part of the explanation for high figures in Chorley, Preston and South Ribble which are the three authorities at the heart of the Lancashire's motorway network.

Climate Change

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 Central 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. Tackling climate change was one of the three overarching themes of the Central Lancashire Core Strategy. Option 3 of the Transport and Highway Masterplan sets out a highway engineering solution to overcome existing traffic congestion and accommodate all of the housing and employment growth identified in the Core Strategy.

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.

The projections are given as the value averaged over each of seven future overlapping 30-yr time periods, stepped forward by a decade, starting with 2010–2039. The use of 30-yr 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-yr baseline period of 1961–1990.

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.

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). Extreme events are also predicted to increase and UKCP09 also includes prediction tools for these. Grid square 1195 details climate change implications affecting Central Lancashire and is not replicated here.

Appendix 2: Habitat Regulations Screening Assessment

1. INTRODUCTION

Background

- 1.1. This report considers the likelihood of significant adverse effects on internationally-important wildlife sites within and around Central 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.
- 1.2. 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.
- 1.3. 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.
- 1.4. 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.
- 1.5. 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 Draft Central Lancashire Highways and Transport Masterplan 2013.

2. DESCRIPTION OF PLAN AND REVIEW OF HABITATS REGULATIONS ASSESSMENT (HRA)

Central Lancashire Highways and Transport Masterplan

- 2.1. Lancashire County Council is the highways and transport authority for the county and has a responsibility for a network of local roads, cycle lanes, bridges and traffic control infrastructure.
- 2.2. Highways and Transport Masterplan are area-specific action plans for districts and/or defined areas based on strategic transport priorities set out in the County Council's Local Transport Plan (LTP).
- 2.3. The Highways and Transport Masterplan for Central Lancashire sets out the County Council's ideas for a future highways and transport strategy to 2026 and beyond. Crucially the Masterplan links economic development strategies and adopted spatial planning strategies to the wider strategic policy objectives of the County Council as well as setting out how we can deliver the programme.
- 2.4. 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.
- 2.5. This Masterplan is required in order to provide greater certainty about the schemes that will be implemented to 2026, and it is these schemes that could result in direct development and have therefore been subject to the HRA.
- 2.6. 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

- 2.7. 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 Draft Central 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.

- 2.8. The Habitat Regulations Assessment is one of a number of tools that shapes the policies and direction of the plan, including the Sustainability Appraisal, local evidence base and national and regional policies and legislation.
- 2.9. 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 schemes within the Draft Masterplan will be assessed.
- 2.10. Assessment of the significance of effects is undertaken by considering the schemes arising from the policies 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.
- 2.11. 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

- 2.12. 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.
- 2.13. These sites include:
- Special Protection Areas (SPAs) designated under the EU 'Wild Bird's Directive';
 - Special Conservation Areas (SACs) 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. Planning Policy Statement 9 indicates that Ramsar sites should also be considered as part of the Natura 2000 network (Para 6, PPS 9, 2005). PPS9 has been superseded by the NPPF, which was issued on 27th March 2012.

Methodology

- 2.14. The screening assessment will firstly identify and gather information on the sensitivity and vulnerability of features of interest of Natura 2000 sites in Central Lancashire and up to 15km beyond.
- 2.15. The Central Lancashire Highways and Transport Masterplan schemes and proposals are then subjected to a three stage screening process.
- 2.16. **Stage 1:** Identify those schemes that will directly lead to some form of Direct Development that may have a potential impact. 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. In Appendix A proposals

identified as having "No direct development" have been screened out at this stage.

2.17. **Stage 2:** 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. In Appendix A 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.

2.18. **Stage 3:** Consider schemes that could lead to significant impacts and whether these can be avoided or mitigated. In some cases it may be that the Masterplan scheme proposes a transport study where the outcomes (and likely impacts) are not currently known. In Appendix A these will have specific recommendations.

Analysis of Potential Impacts and Pathways

2.19. In order to assess whether any likely significant effects will impact upon the Natura 2000 sites, as a result of the Central Lancashire Highways and Transport Masterplan, or in combination with other plans related to the Masterplan, 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.

2.20. The following direct and indirect impacts of development have been identified:

- **Damage and Disturbance to Habitats and Species** – Physical damage to habitats or disturbance of species for which a Natura 2000 site is identified. Impacts may be long-term or short-lived eg during construction.
- **Hydrology** – Changes in the site hydrology, such as altered drainage, heat, surface run off, loss of permeable surfaces etc. that could adversely affect habitats or the species dependent on them.
- **Water Quality** – Changes in the quality of water composition in the river catchment, as a result of development, that could adversely affect habitats or the species dependent on them.
- **Air Quality** – Changes in the composition or quality of air, as a result of development, that could adversely affect habitats or the species dependent on them.
- **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.

2.21. If any potential impacts are likely or uncertain, then the policies need to be assessed against any potential pathways between the Natura 2000 sites and the potential impacts (e.g. the potential impact could be 'water quality' and the pathways could be the 'river network' and the site could be the 'Ribble and Alt Estuaries SPA and Ramsar site'). Only where no pathways exist for the potential impacts to reach the Natura 2000 sites can schemes be ruled out at this stage.

2.22. Potential pathways include:

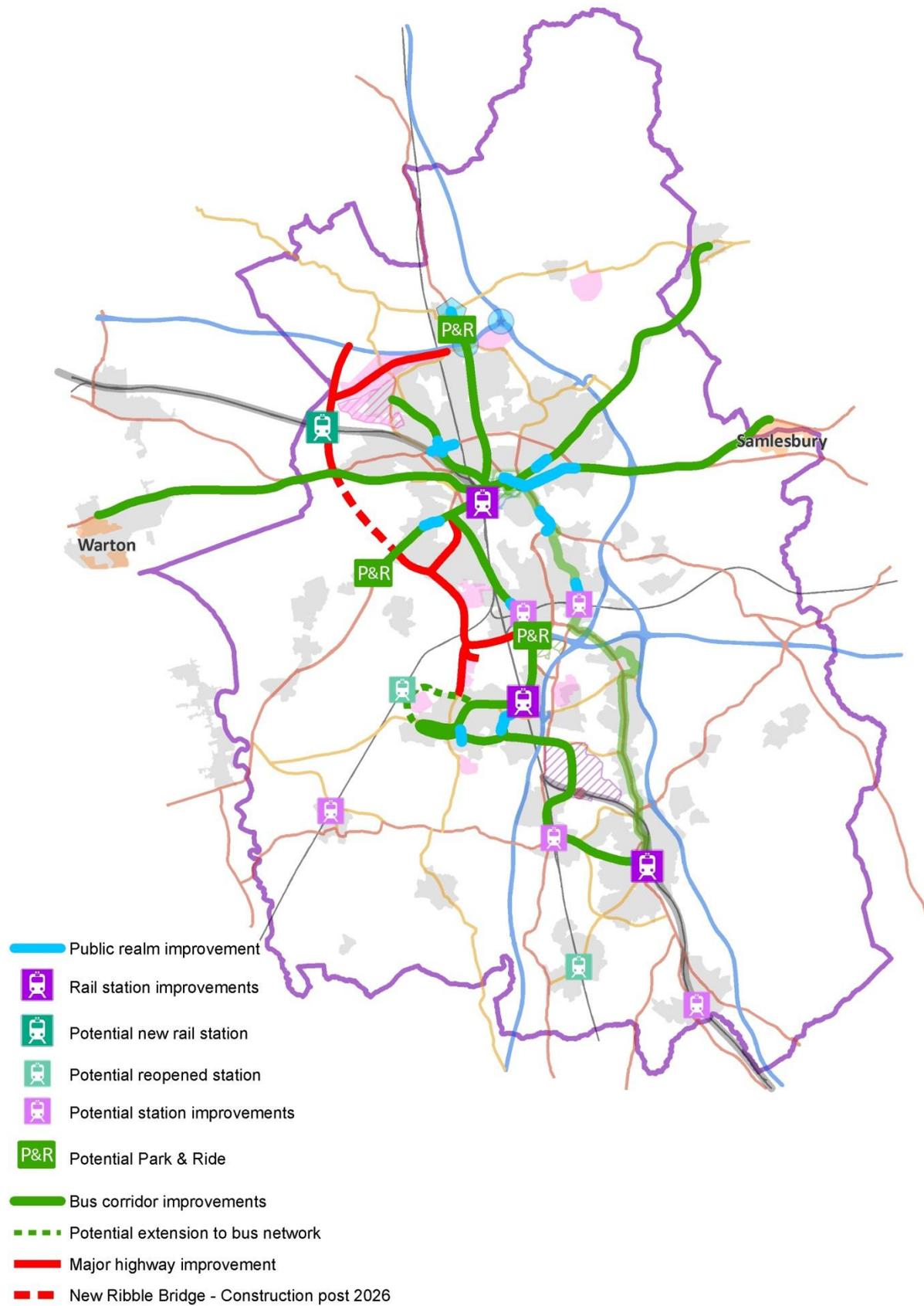
- **Wind** – An assessment of whether the potential impacts outlined above, specifically air quality can reach the Natura 2000 sites via the prevailing wind.
- **River Network** – As assessment of whether potential impacts, specifically water quality, and hydrology are connected via the river network 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.

2.23. 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 revised policy wording or 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.

2.24. Appendix A presents the full results of the assessment in tabular format. All schemes that are highlighted in 'green' in the Potential Impacts column conclusion in Appendix A were screened out of this assessment at stage one as having no likely significant effects. All policies 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.

3. THE ASSESSMENT

Masterplan Overview



Identification of Natura 2000 Sites

- 3.1. 8 Natura 2000 sites are located either wholly or partially within Lancashire or within a 15km buffer of the plan area. These sites are identified in Table 1. Some Natura 2000 designations share or have overlapping boundaries.
- 3.2. Appendix B provides details on these Natura 2000 sites including habitat and species specifics and site vulnerabilities.

Table 1. Natura 2000 designations within 15km of the plan area

Site	SAC	SPA	Ramsar site	Marine SPA	Marine SAC
Bowland Fells [#]		*			
Liverpool Bay [#]				*	
Manchester Mosses	*				
Martin Mere [#]		*	*		
Morecambe Bay [#]	*	*	*		
North Pennine Dales Meadows [#]	*				
Ribble & Alt Estuaries [#]		*	*		
Sefton Coast	*				

[#] Sites located wholly or partially within Lancashire

Assessment of Likely Significant Impacts

- 3.3. Appendix A gives the results of the screening process.
- 3.4. One scheme, New Ribble Bridge, has been identified as having potential adverse effects upon Natura 2000 sites at this stage. Table 2 considers what avoidance and mitigation measures would be sufficient to ensure that no likely significant effects on the Natura 2000 site could occur.

Table 2. Summary of schemes with potential impacts

Scheme	Natura 2000 site(s) Potentially Affected	Potential Impact(s)	Conclusion/Mitigation
New Ribble Bridge	Ribble & Alt Estuaries SPA and Ramsar	The scheme is upstream from SPA/Ramsar site. There is potential for the proposed scheme to have adverse	The bridge itself has the potential to adversely affect a Natura 2000 site through pollution pathways, such as via wind and water. This HRA cannot reasonably assess the potential impacts of

Scheme	Natura 2000 site(s) Potentially Affected	Potential Impact(s)	Conclusion/Mitigation
		impacts particularly on feeding and roosting areas and flyways associated with the Natura 2000 site identified. Pollution is another potential impact, especially with regards to surface runoff and litter driven from the highway/	the scheme on the Natura 2000 site before the route is finalised and designs for the bridge itself have been produced. A detailed HRA and full EIA for any design proposals arising will be carried out, and the designs modified appropriately, as part of the development process for this scheme.

3.5. Of the four schemes, two schemes were identified as requiring specific measures to mitigate any potential impacts on Natura 2000 sites. These schemes are Preston Western Distributor and the New Ribble Bridge.

3.6. With regards to future screening, full EIAs and HRAs for the specific schemes may be required at a more detailed stage, which 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

3.7. An assessment was made of the potential for schemes within the Masterplan to result in adverse impacts on a Natura 2000 site. The assessment of 'in combination' impacts was taken in conjunction with the HRA for the Central Lancashire LDF Core Strategy.

- 3.8. The Preston Western Distributor Scheme is identified as having the potential for in combination impacts upon Natura 2000 sites. This is owing to additional highway infrastructure associated with the North West strategic housing location at Cottam as identified in the Central Lancashire Core Strategy.
- 3.9. Table 3 considers what avoidance and mitigation measures would be sufficient to ensure that no likely significant effects on the Natura 2000 sites could occur.

Table 3 Summary of schemes with potential 'in combination' impacts.

Scheme	Natura 2000 site(s)	Potential Impact(s)	Associated Plan	Mitigation/ Conclusion
Preston Western Distributer	Bowland Fells SPA. Ribble and Alt Estuaries SPA/ Ramsar site.	<p>The proposal lies in an urban area within 3km of Ribble and Alt Estuaries SPA/ Ramsar boundary and within 13.8km of Bowland Fells SPA boundary.</p> <p>There is a small potential that, in combination, development proposed in North Preston around the Cottam Strategic Location could negatively impact upon:</p> <p>1). Air quality composition, with a wind pathway directed towards the Bowland Fells SPA. Given the level of development anticipated at this location and the fact that any development will be phased it is highly unlikely that any adverse impacts will be detected at the Bowland Fells SPA.</p> <p>2). Water Quality – water quality could be affected through increased population and associated highway infrastructure i.e. having an impact on the sewer network and/ or could influence the quality of surface run off entering the river network and potentially affecting the chemical and biological quality of the water.</p> <p>3). Hydrology – changes in the hydrological cycle may be affected if development is permitted on or near to high flood risk areas or fewer permeable surfaces are available due to development.</p>	Central Lancashire LDF Core Strategy	<p>Screened Out.</p> <p>The <u>HRA for the Central Lancashire LDF Core Strategy</u> identifies how, given the overall policy context of the LDF, any potential impacts associated with the development of the Strategic Location at Cottam are addressed and mitigated by the overall policy framework established by the Core Strategy.</p> <p>The policy framework in the LTP seeks to 'Provide safe, convenient and affordable transport alternatives to the car' and 'Reduce carbon emissions and its effects'. Schemes to implement these objectives will also contribute to the off-setting of any potential in combination air quality impacts at Cottam.</p> <p>Conclusion: Small scale highway improvements with marginal land-take or impacts on traffic related pollution in Policy PR3 are unlikely to add significantly to the potential impacts already identified and addressed by the HRA of Policy 1 of the Central Lancashire LDF Core Strategy.</p> <p>Without the proposal, the impacts on air quality arising from congestion on the existing highway network are likely to be higher than those which will arise from the construction of the Preston Western Distributer.</p>

4. CONCLUSION

The Central Lancashire Highways and Transport Masterplan to 2026 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.

The schemes were largely considered to be small in scale and located far enough away from, and with no currently identifiable pathways to, Natura 2000 sites that they were unlikely to lead to any significant impacts.

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, and given the draft consultation stage the Masterplan is stands at present.

As a result of the screening process none of the schemes proposed were identified as potentially having a significant effect on Natura 2000 sites at this stage. However, it is acknowledged that likely significant effects will arise from the Preston Western Distributor and New Ribble Bridge crossing of the River Ribble. Consequently, 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.

The Preston Western Distributor scheme was considered to have the potential to give rise to 'in combination' effects arising from proposed housing and employment figures being put forward in the Central Lancashire LDF Core Strategy. An assessment of the scheme concluded that additional 'in combination' effects were small and unlikely to add significantly to the potential impacts already identified and addressed by the overall policy objectives and framework established by the HRA for the Central Lancashire LDF Core Strategy. It was acknowledged that appropriate mechanisms can be built into the design phase of the scheme which would enable any impacts on Natura 2000 sites to be identified and satisfactorily mitigated against. A plan-level HRA of this scheme would provide no additional benefits but will be undertaken when further detailed plans are drawn up.

This HRA report finds the Central Lancashire Highways and Transport Masterplan to have **no likely significant effects on the identified Natura 2000 sites at this stage**. Therefore it is not deemed necessary to carry out an 'appropriate assessment'.

APPENDIX A. Habitats Regulations Screening Results

Draft Central Lancashire Highways and Transport Masterplan to 2026

Scheme	Proposal Summary	Potential Impacts	Natura2000 Site/ Path	Screening Option	Justification/ Mitigation
Preston Western Distributor	A new road linking the M55 near Bartle with the A583/A584 at Clifton, to support delivery of the North West Preston strategic housing location and improve access to the Strategic Road Network from the Enterprise Zone site at Warton. The scheme will reduce the need for traffic to travel through Preston City Centre. This new road presents opportunities to improve air quality and public realm and make better use of existing road space in and around the city centre and neighbouring towns.	Mechanism for a likely significant adverse effect	Bowland Fells SPA. Ribble and Alt Estuaries SPA/ Ramsar site. Pathways: The wind pathway is coming from a prevailing South Westerly direction. The river network flows towards the Ribble and Alt Estuaries SPA and Ramsar site.	Screened Out	<p>Damage and Disturbance to Habitats and Species–. The proposal lies outside all Natura 2000 sites. The nearest Natura 2000 site is Ribble & Alt Estuaries which lies 3km to the South West.</p> <p>There will be no physical damage to habitats within any Natura 2000 site.</p> <p>The proposal lies outside the area boundaries of the Natura 2000 sites, which have been identified as having value for species for which the Natura 2000 sites are identified.</p> <p>Hydrology – Development of a new road and associated infrastructure will have an impact on hydrology, for example through a loss of permeable surfaces. Additional take up of land and less surface run off areas/ permeable surfaces could potentially impact on the Ribble and Alt Estuaries Natura 2000 site as pathways exist from the scheme location to the Natura 2000 site.</p> <p>These changes are however, a localised and small scale and too remote from Natura 2000 sites to result in significant impacts.</p> <p>The Council is committed to improving resistance</p>

Scheme	Proposal Summary	Potential Impacts	Natura2000 Site/ Path	Screening Option	Justification/ Mitigation
					<p>to flooding, arising from assets, through the Local Transport Plan.</p> <p>Water Quality –</p> <p>The proposal lies within the catchments of the River Ribble and the River Wyre.</p> <p>There is the potential for pollutants to be released from vehicles travelling on the road, or transporting bulk materials, entering watercourses leading to the Natura 2000 sites.</p> <p>Water quality could be affected through increased highway infrastructure having an impact of surface run-off entering the river network and potentially affecting the chemical and biological quality of the water.</p> <p>At this stage, no highway drainage design has been undertaken. However, it will be borne in mind that appropriate mitigation measures will need to be incorporated into the relevant designs.</p> <p>Careful consideration will need to be given to the drainage design where the proposed road crosses the Millenium Ribble Link/Sawick Brook which leads directly into the River Ribble up-stream of the Ribble & Alt Estuaries Natura 2000 site.</p> <p>Air Quality –</p> <p>There is the potential for any new road to result in</p>

Scheme	Proposal Summary	Potential Impacts	Natura2000 Site/ Path	Screening Option	Justification/ Mitigation
					<p>increased air pollution arising from vehicle emissions.</p> <p>The Preston Western Distributor proposal is designed to relieve likely traffic congestion on existing roads which may arise from housing developments proposed North of Preston and the future development of the Warton Enterprise Zone.</p> <p>Without the proposal, the impacts on air quality arising from congestion on the existing highway network are likely to be higher than those which will arise from the construction of the Preston Western Distributor.</p> <p>The prevailing wind comes from the South West, the nearest Natura 2000 site which could potential be affected by airborne pollutants is the Bowland Fells lying 14km to the NE.</p> <p>Given the distance and dispersal, it is considered unlikely that any air pollution resulting from the proposal will have a significant impact on any Natura 2000 site.</p> <p>Recreational/ Visitor Pressure</p> <p>The scheme does not result in any proposals which are likely to give rise to increased visitor pressure on a Natura 2000 site.</p> <p>Conclusion At this stage, no detailed designs have been</p>

Scheme	Proposal Summary	Potential Impacts	Natura2000 Site/ Path	Screening Option	Justification/ Mitigation
					drawn up hence A plan-level HRA of this scheme would provide no additional benefits but will be undertaken when further detailed plans are drawn up. Therefore it is concluded that, at this stage, there is no likely significant effect at this stage.
A582 South Ribble Western Distributer Upgrade	Capacity Improvement on the existing A582 between Cuerden Employment Site and Penwortham Triangle to support delivery of the land South Penwortham/North of Farington strategic housing location, which is identified in the Central Lancashire Core Strategy.	No mechanism for a likely significant adverse effect	Ribble and Alt Estuaries SPA/ Ramsar site. Pathways: The river network flows towards the Ribble and Alt Estuaries SPA and Ramsar site. The wind pathway is coming from a prevailing South Westerly direction.	Screened Out	<p>Damage and Disturbance to Habitats and Species–. The proposal lies outside all Natura 2000 sites. The nearest Natura 2000 site is Ribble & Alt Estuaries which lies 4km to the West.</p> <p>There will be no physical damage to habitats within any Natura 2000 site.</p> <p>The proposal lies outside the area boundaries of the Natura 2000 sites, which have been identified as having value for species for which the Natura 2000 sites are identified.</p> <p>Hydrology – Upgrading the existing A582 road infrastructure will have an impact on hydrology, for example through a loss of permeable surfaces. Additional take up of land and less surface run off areas/ permeable surfaces could potentially impact on the Ribble and Alt Estuaries Natura 2000 site as pathways exist from the scheme location to the Natura 2000 site.</p> <p>These changes are, however, localised and on a small scale and too remote from Natura 2000 sites to result in significant impacts.</p>

Scheme	Proposal Summary	Potential Impacts	Natura2000 Site/ Path	Screening Option	Justification/ Mitigation
					<p>The Council is committed to improving resistance to flooding, arising from assets, through the Local Transport Plan.</p> <p>Water Quality –</p> <p>The proposal lies within the catchments of the River Ribble and the River Wyre.</p> <p>There is the potential for pollutants to be released from vehicles travelling on the road, or transporting bulk materials, entering watercourses leading to the Natura 2000 sites.</p> <p>Water quality could be affected through increased highway infrastructure having an impact of surface run-off entering the river network and potentially affecting the chemical and biological quality of the water.</p> <p>At this stage, no highway drainage design has been undertaken. However, it will be borne in mind that appropriate mitigation measures will need to be incorporated into the relevant designs.</p> <p>Air Quality –</p> <p>There is the potential for any new road to result in increased air pollution arising from vehicle emissions.</p> <p>The A582 South Ribble Western Distributer Upgrade is designed to relieve likely traffic</p>

Scheme	Proposal Summary	Potential Impacts	Natura2000 Site/ Path	Screening Option	Justification/ Mitigation
					<p>congestion on existing roads which may arise from housing developments proposed in North west Preston and the future development of the Warton Enterprise Zone.</p> <p>Without the proposal, the impacts on air quality arising from congestion on the existing highway network are likely to be higher than those which will arise from the construction of the A582 South Ribble Western Distributer Upgrade.</p> <p>The prevailing wind comes from the South West, the nearest Natura 2000 site which could potential be affected by airborne pollutants is the Bowland Fells lying 18km to the NE.</p> <p>Given the distance and dispersal, it is considered unlikely that any air pollution resulting from the proposal will have a significant impact on any Natura 2000 site.</p> <p>Recreational/ Visitor Pressure</p> <p>The scheme does not result in any proposals which are likely to give rise to increased visitor pressure on a Natura 2000 site.</p> <p>The proposal lies outside all Natura 2000 sites. The nearest Nature 2000 site is Ribble & Alt Estuaries which lies 4km to the West.</p> <p>There will be no physical damage to habitats within any Natura 2000 site.</p>

Scheme	Proposal Summary	Potential Impacts	Natura2000 Site/ Path	Screening Option	Justification/ Mitigation
					<p>The proposal lies outside the area boundaries of the Natura 2000 sites, which have been identified as having value for species for which the Natura 2000 sites are identified.</p>
<p>Completion of Penwortham Bypass</p>	<p>Completion of Penwortham Bypass between the Broad Oak roundabout and Howick Cross, creating a direct link between the A582 at Broad Oak roundabout and the A59 west of Penwortham.</p>	<p>No mechanism for a likely significant adverse effect</p>	<p>Ribble and Alt Estuaries SPA/ Ramsar site.</p> <p>Pathways: The wind pathway is coming from a prevailing South Westerly direction. The river network flows towards the Ribble and Alt Estuaries SPA and Ramsar site.</p>	<p>Screened Out</p>	<p>Damage and Disturbance to Habitats and Species–</p> <p>The proposal lies outside all Natura 2000 sites. The nearest Natura 2000 site is Ribble & Alt Estuaries which lies 4km to the West.</p> <p>There will be no physical damage to habitats within any Natura 2000 site.</p> <p>The proposal lies outside the area boundaries of the Natura 2000 sites, which have been identified as having value for species for which the Natura 2000 sites are identified.</p> <p>Hydrology – Completion of Penwortham Bypass will have an impact on hydrology, for example through a loss of permeable surfaces. Additional take up of land and less surface run off areas/ permeable surfaces could potentially impact on the Ribble and Alt Estuaries Natura 2000 site as pathways exist from the scheme location to the Natura 2000 site.</p> <p>These changes are, however, localised and on a small scale and too remote from Natura 2000 sites to result in significant impacts.</p>

Scheme	Proposal Summary	Potential Impacts	Natura2000 Site/ Path	Screening Option	Justification/ Mitigation
					<p>The Council is committed to improving resistance to flooding, arising from assets, through the Local Transport Plan.</p> <p>Water Quality –</p> <p>The proposal lies within the catchments of the River Ribble and the River Wyre.</p> <p>There is the potential for pollutants to be released from vehicles travelling on the road, or transporting bulk materials, entering watercourses leading to the Natura 2000 sites.</p> <p>Water quality could be affected through increased highway infrastructure having an impact of surface run-off entering the river network and potentially affecting the chemical and biological quality of the water.</p> <p>At this stage, no highway drainage design has been undertaken. However, it will be borne in mind that appropriate mitigation measures will need to be incorporated into the relevant designs.</p> <p>Air Quality –</p> <p>There is the potential for any new road to result in increased air pollution arising from vehicle emissions.</p> <p>The completion of the Penwortham Bypass is designed to relieve likely traffic congestion on</p>

Scheme	Proposal Summary	Potential Impacts	Natura2000 Site/ Path	Screening Option	Justification/ Mitigation
					<p>existing roads which may arise from housing developments.</p> <p>Without the proposal, the impacts on air quality arising from congestion on the existing highway network are likely to be higher than those which will arise from the construction of the bypass.</p> <p>The prevailing wind comes from the South West, the nearest Natura 2000 site which could potential be affected by airborne pollutants is the Bowland Fells lying 18km to the NE.</p> <p>Given the distance and dispersal, it is considered unlikely that any air pollution resulting from the proposal will have a significant impact on any Natura 2000 site.</p> <p>Recreational/ Visitor Pressure</p> <p>The scheme does not result in any proposals which are likely to give rise to increased visitor pressure on a Natura 2000 site.</p> <p>The proposal lies outside all Natura 2000 sites. The nearest Nature 2000 site is Ribble & Alt Estuaries which lies 4km to the West.</p> <p>There will be no physical damage to habitats within any Natura 2000 site.</p> <p>The proposal lies outside the area boundaries of the Natura 2000 sites, which have been identified as having value for species for which the Natura</p>

Scheme	Proposal Summary	Potential Impacts	Natura2000 Site/ Path	Screening Option	Justification/ Mitigation
					2000 sites are identified.
New Ribble Bridge	A new bridge linking the Preston Western Distributer and Penwortham Bypass is intended to facilitate easier east-west road connections without having to travel through Preston City Centre. The bridge will also support the delivery of the North West Preston strategic housing location and improve access to the Strategic Road Network from the Enterprise Zone site at BAE Systems site at Warton.	Mechanism for a likely significant adverse effect	Ribble and Alt Estuaries SPA/ Ramsar site. Pathways: The wind pathway is coming from a prevailing South Westerly direction. The river network flows towards the Ribble and Alt Estuaries SPA and Ramsar site.	Screened Out	<p>Damage and Disturbance to Habitats and Species–</p> <p>The proposal lies outside all Natura 2000 sites. The nearest Natura 2000 site is Ribble & Alt Estuaries which lies 2.3km to the South West.</p> <p>There will be no physical damage to habitats within any Natura 2000 site.</p> <p>The proposal lies outside the area boundaries of the Natura 2000 site, which have been identified as having value for species for which the Natura 2000 site is identified.</p> <p>Hydrology – Development of a new bridge and associated infrastructure will have an impact on hydrology, for example through a loss of permeable surfaces. Additional take up of land and less surface run off areas/ permeable surfaces could potentially impact on the Ribble and Alt Estuaries Natura 2000 site as pathways exist from the scheme location to the Natura 2000 site.</p> <p>These changes are however, a localised and small scale and too remote from Natura 2000 sites to result in significant impacts.</p>

Scheme	Proposal Summary	Potential Impacts	Natura2000 Site/ Path	Screening Option	Justification/ Mitigation
					<p>The Council is committed to improving resistance to flooding, arising from assets, through the Local Transport Plan.</p> <p>Water Quality –</p> <p>The scheme lies within the catchments of the River Ribble and the River Wyre.</p> <p>There is the potential for pollutants to be released from vehicles travelling on the bridge, or transporting bulk materials, entering watercourses leading to the Natura 2000 sites.</p> <p>Water quality could be affected through highway infrastructure having an impact of surface run-off entering the river network and potentially affecting the chemical and biological quality of the water.</p> <p>The proposed scheme is likely to be within 1km of the Millenium Ribble Link Canal. As a result, the bridge and associated infrastructure could potentially have a impact on hydrology, for example through drainage and pollution.</p> <p>At this stage, no highway drainage design has been undertaken. However, it will be borne in mind that appropriate mitigation measures will need to be incorporated into the relevant designs.</p> <p>Careful consideration will need to be given to the drainage design of the bridge as it crosses the River Ribble which leads directly down-stream to</p>

Scheme	Proposal Summary	Potential Impacts	Natura2000 Site/ Path	Screening Option	Justification/ Mitigation
					<p>the Ribble & Alt Estuaries Natura 2000 site. Designs must also give consideration to the Millennium Ribble Link Canal as this is also connected to the Ribble Estuary which leads to the Natura 2000 site, together with the proximity to Preston Marina and the need for the safe passage of yachts and ships under a bridge and into the marina .</p> <p>Air Quality –</p> <p>There is the potential for any new road, and therefore road bridge, to result in increased air pollution arising from vehicle emissions.</p> <p>This scheme is designed to facilitate greater ease of east-west movements stimulating economic growth and reducing congestion in Preston City Centre with the intention of improving air quality in the city centre.</p> <p>Without the proposal, the impacts on air quality arising from congestion on the existing highway network are likely to be higher than those which will arise from the construction of the New Ribble Bridge.</p> <p>The prevailing wind comes from the South West, the nearest Natura 2000 site which could potential be affected by airborne pollutants is the Bowland Fells lying 18km to the NE.</p> <p>Given the distance and dispersal, it is considered unlikely that any air pollution resulting from the</p>

Scheme	Proposal Summary	Potential Impacts	Natura2000 Site/ Path	Screening Option	Justification/ Mitigation
					<p>proposal will have a significant impact on any Natura 2000 site.</p> <p>Recreational/ Visitor Pressure</p> <p>The scheme does not result in any proposals which are likely to give rise to increased visitor pressure on a Natura 2000 site.</p> <p>Conclusion</p> <p>At this stage, no detailed designs have been drawn up hence a plan-level HRA of this scheme would provide no additional benefits but will be undertaken when further detailed plans are drawn up. Therefore it is concluded that, at this stage, there are no likely significant effects.</p>

APPENDIX B: Natura 2000 sites

Site	SAC	SPA	Ramsar site	Marine SPA	Marine SAC
Bowland Fells		*			
Liverpool Bay (potential)				*	
Manchester Mosses	*				
Martin Mere		*	*		
Morecambe Bay	*	*	*		
North Pennine Dales Meadows	*				
Ribble & Alt Estuaries		*	*		
Sefton Coast	*				

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		

Liverpool Bay	Status: SPA	Area: 170292.94 hectares
SPA		Vulnerability
<p>This is a marine site.</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 Red-throated Diver (<i>Gavia stellata</i>) (5.4% of the GB population)</p>		<p>The site is subject to commercial fishing. The sandbanks of Liverpool Bay support the nursery and feeding grounds for many fish species. The distribution and concentrations of red-throated divers will at least partly be determined by the presence, abundance, and availability of their prey species. The site holds various fish of commercial importance, and extraction of the red-throated diver's main fish prey, as either target and/or bycatch species, or through recreational fishing could impact the population. Entanglement in static fishing</p>

The site qualifies under Article 4.2 of the Directive (79/409/EEC) as in the non-breeding season the area regularly supports: 55597 waterfowl including Red-throated Diver (*Gavia stellata*) and Common Scoter (*Melanitta nigra*).

nets is an important cause of death for red-throated divers in the UK waters however the extent of this impact in Liverpool Bay is not known.

Commercial and recreational fishing could directly affect both the food source and feeding grounds used by common scoters and in addition a number of ports undertake navigational dredging and disposal both in, and adjacent to, the site. Dredging for bivalves has been shown to have significant negative effects on their benthic habitat.

Red throated divers and common scoters are sensitive to non physical, (noise and visual) disturbance by both commercial and recreational activities, for example disturbance by moving vessels - the larger the vessel, the greater disturbance distance expected.

Aggregate extraction presents some risks of disturbance and also changes to sediment structures which may, in particular, impact on common scoter through changes to their benthic feeding grounds. However, aggregate extraction tends to be temporary and localised and so is not anticipated that moderate and targeted extraction will present a significant risk to either of the qualifying species.

Liverpool Bay is an attractive location for the off-shore renewal energy industry and there is evidence that red-throated divers and common scoters are displaced by the presence of the turbines and the associated activities of construction and maintenance vessels. A number of wind farms in the site are currently in operation, under construction or consented.

There are a number of areas along the coast where marine tourism and leisure activities are common, with existing marinas and partially completed and proposed marina developments. As a result of these leisure users of the area, in combination with the whole suite of commercial activities, including those

	outlined above, the site is a very active boating and shipping site. However, most vessel activity is restricted to well-established areas which the birds already tend to avoid.
Source: Joint Nature Conservation Committee	

Manchester Mosses	Status: SAC	Area: 172.81 hectares
SAC features of European importance		Vulnerability
<p>Annex I habitats that are a primary reason for selection of this site</p> <p>7120 <u>Degraded raised bogs still capable of natural regeneration</u></p> <p>Mossland formerly covered a very large part of low-lying Greater Manchester, Merseyside and southern Lancashire, and provided a severe obstacle to industrial and agricultural expansion. While most has been converted to agriculture or lost to development, several examples have survived as degraded raised bog, such as Risley Moss, Astley & Bedford Mosses and Holcroft Moss on the Mersey floodplain. Their surfaces are now elevated above surrounding land due to shrinkage of the surrounding tilled land, and all except Holcroft Moss have been cut for peat at some time in the past. While past drainage has produced dominant purple moor grass <i>Molinia caerulea</i>, bracken <i>Pteridium aquilinum</i> and birch <i>Betula</i> spp. scrub or woodland, wetter pockets have enabled the peat-forming species to survive. Recent rehabilitation management on all three sites has caused these to spread.</p> <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site</p> <p>Not applicable.</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</p>		<p>Manchester Mosses SAC consists of three sites (Risley Moss, Holcroft Moss and Astley and Bedford Mosses). Risley Moss is owned and managed by Warrington Borough Council, while Holcroft Moss is owned and managed by Cheshire Wildlife Trust. Both of these sites are undergoing restoration. Part of Astley and Bedford Mosses is owned and managed by Lancashire Wildlife Trust and is undergoing restoration, but the remainder (approximately 50%) is in private ownership. Management agreements or purchase of the land will be necessary for restoration on these areas.</p> <p>All three sites have suffered from drainage in the past and are affected by continued, if reduced, drainage, particularly from boundary ditches. Agricultural land forms a significant part of the adjacent land on all three sites, which will have implications for restoration, particularly as re-wetting is one of the key requirements. Adjacent land will need to be taken into consideration and possibly placed under suitable management. All three sites are affected by scrub invasion, which is being controlled in some areas but will need further attention. Impacts on groundwater will need to be investigated, such as water abstraction, mineral extraction and waste management (landfill). The sites are located close to heavy industry (Greater Manchester, Merseyside). Air quality may therefore have an impact on <i>Sphagnum</i> regeneration and will need investigating.</p>

reason for site selection	
Not applicable.	
Source: Joint Nature Conservation Committee	

Martin Mere	Status: SPA/Ramsar	Area: 119.89 hectares
SPA	Ramsar	Vulnerability
<p>This site comprises occupies part of a former lake and mire that extended extensively over the Lancashire Coastal Plain during the 17th century. It comprises open water, seasonally flooded marsh and damp, neutral hay meadows overlying deep peat.</p> <p>This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting over-wintering populations of European importance of Bewick's Swan (<i>Cygnus columbianus bewickii</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 (79/409/EEC) by supporting populations of European importance of Pink-footed Goose (<i>Anser brachyrhynchus</i>) and Pintail (<i>Anas acuta</i>) and Wigeon (<i>Anas penelope</i>).</p>	<p>Martin Mere occupies part of a former lake and mire which extended over some 1300 hectares of the Lancashire Coastal Plain during the 17th century. In 1972 the Wildfowl and Wetlands Trust purchased 147 hectares of the former Holcrofts Farm, consisting mainly of rough damp pasture, with the primary aim of providing grazing and roosting opportunities for wildfowl. Since acquisition the rough grazed pastures have been transformed by means of positive management into a wildfowl refuge of international importance. Areas of open water with associated muddy margins have been created, whilst maintaining seasonally flooded marsh and reed swamp habitats via water level control. In addition large areas of semi- improved damp grassland, unimproved species rich damp grassland and rush pasture have been maintained and enhanced via appropriate grazing management. Of the pastures the most botanically important are those species rich areas supporting whorled caraway, present here at one of very few sites in northern England. Such pastures are nationally important. However, the outstanding importance of Martin Mere is as a refuge for its large and diverse wintering, passage</p>	<p>Since the sites designation as a Wetland of International Importance under the Ramsar Convention and as a Special Protection Area in 1985 there has been a gradual increase in the usage of the mere by certain species of wildfowl and wading birds as a direct consequence of positive management.</p> <p>The refuge is vulnerable to water levels being adversely affected water abstraction for agriculture, but this is closely monitored /controlled by the Environment Agency in consultation with English Nature. Similarly the refuge is vulnerable to changes in farming practice. Grazing management is largely dependent upon cattle from surrounding farms.</p> <p>Water levels on the Mere are controlled to maintain optimum levels throughout the winter period, then lowered progressively in summer to expose marginal mud and the underlying damp pastures and maintain a mosaic of shallow pools. Ditches are regularly cut and dredged and all</p>

	<p>and breeding bird community. In September 2002, an additional 63 hectares of land were purchased on the southern most part of the refuge at Woodend Farm, with the aid of the Heritage Lottery Fund, to restore arable land to a variety of wetland habitats including seasonally flooded grassland, reedbed, wet woodland and open water habitats. These are all key Biodiversity Action Plan habitats within the Lancashire Plain and Valleys Natural Area.</p> <p>It supports assemblages of international importance with peak counts in winter of 25306 waterfowl (Ramsar criterion 5).</p> <p>It has species/populations occurring at levels of international importance (Ramsar criterion 6) in spring/autumn: Pink-footed goose (<i>Anser brachyrhynchus</i>) and in winter: Bewick's swan (<i>Cygnus columbianus bewickii</i>), Whooper swan (<i>Cygnus cygnus</i>), wigeon (<i>Anas penelope</i>), Northern pintail (<i>Anas acuta</i>).</p>	<p>areas of pasture are positively managed under a Countryside Stewardship Scheme. Nutrients brought in with the water supply from the surrounding arable farmland and inadequate sewage treatment adds considerably to the large deposits of guano from wintering waterfowl. This results in the refuge being highly eutrophic with extremely poor water quality conditions and creates the possible risk of water borne diseases which could affect waterfowl, although no such outbreaks have been recorded. Water quality issues have started to be addressed by WWT with the creation of reedbed water filtration systems and a series of settlement lagoons helps to reduce suspended solids of effluent water arising from waterfowl areas.</p> <p>Regular herbicide control of trifid burr marigold is necessary in order to prevent this plant from invading lake/scape margins to the detriment of bird populations.</p>
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Source: Joint Nature Conservation Committee

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
Annex I habitats that are a primary	This site is predominantly comprised of	Morecambe Bay lies between the	SAC

<p>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 reflecting the salinity and sediment regimes within each estuary. Extensive saltmarshes and glasswort <i>Salicornia</i> spp. beds are</p>	<p>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>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>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. 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 the site, taking account of other potential threats including commercial fisheries, aggregate</p>
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<p>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><u>1140 Mudflats and sandflats not covered by seawater at low tide</u></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 estuaries, finer sediments settle out and form extensive mudflats, supporting a particularly rich and diverse range of infaunal</p>			<p>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 through 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>
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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 *Centaurium pulchellum*, and northern elements, such as saltmarsh flat-sedge *Blasmus 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

<p>2170 <u>Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>)</u> Annex II species that are a primary reason for selection of this site</p> <p>1166 <u>Great crested newt <i>Triturus cristatus</i></u></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-crested 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</p> <p>Not applicable.</p>			
<p>Source: Joint Nature Conservation Committee</p>			

<p>North Pennine Dales Meadows</p>	<p>Status: SAC</p>	<p>Area: 497.09 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</p> <p>6520 <u>Mountain hay meadows</u></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 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</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>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>Source: Joint Nature Conservation Committee</p>	

<p>Ribble & Alt Estuaries</p>	<p>Status: SPA/Ramsar</p>	<p>Are: 12412.31 hectares</p>
<p>SPA</p>	<p>Ramsar</p>	<p>Vulnerability</p>
<p>This site comprises two estuaries, together with an extensive area of sandy foreshore along the</p>	<p>A large area including two estuaries which form part of the chain of west coast sites which fringe</p>	<p>Overall, the dunes, intertidal flats and saltmarsh enjoy a relatively robust status and a favourable</p>

<p>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 (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>Anasacuta</i>), Redshank (<i>Tringa tetanus</i>),</p>	<p>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 (<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</i></p>	<p>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 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</p>
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<p>Sanderling (<i>Calidris alba</i>), Shelduck (<i>Tadorna tadorna</i>), Teal (<i>Anas crecca</i>) and Wigeon (<i>Anas Penelope</i>).</p>	<p>Cygnus) and Pink-footed goose (<i>Anser brachyrhynchus</i>).</p> <p>Petalwort (<i>Petalophyllum ralfsii</i>) is noteworthy flora present at the site.</p>	<p>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 have caused this.</p>
<p>Source: Joint Nature Conservation Committee</p>		

<p>Sefton Coast</p>	<p>Status: SAC</p>	<p>Area: 4569.97 hectares</p>
<p>SAC features of European importance</p>		<p>Vulnerability</p>

Annex I habitats that are a primary reason for selection of this site

2110 Embryonic shifting dunes

The Sefton Coast in north-west England displays both rapid erosion and active progradation. **Embryonic shifting dunes** are of the northern, lyme-grass *Leymus arenarius*, type and are mainly associated with the areas of progradation, though vegetation dominated by lyme-grass is also found associated with areas of persistent, heavy disturbance further inland.

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

A substantial stretch of the Sefton Coast dune system in north-west England is fronted by about 163 ha of **shifting dunes**. Marram *Ammophila arenaria* usually dominates the mobile dunes, amidst considerable areas of blown sand. Where rates of sand deposition decline, lyme grass *Leymus arenarius*, sea-holly *Eryngium maritimum* and cat's-ear *Hypochaeris radicata* occur, with red fescue *Festuca rubra* and spreading meadow-grass *Poa humilis* present on the more sheltered ridges. Sea spurge *Euphorbia paralias* and the nationally scarce dune fescue *Vulpia fasciculata* are frequent, while sea bindweed *Calystegia soldanella* is very local. Formby Point is the hinge point between two coastal sub-cells. The zone around the Point has been eroding since 1906 while areas north and south of this zone are accreting (where the nature of the coast allows). The rapid erosion is therefore reducing the area of shifting dunes at Formby, and high, steep eroding dunes abut the beach with extensive areas of blown sand immediately inland.

2130 Fixed dunes with herbaceous vegetation ('grey dunes') *

Priority feature

Sefton Coast is a large area of predominantly calcareous dune vegetation in north-west England. The sequence of habitats from foredunes to dune grassland and dune slack is extensive, and substantial areas of open dune vegetation remain. There are large areas of semi-fixed and **fixed dunes with herbaceous vegetation** exhibiting considerable variation from calcareous to acidic. In the calcareous areas common restharrow *Ononis repens* is prominent. There are small but significant areas of

Sefton Coast is primarily owned and managed by Sefton Council, with other major landowners including English Nature (Ainsdale Sand Dunes and Cabin Hill NNRs), the National Trust, Ministry of Defence, and a number of international standard golf clubs. The extensive sand dunes and intertidal areas attract large numbers of summer tourists. This impact is addressed in Sefton Metropolitan Borough Council's Beach Management Plan. Co-ordinated management of the coast is achieved through the long-standing Sefton Coast Management Scheme (now the Sefton Coast Partnership), in which all key landowners play a part. Golf course management achieves a positive balance between play areas and important habitats.

Concerns have been raised regarding water abstraction on the coast. This is being addressed through detailed modelling of the dune aquifer by the Environment Agency. The coniferous plantations are also a source of debate, with a balance needed between restoration of dune habitats and public enjoyment of the woodlands. Work on this is being carried out on Ainsdale Sand Dunes National Nature Reserve, which holds a significant proportion of these woodlands.

decalcified sand with grey hair-grass *Corynephorus canescens*, a species more characteristic of decalcified fixed dunes in the east of England and around the Baltic.

2170 Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*)

At Sefton Coast on the north-west coast of England there are extensive dune slacks dominated by creeping willow *Salix repens* ssp. *argentea*, making this site particularly important for **dunes with *Salix repens* ssp. *argentea***. Radley (1994) estimated that 99 ha, or 43% of the total English resource of the main dune slack community dominated by creeping willow occurred here. The species also dominates areas of free-draining dune grassland to a much greater extent than at most other UK sites. Despite some urban and recreational development, both successional and geomorphological processes are still active and the structure and function of the site as a whole is still well-conserved. Management, including partial removal of planted conifers, has taken place in recent years to maintain and enhance these processes.

2190 Humid dune slacks

Sefton Coast is a large area of predominantly calcareous dune vegetation, containing extensive areas representative of **Humid dune slacks** in north-west England. Some active slack formation can still be seen and a variety of successional stages are represented. The sequence from foredunes to dune grassland and dune slack is extensive. The site contributes to the range and variation of humid dune slack vegetation, being a large and representative base-rich system towards the northern limit for some **humid dune slack** communities along the west coast of Britain.

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

2150 Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) * Priority feature

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

1395 Petalwort *Petalophyllum ralfsii*

A large population of **petalwort** *Petalophyllum ralfsii* occurs at Sefton Coast, the only site chosen for this species in north-west England. The plant was first recorded on the Sefton Coast at Ainsdale in 1861 and it is still found within the dune system between Southport and Ainsdale. It seems to prefer damp ground around the edges of dune slacks of fairly recent origin, with the largest populations found in slacks of less than 25 years old. The plant is often found in association with footpaths, where light trampling keeps the ground vegetation sparse; infrequently-used paths or less-trampled edges of pathways seem to be favoured. Although the preferred habitat is short damp turf with plenty of bare patches, populations have been found growing amongst dense marram *Ammophila arenaria* with few other associated species.

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

1166 Great crested newt *Triturus cristatus*

Source: Joint Nature Conservation Committee

Appendix 3: Equality Impact Assessment

Name/Nature of the Decision

To approve the Central Lancashire Highways and Transportation Masterplan

What in summary is the proposal being considered?

The approval of the Central Lancashire Masterplan, including the northern phase of the Broughton Bypass.

The Masterplan accepts that additions to existing highway infrastructure will be needed to support the development aspirations of Central Lancashire.

Because this will allow us to do far more to promote and prioritise public transport, walking and cycling, we will see a greater increase in the use of sustainable travel than other options would achieve.

It is an accepted part of the legal framework that governs new development that developers are asked to contribute to the new public infrastructure, of any type, that their development requires. This will be the case in Central Lancashire, as this new capacity is required for the housing developments to go ahead.

As well as allowing development, however, this new road capacity will give us the opportunity to improve our use of the existing network. Without this, it will simply be too busy to allow public transport and active travel to prosper and everyone will suffer the effects of increasing congestion ~ slower, unreliable journeys, more cars, poorer air quality and streets that are busy and unwelcoming.

By creating extra capacity, we will be able to accommodate new development, make far more significant public transport improvements and manage the highway network more effectively. It will also allow us to enhance our public realm to a far greater extent and to make walking and cycling the modes of choice.

The technical assessment shows that without new capacity in our highway network, we will simply exacerbate existing problems. This master planning process demonstrates that there are ways to solve these problems.

Although this option proposes new highway capacity, it is still in agreement with the County Council's strategic vision of a sustainable future where transport is fully integrated and where walking, cycling and public transport are an effective and obvious alternative to the private car.

With a new Central Lancashire Core Strategy now in place and a new Economic Partnership (LEP) to take forward economic development, the time is right to set in place a masterplan for Highways and Transport that will both support Central Lancashire's economic ambitions and maximise the benefits of a high quality integrated transport network for its residents.

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 first in a series of documents that will set out LCC's highways and transportation strategy across the county. This document is specific to Preston, South Ribble and Chorley, although parts of Ribble Valley and Fylde districts are directly impacted by it

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
- Marriage or Civil Partnership Status

NO

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.)

The Masterplan sets out our highways and transportation strategy for the Central Lancashire area. 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. Specific schemes 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 disbenefit.

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 the Central Lancashire area 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.

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 was the subject of public consultation between 7th January and 25th February 2013. As well as making the consultation documents available online and through libraries and council offices, specific consultees were approached. **These included . .**

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 the Central Lancashire area. 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. Specific schemes 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 disbenefit.

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 in the Central Lancashire area; 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?

Continuing with the Original Proposal – the masterplan represents the most cost effective way to ensure the future success of the Central 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 specific schemes come forward during the life of the masterplan, they will 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 schemes are developed. It will therefore be vital to assess the impact of design work as proposals 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 the Central Lancashire area. 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.

Specific schemes 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 disbenefit. We will work closely with our consultations groups to ensure that their views are part of the

decision process as the strategy is implemented.

Equality Analysis Prepared By Hazel Straw

Position/Role Transport Planning Manager

Equality Analysis Endorsed by Line Manager and/or Chief Officer Marcus Hudson

Decision Signed Off By

Cabinet Member/Chief Officer or SMT Member