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Appendix A: Scoping responses and comments

Appendix A: Scoping Responses and Comments

Consultation body	Theme	Their comments	Our response
Natural England (NE)	Functionally linked land	In terms of the HRA, consider SSSI and functionally linked land.	The HRA would consider SSSI's and functionally linked land.
	Surface and groundwater hydrology	Assessment of ground water connectivity through certain data sources	These data sources have been considered.
	Peat	Comment that NE do not support the principle of developing on restorable peat	This comment has been considered.
	ISA objectives	Consideration of SSSI's and wider locally designated sites within ISA objectives	SSSI's and other locally designated sites have been considered when assessing schemes.
	Air quality	Details of how to undertake HRA for air pollution impacts	This comment has been considered for the HRA.
	Monitoring	Monitoring suggestions in terms of biodiversity, landscape and green infrastructure	These monitoring suggestions have been considered and mentioned within the ISA document.
Historic England (HE)	Assessment of schemes	Ensure that the ISA assesses all potential impacts on the historic environment	The ISA has considered the potential impacts on the historic environment.
	Engagement	Early engagement with HE	This has been put forward as a recommendation for future schemes
Environment Agency	The scoping responses generally agrees with the scoping report and therefore no further consideration has been implemented within the ISA.		

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Appendix B: Baseline Maps

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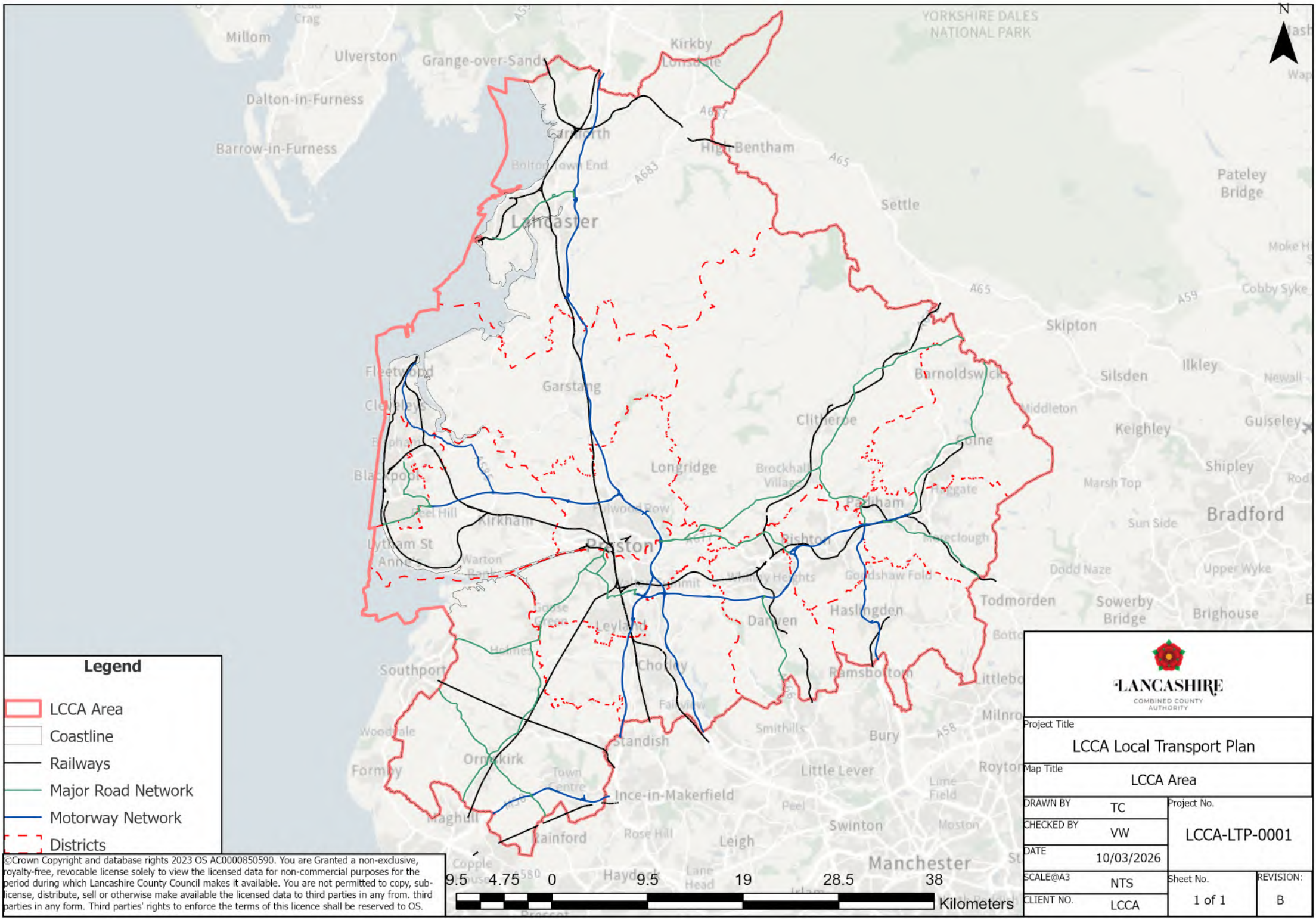

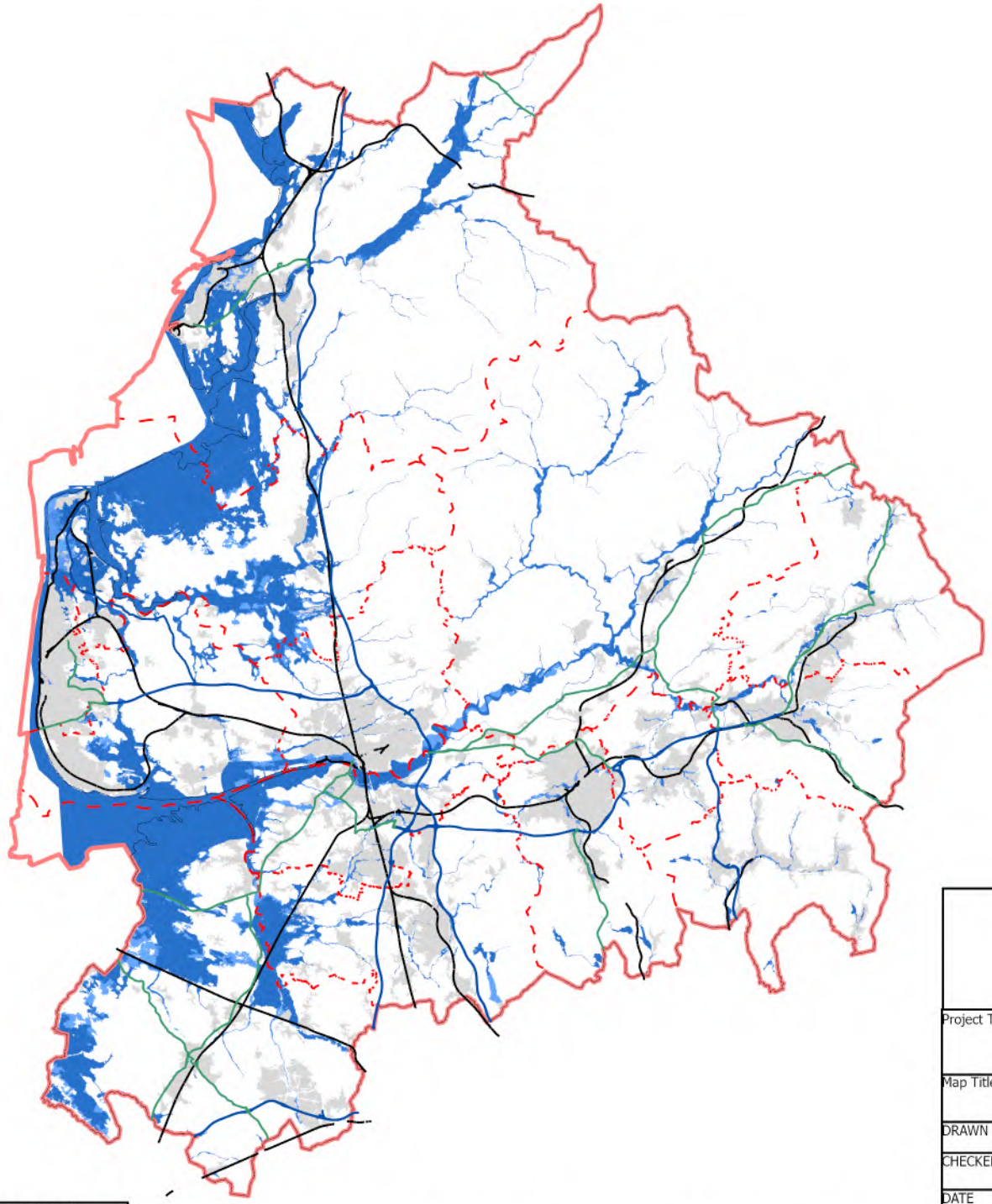

N

Legend

- Major Road Network
- Motorway Network
- Railways
- Coastline
- Urban Areas
- LCCA Area
- Districts
- Flood Zone 3
- Flood Zone 2

9.5 4.75 0 9.5 19 28.5 38 Kilometers

LANCASHIRE
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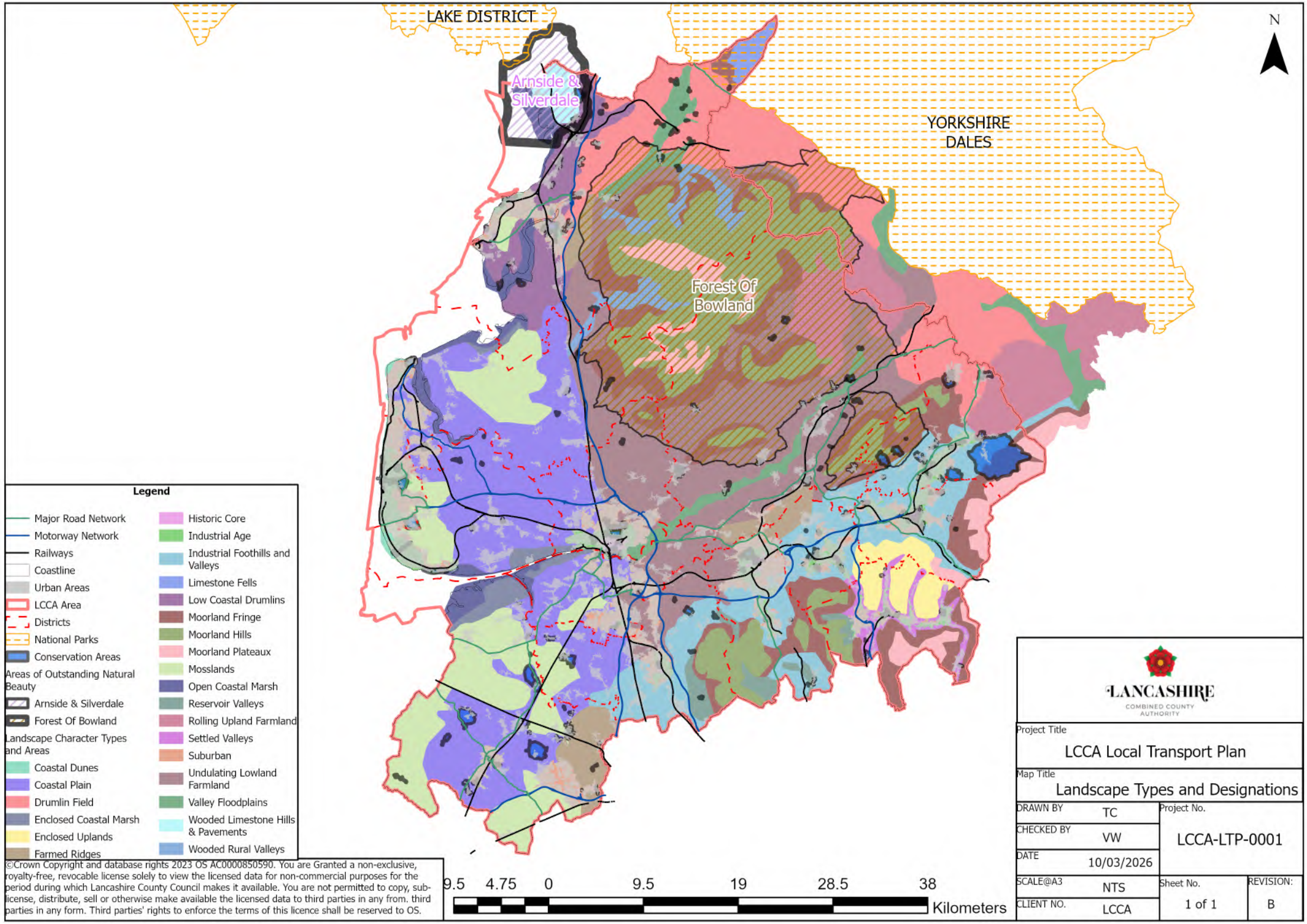
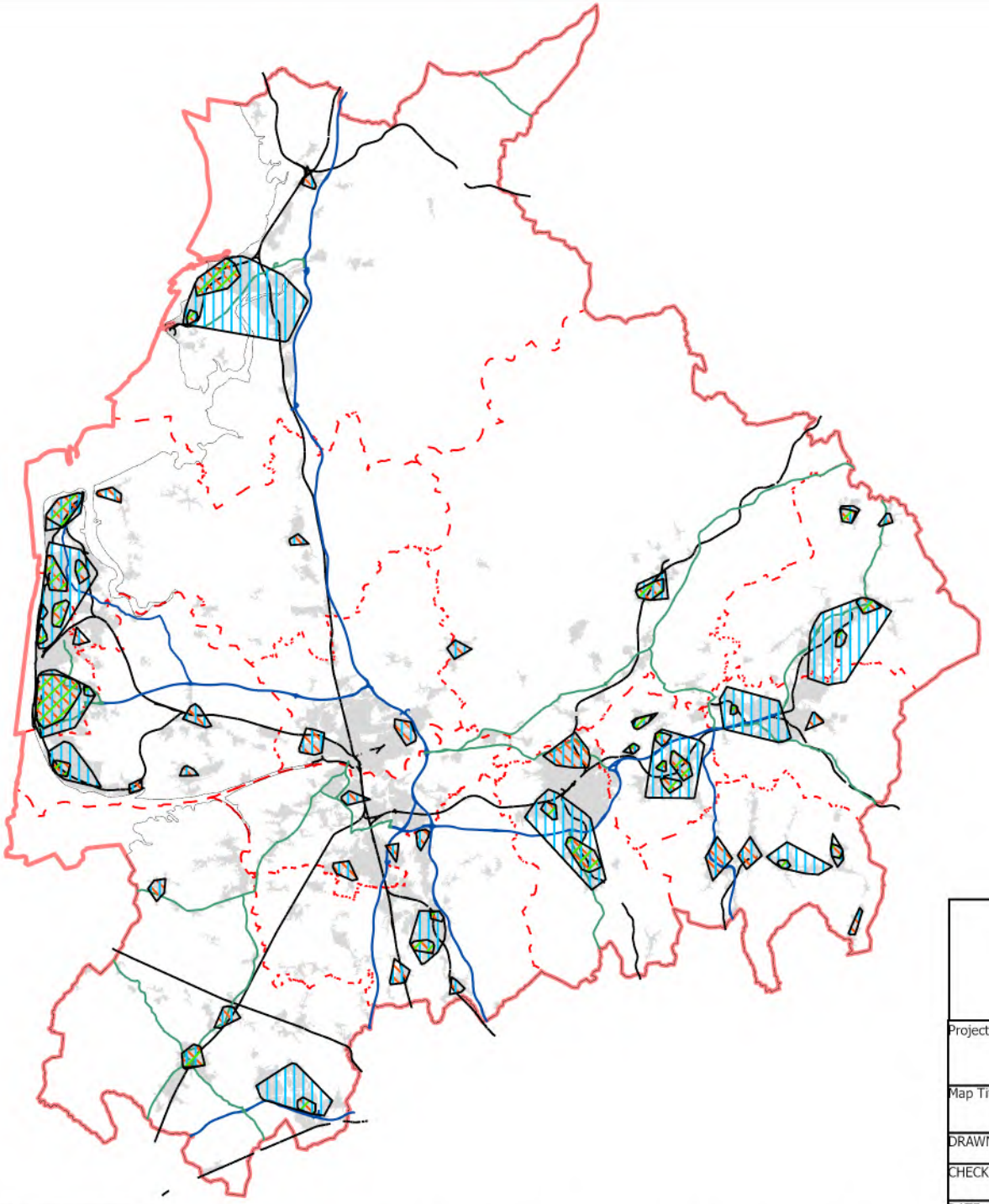
Project Title	LCCA Local Transport Plan
Map Title	Flood Risk Zones
DRAWN BY	TC
CHECKED BY	VW
DATE	10/03/2026
SCALE@A3	NTS
CLIENT NO.	LCCA
Project No.	LCCA-LTP-0001
Sheet No.	1 of 1
REVISION:	B



LANCASHIRE
COMBINED COUNTY AUTHORITY

Project Title	LCCA Local Transport Plan
Map Title	Landscape Types and Designations
DRAWN BY	TC
CHECKED BY	VW
DATE	10/03/2026
SCALE@A3	NTS
CLIENT NO.	LCCA
Project No.	LCCA-LTP-0001
Sheet No.	1 of 1
REVISION:	B



N

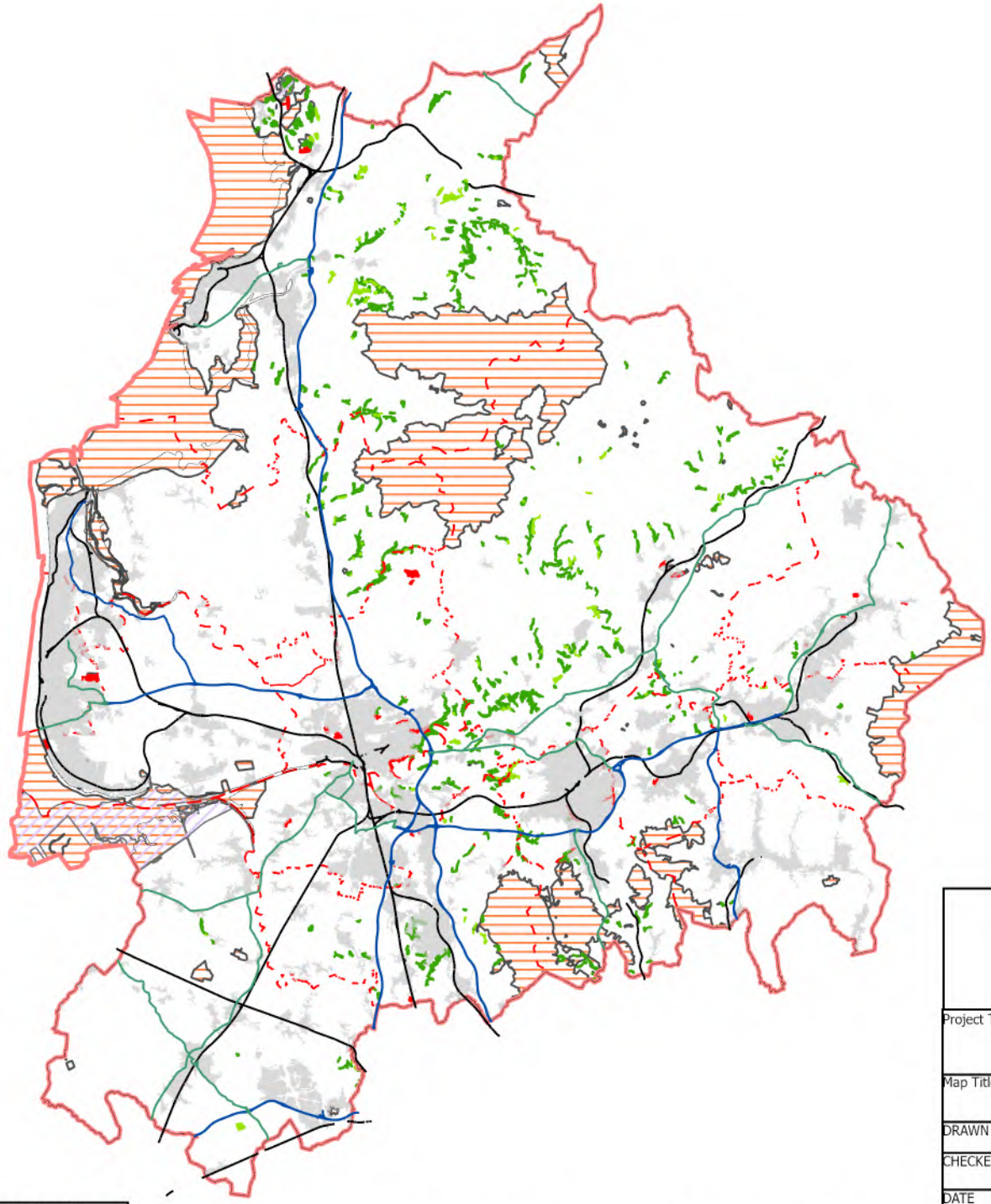
Legend

- Major Road Network
- Motorway Network
- Railways
- Coastline
- LCCA Area
- Urban Areas
- Districts
- TRSE First Cluster
- TRSE Second Cluster
- TRSE Third Cluster

9.5 4.75 0 9.5 19 28.5 38 Kilometers

LANCASHIRE COMBINED COUNTY AUTHORITY

Project Title	LCCA Local Transport Plan
Map Title	TSRE
DRAWN BY	TC
CHECKED BY	VW
DATE	10/03/2026
SCALE@A3	NTS
CLIENT NO.	LCCA
Project No.	LCCA-LTP-0001
Sheet No.	1 of 1
REVISION:	B



N

Legend

- Major Road Network
- Motorway Network
- Railways
- Coastline
- Urban Areas
- LCCA Area
- Districts
- National Nature Reserves

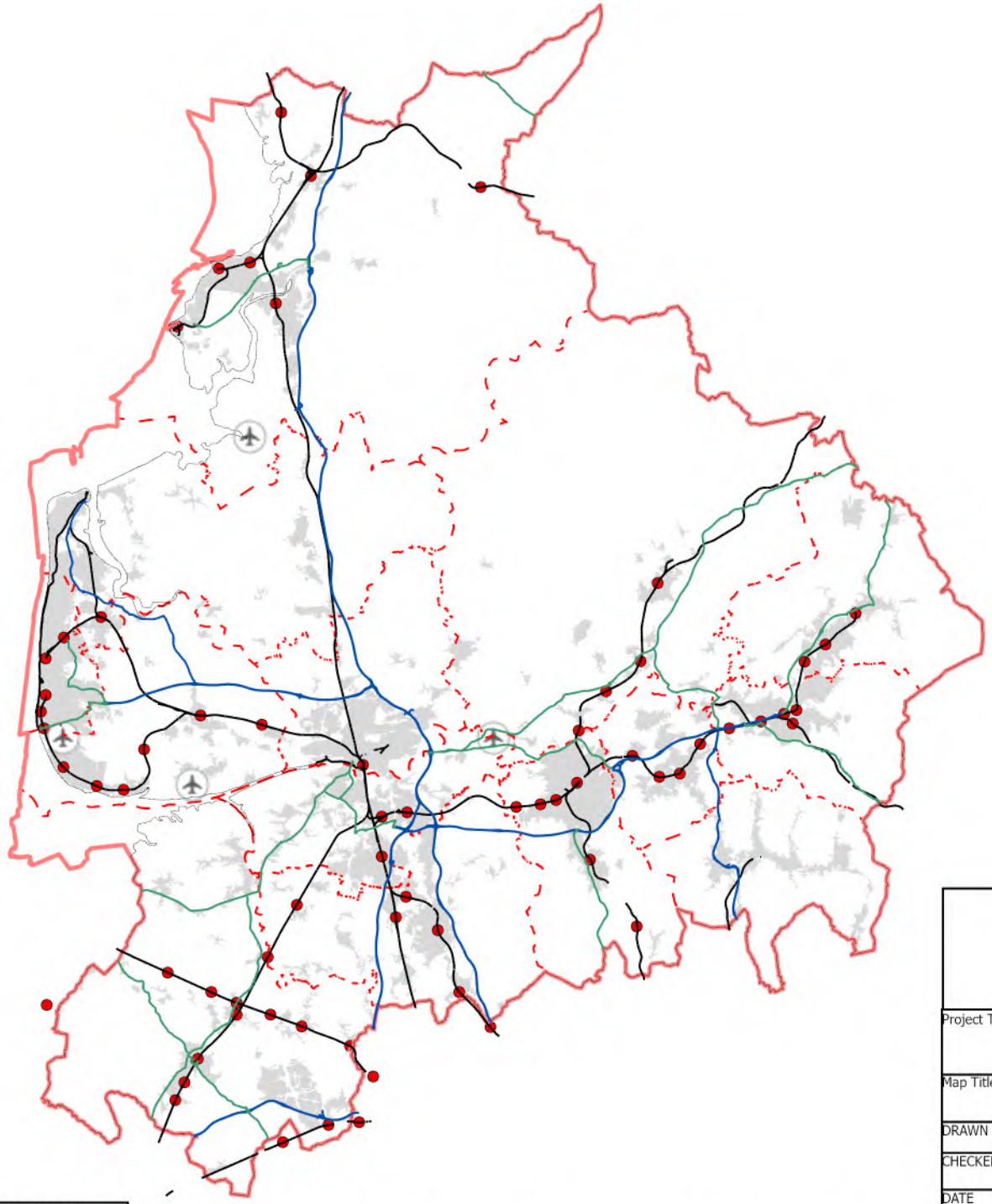
AncientWoodland_Clip

- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland
- Local Nature Reserves
- SSSI

9.5 4.75 0 9.5 19 28.5 38 Kilometers

LANCASHIRE COMBINED COUNTY AUTHORITY

Project Title	LCCA Local Transport Plan
Map Title	Conservation Landscapes
DRAWN BY	TC
CHECKED BY	VW
DATE	10/03/2026
SCALE@A3	NTS
CLIENT NO.	LCCA
Project No.	LCCA-LTP-0001
Sheet No.	1 of 1
REVISION:	B



N

Legend

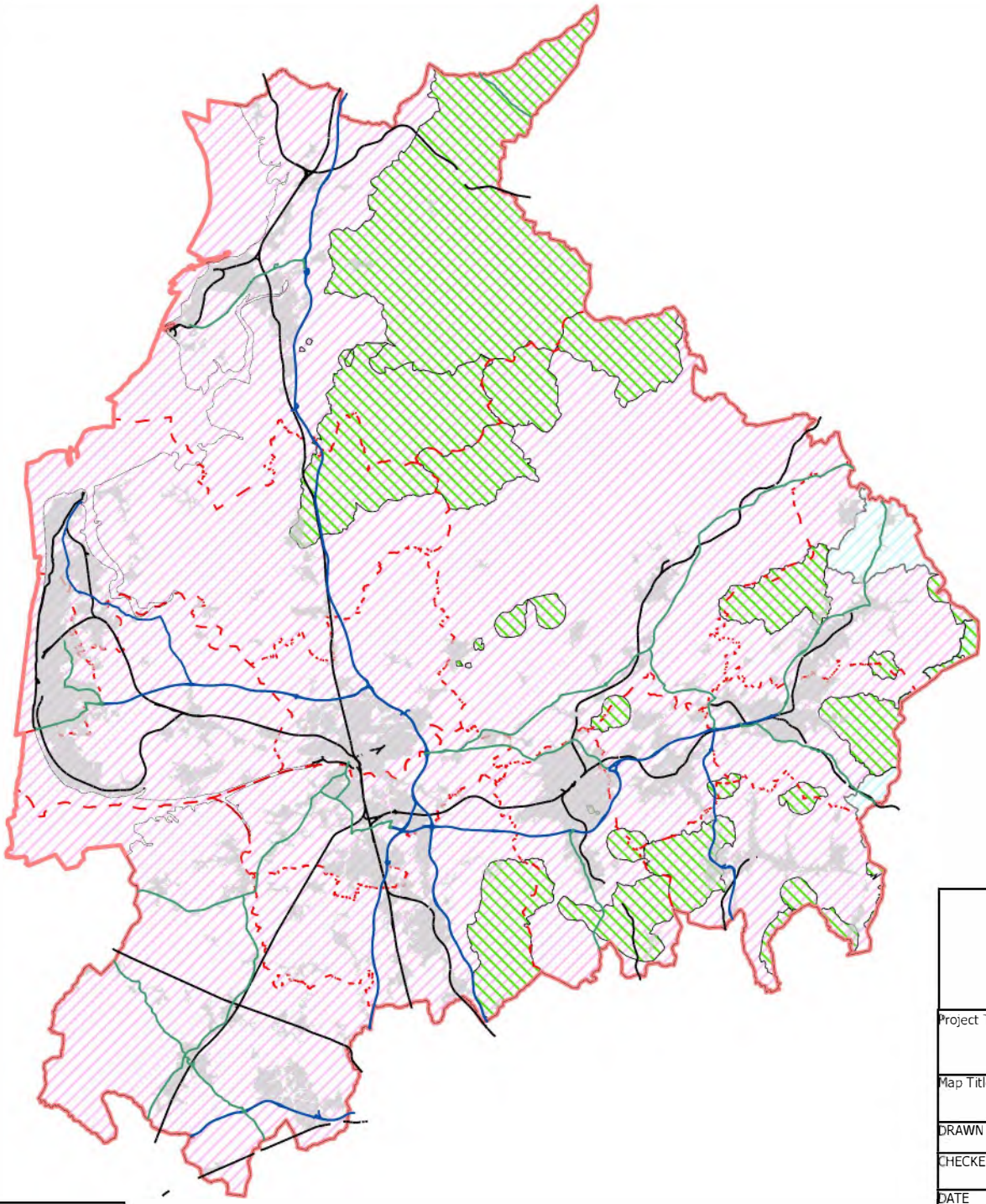
- Major Road Network
- Motorway Network
- Railways
- Coastline
- LCCA Area
- Urban Areas
- Districts
- Airports
- Railway Stations

9.5 4.75 0 9.5 19 28.5 38

Kilometers

LANCASHIRE COMBINED COUNTY AUTHORITY

Project Title	LCCA Local Transport Plan
Map Title	Transport
DRAWN BY	TC
CHECKED BY	VW
DATE	10/03/2026
SCALE@A3	NTS
CLIENT NO.	LCCA
Project No.	LCCA-LTP-0001
Sheet No.	1 of 1
REVISION:	B



N

Legend

- Major Road Network
- Motorway Network
- Railways
- Coastline
- Urban Areas
- LCCA Area
- Districts
- Drinking WaterSafeguard

River Basin Districts

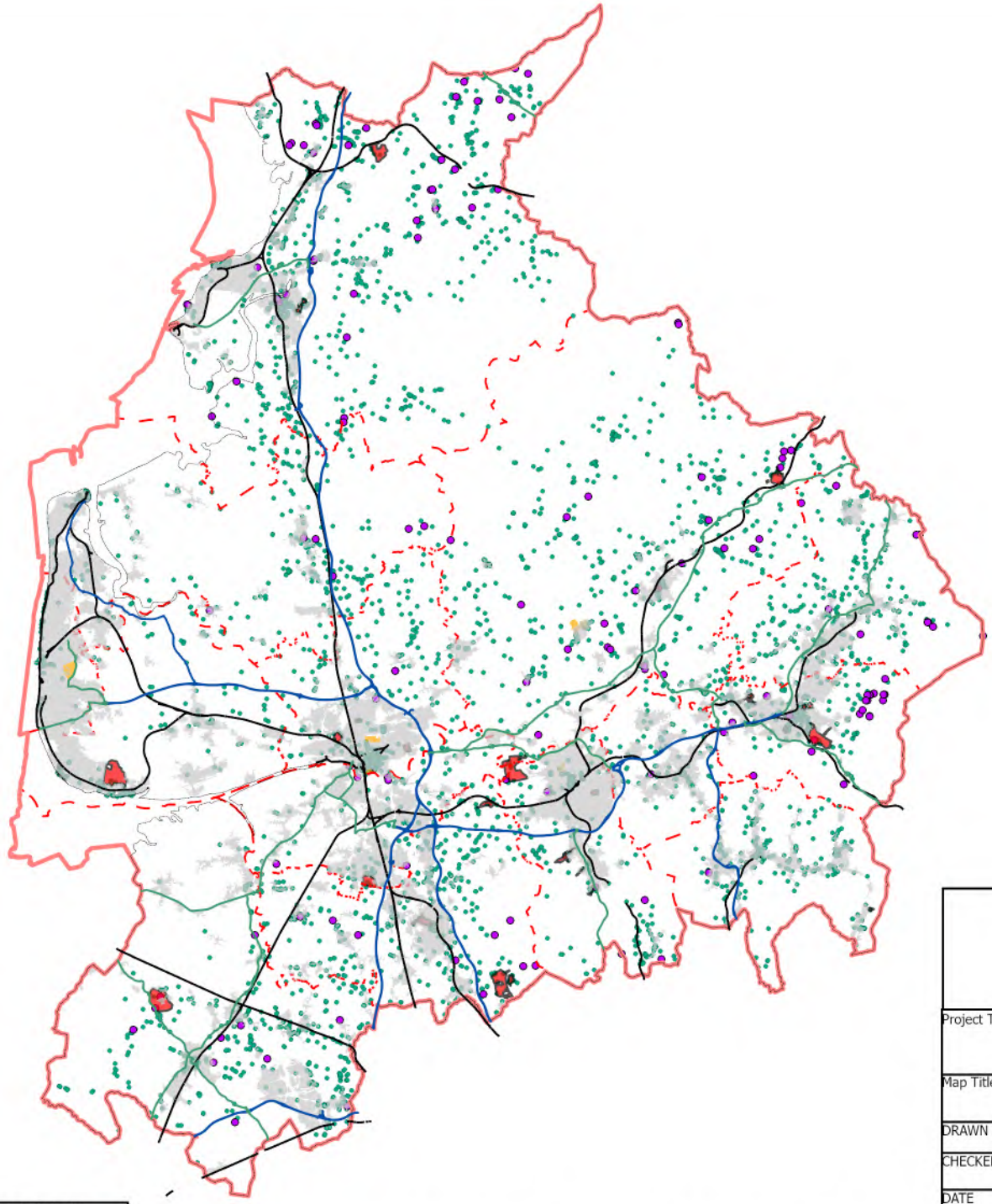
river_basi

- Humber
- North West

9.5 4.75 0 9.5 19 28.5 38 Kilometers

LANCASHIRE COMBINED COUNTY AUTHORITY

Project Title	LCCA Local Transport Plan
Map Title	River Basin and Safeguard Zone
DRAWN BY	TC
CHECKED BY	VW
DATE	10/03/2026
SCALE@A3	NTS
CLIENT NO.	LCCA
Project No.	LCCA-LTP-0001
Sheet No.	1 of 1
REVISION:	B



LANCASHIRE
COMBINED COUNTY AUTHORITY

Project Title	LCCA Local Transport Plan
Map Title	Heritage Assets
DRAWN BY	TC
CHECKED BY	VW
DATE	10/03/2026
SCALE@A3	NTS
CLIENT NO.	LCCA
Project No.	LCCA-LTP-0001
Sheet No.	1 of 1
REVISION:	B

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Appendix C: Integrated Health Impact Assessment, Equality Impact Assessment and Rural Needs Assessment

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Introduction

This appendix presents the findings of an integrated Health Impact Assessment (HIA), Equality Impact Assessment (EqIA) and Rural Needs Assessment (RNA) undertaken for the Implementation Plan (IP). These assessments have been carried as part of the Integrated Sustainability Appraisal (ISA), drawing directly on the ISA scoring evidence for schemes proposed within the IP.

The purpose of this appendix is to identify the likely distributional effects of the proposed IP investment programmes, to understand where positive impacts are strongest, and to highlight any emerging risks or uncertainties that may need to be addressed through mitigation or future scheme refinement.

The assessment examines how the plan performs not only in combination, but also across individual investment programmes and sub-objectives. This enables the findings to be used both strategically and at scheme-design level.

Scope of the Assessment

The purpose of integrating HIA, EqIA and Rural Needs considerations within the ISA is to ensure that the plan aligns with statutory and best practice requirements for promoting health and wellbeing, advancing equality of opportunity and addressing the needs of rural communities. Embedding these assessments within the ISA provides:

- A single, coherent analytical framework;
- Full alignment with ISA objectives and scoring;
- A consistent basis for comparing distributional effects across schemes; and
- An efficient and transparent evidence trail linking scheme-level scores to plan-level conclusions.

Method and Evidence Base

The integrated approach uses the ISA scoring system to evaluate the likely effects of schemes on population groups, rural communities and determinants of health.

For each sub-objective, schemes score on a scale ranging from major beneficial (+++) to major adverse (– –), with neutral (0) and uncertain (?) categories used where appropriate. This scoring, which forms a core part of the ISA evidence base, is the sole source of quantitative input into the analysis presented within this report.

To understand programme-level trends, the sub-objective scores were extracted for schemes and analysed collectively. This approach highlights where impacts are consistently positive, where scores are repeatedly neutral, and where there is substantial uncertainty in the evidence.

Structure of this Appendix

This appendix presents a thorough, integrated assessment of each investment programme, combining health, equality and rural considerations into a single narrative for each theme. This reflects the structure of the ISA and enables patterns across scheme types to be clearly understood.

Furthermore, a summary of the most common score per sub-objective has been assessed, highlighting where the programme performs strongly, where outcomes are neutral, and where uncertainty persists.

Finally, recommended mitigation and enhancement measures have been proposed. These measures are proportionate and targeted, focusing on opportunities to strengthen ISA outcomes.

Role of This Appendix in Supporting the ISA

This appendix strengthens the ISA by:

- Ensuring transparency in how health, equality and rural considerations have been assessed;
- Providing robust evidence on distributional impacts;
- Supporting compliance with the Public Sector Equality Duty and rural proofing expectations; and
- Enabling decision-makers to understand not only environmental effects (addressed elsewhere in the ISA) but also impacts on people and communities.

The sub objectives are as follows:

Table 1: HIA Sub-Objectives

No.	Sub-objective
15a	Improve accessibility to health and leisure services and facilities and amenities for all
15b	Improve affordability of public transport
15c	Improve safety of the transport network (including roads) and reduce the number of accidents and other incidents
15d	Reduce severance
15e	Improve connections between and within communities
15f	Protect health by reducing air, noise, odour and light pollution from public transport
15g	Improve access to active travel modes

15h	Improve access to public transport

Table 2: EqIA Sub-Objectives

No.	Sub-Objective
16a	Improve accessibility to services, facilities and amenities for all, in particular by 'walk, wheel or cycle' (active travel) modes
16b	Improve affordability of transport
16c	Improve safety of the transport network (including roads) and reduce the number of accidents and other incidents
16d	Improve provision of public transport in rural or coastal areas or to those areas experiencing constraint in public transport provision
16e	Reduce severance
16f	Reduce air, noise, odour and light pollution from transport

Table 3: Rural Needs Sub-Objectives

No.	Sub-Objective
17a	Increase access via a range of transport modes for rural communities.
17b	Enable economic growth, and employment diversification in rural and coastal areas
17c	Connecting people with nature

Assessment of the Investment Programmes

Rail Investment

Across the East–West Rail Improvements, the Restoring Your Railways schemes, and the station-focused interventions at Preston, Blackpool North, Ewood/Lower Darwen and the Colne–Skipton reinstatement, the scoring patterns demonstrate a positive trend.

Under HIA sub-objectives, the rail schemes achieve major beneficial scores for access to services (15a), community connections (15e) and access to public transport (15h). These schemes should expand access to employment, education, health services and leisure trips, and this is reflected in the moderate to major beneficial scoring across the programme. The scoring also shows that rail delivers contributions to safety (15c), as rail travel reduces reliance on high-risk road corridors and station environments are being improved to support safer pedestrian circulation.

EqIA scoring for The East–West and Restoring Your Railways proposals, along with station access improvements, consistently demonstrate positive scoring under 16a (accessibility to services) and 16d (public transport provision).

The scoring also indicates meaningful reductions in severance for protected groups (16e), particularly in schemes like Colne–Skipton and Ewood/Lower Darwen where new or reinstated rail services could reconnect communities.

Rural Needs scoring is similarly favourable as many rail corridors serve or influence catchments with significant rural populations, and the scoring demonstrates solid positive assessments for 17a (rural access) and 17b (rural economic vitality). Improvements to connectivity and service frequency may help rural areas access jobs and services more efficiently, and the scoring shows rail as one of the few investment programmes delivering consistently positive rural outcomes. Sub-objective 17c (connection to nature) is generally neutral, though rail performs slightly above average compared to more urban-only schemes.

Neutral or uncertain scoring general arise in 15f and 16f (air/noise exposure), reflecting temporary construction impacts or localised disturbance around stations.

Overall, this programme performs beneficially across HIA, EqIA and Rural Needs indicators.

Strategic Highway Network Improvements & Congestion Management

This programme highlights a varied performance, with clear strengths in some areas and consistent neutral or uncertain effects in others.

The scoring for highway improvements such as the A588/A683/A6 corridor, A570, the A666 corridor, M6 Junction 34, M55 Junction 3 and the A56–M66 show that while some schemes achieve positive scores for safety (15c), reflecting better junction layouts, improving traffic flow smoothing, or casualty-mitigation benefits, the performance across several other HIA sub-objectives is less favourable.

Notably, the highway schemes regularly appear in the neutral or uncertain scoring bands for air/noise/light exposure (15f) and severance (15d).

This repeated pattern of neutral or uncertain outcomes indicates that highway investment often carries uncertain implications for pedestrians, community cohesion or exposure to emissions, particularly in more built-up or sensitive locations.

Many of the highway schemes also demonstrate little improvement in active travel conditions (15g), scoring in this sub-objective tends to be neutral, reflecting that many interventions remain primarily vehicle-oriented and may not embed high-quality provision for walking, wheeling or cycling at its current design stage.

EqIA outcomes reflect these patterns. While 16c (safety) occasionally records positive scores, as some interventions improve personal security or reduce accident risks, the scoring for 16a (accessibility to services) and 16e (reducing severance) is often neutral.

Protected groups, such as disabled people, older adults, children and those on low incomes, whose mobility depends on safe walking and wheeling, access to crossings, and reduced traffic dominance do not consistently benefit from these schemes. In several cases, the scoring suggests the potential for increased barrier effects or increased exposure to traffic-related disturbance.

It is similar outcome with EqIA, 16f (distribution of environmental exposure) is frequently uncertain, reflecting the challenge of predicting distributional air/noise outcomes from highway schemes without detailed design.

Rural Needs performance is similarly varied. Some strategic corridors yield modest improvements to 17a (rural access) by shortening journey times between rural settlements and larger centres. However, others score neutrally, particularly where schemes are expected to increase traffic volumes through rural villages, with potential implications for tranquillity or safety. 17c (connection to nature) remains neutral, indicating these schemes do not typically influence access to green spaces.

In summary, the Strategic Highway Network programme delivers partial benefits especially around safety and highway efficiency, however these are offset by recurring weaknesses in severance, environmental quality and the distribution of benefits across population groups.

Growth Site Transport Infrastructure

This programme shows a varied performance. The assessment demonstrates that schemes designed around multimodal access, sustainable transport and place-led design achieves some of the highest scoring across HIA, EqIA and Rural Needs sub-objectives, while highway-led, development-driven access schemes frequently score neutral or uncertain.

Strategic growth interventions such as the 'Eden Project access infrastructure' and 'Clitheroe Sustainability Package' achieve strong positive scoring across 15a (access to services), 15d (severance reduction), 15e (community connections), 15g (active travel) and 15h (public transport access).

These schemes tend to integrate high-quality walking, wheeling and cycling networks, reliable bus and rail connectivity, and improved public realm, which is reflected in their moderate and major beneficial outcomes in both HIA and EqIA scoring.

The EqIA sub-objectives score highly for 16a (accessibility) and 16e (reduction in severance), demonstrating benefits for groups who rely on inclusive design.

In contrast, several S278 and development-driven schemes, such as the Botany Bay / Hartwood access works, North Blackburn Strategic Housing Site access, and M65 Junction 13 Phase 2 have a more neutral performance.

These schemes register a greater proportion of neutral and uncertain scores under 15d (severance), 15f (air/noise exposure) and 15g (active travel). This indicates that schemes may increase traffic volumes, widen junctions or add capacity in ways that diminish 'pedestrian comfort', increase exposure to emissions or create new barriers.

Equality scores similarly with few positive outcomes as these schemes contribute disproportionately to the neutral categories of 16a (accessibility) and 16e (severance), reflecting a lack of inclusive design for protected groups.

Rural Needs outcomes are mixed. Multimodal growth hubs receive positive scores for 17a and 17b, showing that they act as employment and service anchors for surrounding rural areas. 17c remains neutral, demonstrating that these schemes do not currently connect people with nature at this stage.

This programme therefore is highly dependent on design approach. The scoring system clearly shows that multimodal schemes perform exceptionally well, while car-dominated access schemes risk key health, equality and rural determinants.

Strategic Freight Connectivity Enhancements

The East Lancashire freight rail terminal scheme is the only scheme that is presented in this programme and demonstrates a distinct profile compared with other investment programmes.

Unlike schemes designed to influence how people travel or access services, the principle concern of the freight-focused intervention is goods movement, logistics efficiency and wider economic functioning. As reflected in the scoring, its direct implications for health, equalities and Rural-Needs determinants are therefore limited and predominantly neutral.

Across the HIA sub-objectives, the freight terminal scores mainly neutral or uncertain outcomes, including under 15d (severance), 15f (air/noise exposure) and 15g (active travel). These neutral scores reflect the fact that the scheme is not intended to alter pedestrian connections, public transport access, local walkability or community mobility patterns.

Although freight activity can raise questions around emissions or HGV movement, the scoring does not identify significant adverse effects, largely because the scheme's influence is strategic and site-specific rather than shaping everyday public access or travel behaviour.

As such, the freight terminal sits within the part of the HIA matrix where schemes exert little or no population-level influence, neither generating tangible benefits nor producing definable disbenefits.

The EqIA findings support this interpretation. The scoring shows neutral outcomes under 16a (accessibility for protected groups) and 16e (distributional severance), indicating that the scheme does not materially affect the mobility or inclusion of disabled people, older adults, ethnic minority groups or other protected groups.

The freight infrastructure does not change access to services, alter walking or wheeling conditions, or influence affordability. As such, the freight terminal is essentially distributionally neutral from an equality perspective.

The pattern is similar for Rural Needs. The freight scheme does not meaningfully change 17a (rural access) or 17b (rural economic vitality), as it does not provide transport connections for rural residents nor alter the availability of rural services.

Any operational changes associated with freight movements occur at a scale or location that does not significantly influence rural mobility patterns. 17c (access to nature) remains neutral, reflecting that neither adverse nor enhanced recreational access is expected.

Overall, the scoring evidence indicates that the Strategic Freight Connectivity Enhancements programme is not significant in HIA, EqIA or Rural Needs terms. Its primary effects lie in the economic domain, supporting freight capacity and commercial logistics rather than altering people's travel choices, accessibility or exposure. Accordingly, its role within the ISA is one of neutral social effect, in line with its function as a freight-only intervention rather than a people-focused transport scheme.

Light Rail & Mass Transit

The proposal within this programme, Blackpool–Fleetwood Tramway Works, achieves some of the most consistently positive scores.

Across HIA measures, the scheme scores moderate to major beneficial for 15h (access to public transport) and 15e (community connections), and very often 15c (safety), reflecting the combination of frequent services and safe, traffic-separated operation.

Scores for 15d (severance) are also strongly positive where new stops and alignments improve permeability across previously car-dominated barriers, while 15g (active travel) trends positive where tram or mass-transit stops are paired with coherent footway and cycle approaches.

EqIA performance reflects this pattern where 16a (accessibility for protected groups) and 16d (provision in underserved areas) most commonly sit at moderately beneficial, with further gains on 16c (safety / personal security) arising from step-free boarding, lighting, and passive surveillance around stops.

Distributional severance (16e) scores are similarly strong, reflecting the tendency of mass transit schemes to re-connect communities rather than introduce additional barriers.

Rural Needs effects are more subtle but still present, 17a (rural access) benefits where semi-urban settlements fall inside new catchments, while 17b (rural vitality) registers positive where improved access to jobs and services is demonstrable.

As with other construction projects, the environmental-exposure metrics (15f / 16f) contain localised areas of uncertainty related to works near sensitive areas, but

operationally the score pattern remains decisively positive for health and equality outcomes.

Active Travel Network Development

LCWIP delivery, PRoW enhancements and priority cycle routes generate positive scoring overall.

In HIA terms, the scheme cluster is dominated by moderate and major beneficial in 15g (active travel) and 15c (safety), with strong benefits in 15d (severance) and 15e (community connections) where continuous, protected alignments and equitable crossings are specified.

The programme demonstrates these schemes should reliably increase opportunities for everyday physical activity and reduce exposure to collision risk, while strengthening local trip patterns to schools, high streets and interchanges.

EqIA scores are equally strong: 16a (access to services) repeatedly rises where dropped kerbs, tactile information, widths and gradients meet inclusive design. 16c (safety) and 16e (distributional severance) trend moderate to major beneficial, as schemes should remove barriers that disproportionately affect women, children, older and disabled residents.

Rural Needs outcomes are positive. 17c (connection with nature) scores positively reflecting PRoW upgrades and greenway links. 17a (rural access) also trends minor to moderate beneficial where village-to-town connections are delivered.

Environmental-exposure sub-objectives (15f / 16f) are less positive as some benefits are indirect or contingent on traffic reallocation.

Overall, the Active Travel Network Development programme improves safety, local connectivity and opportunities for walking and cycling. These schemes help create more attractive, accessible and joined-up routes, supporting everyday short trips, reducing isolation and encouraging healthier travel behaviours. While wider environmental effects remain limited at this stage, the overall programme clearly strengthens inclusive, safe and convenient active travel networks across the county.

Bus Infrastructure

This programme (including BSIP-related infrastructure and interchange upgrades) delivers robust social and equality outcomes.

For HIA, the most recurrent strengths are 15h and 15e (connections), where scores are predominantly moderate beneficial. These scores reflect how bus-priority measures, improved bus stop quality and clearer interchange layouts expand access to employment, education and health services.

When real reliability improvements are incorporated into the scheme, 15a (access to services) trends moderate beneficial, while 15c (safety) scores improve around upgraded stops and well-designed footway approaches.

Although fare policy sits outside infrastructure scope, 15b (affordability) is commonly neutral, (), the EqIA shows clear positive movement in 16a (accessibility) and 16d for protected groups that disproportionately depend on bus, with consistent uplift in 16c (personal security) where lighting and passive surveillance are strengthened.

In Rural Needs, 17a (rural access) records slight beneficial where corridors are extended or frequencies strengthened, and 17b (rural vitality) is similar where bus access supports labour-market participation and town-centre activity.

15f / 16f (air/noise) contains a share of neutral or uncertain scores where the schemes depend on fleet specification and the extent to which priority measures reduce idling or reallocate carriageway space.

Overall, the integrated bus programme remains clearly positive and widely distributed across the social and equalities matrices.

Road Safety

This programme shows a consistently positive pattern across the HIA, EqIA and Rural Needs sub-objectives, reflecting the nature of the interventions.

Many of the schemes, particularly School Streets, Safer Routes to School and targeted corridor safety treatments are specifically designed to address known collision risks, pedestrian exposure to risk and perceived safety concerns.

As a result, the programme naturally performs strongly in the sub-objectives most closely associated with safety and local movement patterns.

Across the HIA sub-objectives, the clearest and most consistent positive scoring appears under 15c (safety), where these schemes achieve scores of slight to moderate beneficial outcomes. This reflects how design measures such as slower vehicle speeds, improved crossings and better-defined pedestrian priority directly reduce collision risk and improve perceived safety. The scoring also indicates modest but meaningful improvements under 15d (reducing severance) and 15g (active travel) for schemes that simplify movement across junctions or create safer access to schools and local centres.

In contrast, the programme's influence on other HIA sub-objectives, such as 15a (access to services), 15e (community connections) and 15h (public transport access), is more limited, with many schemes scoring neutral in these areas. This neutral pattern reflects how the Road Safety programme does not change wider transport connectivity or public transport availability rather; it focuses on localised safety and movement conditions without materially reshaping access patterns.

The EqIA scoring follows a similar pattern. The Road Safety programme consistently performs positively under 16c (safety for protected groups), with scoring evidence

showing that children, older adults, parents with prams, disabled people and women groups that experience heightened vulnerability in traffic-dominated environments benefit directly from improved street conditions.

Many schemes also secure positive outcomes for 16e (reduction in severance) where new or improved crossing facilities reduce barriers that disproportionately affect those who rely on walking or wheeling. However, 16a (physical accessibility) and 16d (public transport provision) often remain neutral across the programme, reflecting that these schemes do not directly expand step-free networks or increase public transport coverage.

In Rural Needs terms, scoring is mixed but broadly consistent with expectations. Safety improvements in rural or village-edge settings can achieve slight beneficial outcomes under 17a (rural access) where they could make local roads safer for rural residents travelling to school, shops or nearby towns.

However, many schemes sit within urban contexts and therefore record neutral scores across all rural sub-objectives. 17c (connection to nature) remains neutral, because road safety interventions do not generally alter access to green space or recreational paths.

Across the full suite of sub-objectives, the scoring confirms that the programme generates direct, localised and meaningful safety and equality benefits, but does not significantly affect determinants beyond its intended scope. Its effects are therefore positive but proportionate with scores strong in safety-linked sub-objectives (15c, 15d, 15g, 16c, 16e) and largely neutral across access, public transport, environmental exposure and rural indicators. This aligns with the programme's purpose and intent, and the scoring evidence these outcomes clearly.

Community & Rural Transport

This programme consistently achieves some of the most positive combined HIA–EqIA–Rural Needs scores.

The HIA matrix shows major beneficial scoring for 15a (access to services) and 15e (connections), reflecting tailored, 'door-to-door' reach into healthcare, social networks and essential shopping.

15b (affordability) shifts to slight to moderate beneficial where concessionary or community-rate offers apply, and 15h (add) is consistently scoring moderate or major beneficial given that this programme substitutes for missing public transport.

In EqIA terms, it is demonstrated that 16a (accessibility) and 16d (add) score moderate to major beneficial as this programme directly addresses the mobility barriers of disabled people, older residents, carers and low-income households; 16e (reduction in severance) scores are positive because isolation is materially reduced.

Rural Needs, uniquely, show high positives across all three sub-objectives: 17a (rural access) and 17b (rural vitality) score moderate to major beneficial, and 17c (connection

to nature) scores slight beneficial as this programme connects villages to countryside assets.

Environmental-exposure (15f/16f) are mostly neutral as benefits depend on vehicle choice and routing, however this doesn't detract from the programme's exceptionally strong distributional profile across health, equality and rural indicators.

Access & Integration of Sustainable Modes

This programme comprising interventions such as Darwen Station Access Improvements, Integrated Transport Hubs, Access-for-All Works and related interchange enhancements shows a consistently positive but proportionate pattern across the HIA, EqIA and Rural Needs sub-objectives.

These schemes are not designed to increase capacity or reshape strategic movement patterns, instead, they focus on improving the ease, safety and inclusivity of movement between modes. This targeted function is reflected in the scoring evidence, which highlights strong performance in sub-objectives associated with accessibility and connection, and neutral influence in areas that lie outside the programme's scope, such as affordability, public transport coverage, or exposure to environmental pollutants.

Across the HIA sub-objectives, the programme performs well on 15h (access to public transport) and 15e (community connections), where schemes typically score in the slight to moderate beneficial range.

These positive outcomes reflect improvements to station entrances, footway alignments and crossing points, which help people move more confidently and reliably between walking, wheeling, cycling, bus and rail.

There are also modest gains under 15c (safety) where access routes or interchange environments are redesigned to minimise conflict points or improve visibility. However, the programme shows predominantly neutral scores for 15a (access to services) and 15g (active travel), reflecting that access improvements do not materially increase the number of services people can reach nor fundamentally alter walking, wheeling and cycling provision unless delivered alongside separate active travel schemes.

15f (air/noise exposure) remains neutral, because the scheme type does not involve capacity changes or significant construction any environmental exposure effects are limited and context-specific.

Equality patterns reflect these results. The programme delivers consistently positive scoring under 16a (accessibility for protected groups), where improved step-free access, gradients, surfacing and tactile information support independent mobility for disabled people, older adults and parents with prams.

These schemes also perform well under 16e (reducing severance) where improved layout or enhanced crossing arrangements reduce the barrier effects of rail lines, highways or complex urban junctions.

In contrast, 16b (affordability) and 16d (public transport provision) remain neutral, as access schemes do not influence fares or determine service frequency. The programme also avoids negative impacts under 16f (environmental exposure), with scoring remaining neutral or uncertain depending on specific site works.

The Rural Needs scoring for this programme is modest but positive. Where station environments or interchange hubs serve rural catchments, scoring under 17a (rural access) shows small beneficial effects, reflecting improved ability for rural residents to interchange between local buses, rail services or active modes.

There are fewer direct impacts on 17b (rural economic vitality), and the majority of schemes record neutral outcomes where they serve towns or urban centres rather than rural settlements.

17c (connection to nature) remains neutral as the schemes are primarily 'access-to-infrastructure' schemes rather than schemes designed to enhance green-space access.

Overall, the scoring evidence shows that the programme demonstrates an important enabling role within the transport system. In ISA terms, the programme is therefore characterised by clear but proportionate positive outcomes on HIA and EqIA sub-objectives most closely linked to accessibility and confidence in movement, while maintaining a neutral profile across other determinants that lie outside its intended influence.

Public Realm

The programme, which includes town-centre enhancement schemes and corridor-based improvements such as Active Vibrant Town Centres and Safer, Greener, Healthier Streets, demonstrates a pattern of positive but proportionate impacts across the HIA and EqIA sub-objectives It has a largely neutral influence on rural needs. These interventions are fundamentally focused on improving the quality, safety and attractiveness of urban streets and centres, rather than altering the broader transport network or rural accessibility.

This focus is reflected clearly in the scoring: the strongest and most consistent positive outcomes occur in those HIA and EqIA sub-objectives that align with changes to street design, pedestrian comfort and perceived safety, while other determinants remain neutral.

Across the HIA sub-objectives, the programme delivers reliable improvements to 15g (active travel), 15c (safety) and 15e (community connections). These sub-objectives score slight to moderate beneficial reflecting that improvements to pavements, lighting, pedestrian crossings, landscaping and the removal of vehicle dominance significantly enhance the walking environment.

Public realm schemes clearly strengthen the local conditions that support everyday mobility and social interaction, and this is visible in the consistently positive scores for

active travel and community cohesion. The scoring also reflects that these projects make streets feel safer and more inclusive, particularly where design creates a calmer and more legible pedestrian environment.

In contrast, several other HIA sub-objectives remain predominantly neutral. 15a (access to services), 15h (public transport access) and 15b (affordability) do not change substantially in most schemes because public realm interventions do not fundamentally change transport availability, travel costs or the ability to reach destinations.

Similarly, 15f (air/noise exposure) shows a mixed profile, presenting a combination of neutral and uncertain scores. This relates largely to construction-phase disturbance or to the fact that while the public realm can enhance environmental quality through reduced traffic speeds or increased vegetation, these changes may be modest or secondary relative to the scale of the intervention.

EqIA scoring shows a parallel pattern of proportionate benefits. Sub-objectives 16a (accessibility to services) and 16c (safety) most often record positive scores, reflecting that enhanced footway widths, improved surfacing, step-free layouts, better lighting and clearer crossings reduce barriers for disabled people, older adults, women and parents with prams.

The schemes also support improved outcomes under 16e (reduce severance) where they reduce the psychological or physical barriers that make some streets feel unsafe or inaccessible.

Other EqIA sub-objectives, including 16b (affordability) and 16d (public transport provision), remain largely neutral, as these outcomes are shaped by wider transport system factors rather than by streetscape investment alone. As with HIA, 16f (environmental exposure) tends to produce neutral or uncertain scores, reflecting that there may be some uncertain impacts depending on the construction methods.

Rural Needs scoring is predominantly neutral, which is expected as these schemes are almost entirely urban in scope. Most public realm interventions do not meaningfully influence 17a (rural access) or 17b (rural economic vitality) beyond indirect benefits when improved town-centre public spaces support local commerce or make interchanges more attractive for inbound rural travellers.

17c (connection to nature) remains neutral for this programme, consistent with the fact that these schemes focus on built environments rather than green-space access.

Overall, the Public Realm programme demonstrates clear and consistent benefits in the domains directly linked to street quality, walkability and safety, with positive effects in 15c, 15e, 15g, 16a, 16c and 16e.

Severance Reduction / Access to Education, Employment & Health

Within this programme, the scoring demonstrates that it achieves more consistently positive results across the HIA and EqIA sub-objectives than schemes focused on vehicle capacity or junction performance.

Across the schemes, reductions in severance are reflected clearly in the scoring, 15d (severance) trends positive where new or upgraded pedestrian crossings, simplified junction arrangements, or pedestrian-priority measures have been integrated.

These benefits also include 15a (access to services) and 15e (community connections), with many of these schemes attaining slight to moderate outcomes in these sub-objectives, reflecting that improved crossing conditions materially shorten travel distances and reconnect residential areas with schools, health centres and employment hubs.

EqIA scoring follows this pattern closely. 16e (reducing severance) and 16a (access to services) score beneficially where dropped kerbs, tactile paving, reduced crossing distances and more predictable signal timings are introduced. The schemes show positive results for disabled residents, older adults and children, all of whom are disproportionately affected by existing severance and benefit most when crossing infrastructure is improved. This is especially notable in locations near schools or key community destinations, where the severance barrier is most acute.

By contrast, schemes within this programme that retain a 'vehicle-centric' emphasis for example, junction upgrades that primarily enhance vehicular flow, typically fall back into neutral or uncertain scoring for 15d and 16e, indicating potential for sustained or increased barrier effects when pedestrian provision is not explicitly strengthened.

Rural Needs related scoring is more mixed, reflecting the largely urban nature of these schemes. Schemes that link town-centre facilities to adjacent rural catchments record slight benefits for 17a (rural access), where more direct walking routes into key service areas are created, but many schemes in this programme record neutral scores in rural sub-objectives simply because their sphere of influence is localised. 17c (connection to nature) remains neutral.

Overall, the evidence shows that this investment programme performs strongly where schemes are severance-led, with scoring patterns across 15d, 16a and 16e confirming that the severance-reduction mechanism directly improves health and equality outcomes. the programme loses impact in schemes whose designs retain vehicle priority or expand junction footprints without proportionate pedestrian-centric enhancements.

Network Management, Maintenance & Incident Response

This programme (including signal optimisation, UTMC upgrades, the halogen lighting replacement programme and highway/asset renewals) exhibits a broadly neutral but slight positive profile across the HIA and EqIA matrices.

These schemes do not typically reshape spatial movement patterns or modal priorities but instead improve the predictability, safety and resilience of the existing transport network. As such, the scoring in 15c (safety) is most commonlythe clearest beneficiary, where smoother traffic flow and improved night-time lighting translate into neutral occasional slight beneficial outcomes.

These benefits are supported by corresponding EqIA improvements in 16c (safety for protected groups). For older adults, disabled people and those with visual impairments, enhancements such as improved lighting and consistent signal timings are typically linked to safer conditions.

However, for sub-objectives where benefits depend on changes to active travel provision, the scoring remains largely neutral. This is reflected in 15g (active travel) and 15d (severance), where most schemes score neutral, as the operational or maintenance-only interventions rarely shift conditions for walking or wheeling, cycling or cross-route connectivity unless explicitly designed to do so. Public transport-related sub-objectives (15h, 16d) also remain neutral where interventions do not directly influence service levels or interchange quality.

Rural Needs considerations show similarly limited impacts. The 17a and 17b scoring for this programme is predominantly 0, reflecting that while enhanced reliability or lighting can indirectly support rural mobility (for example, safer conditions at peri-urban junctions or more predictable bus operation), the programme does not materially alter rural access to services or local economic vitality.

Environmental exposure scores (15f, 16f) are mostly neutral or slight positive where traffic flow improvements reduce idling or where upgraded lighting reduces energy use, however, these benefits are generally classified as slight.

Electric Vehicle Charging Infrastructure

This programme operates effectively as a single investment across the county rather than a suite of site-specific schemes, and shows a largely neutral to mildly positive profile across the HIA, EqIA and Rural Needs sub-objectives.

This outcome is consistent with the nature of the intervention, Electric Vehicle (EV) charging infrastructure does not significantly alter transport behaviours, movement patterns or community connectivity in the short term, and therefore the scheme's scoring reflects a measured and proportionate effect on health, equality and rural accessibility.

Across the HIA sub-objectives (15a–15h), most scores fall within the neutral or slight positive range. For example, 15a (access to services) and 15e (community connections) are scored as neutral because installing charging infrastructure does not substantively change whether people can reach key services, it instead supports future shifts in vehicle technology rather than altering trip opportunities. Likewise, 15c (safety) and 15g (active travel) remain largely unchanged, reflecting that EV charging facilities do not directly affect walking and cycling conditions nor introduce new safety risks if placed sensitively.

The sub-objective most likely to show the greatest benefit,15f (air/noise/odour exposure), still trends mostly towards 0 or only slight improvement, consistent with the scoring across the programme where EV charging is present in concept rather than full operational maturity.

Equality impacts follow a similar trend. The EqIA sub-objectives for this programme sit predominantly within the neutral band, especially 16a (accessibility for protected groups), 16b (affordability) and 16d (public transport provision).

EV charging does not meaningfully expand inclusive mobility options, nor does it shift the distribution of public transport access or reduce mobility barriers for people who do not drive. Where the scoring reflects a slight positive movement, it is typically linked to 16c (safety) when charging infrastructure is located within well-designed, well-lit public spaces. However, these are marginal gains rather than transformational changes and the scoring reflects this through consistent neutral outcomes.

As with HIA, 16f (distribution of air/noise exposure) is neither strongly positive nor negative because changes in exposure depend on long-term EV uptake rather than the infrastructure itself.

Rural needs scoring is similarly moderate and proportionate. For 17a (rural access) and 17b (rural economic vitality). The EV charging programme tends to score slight positive (+) or neutral outcomes, depending on whether the infrastructure is intended to be dispersed across towns and villages or concentrated at strategic hubs.

Collectively, the programmes scores indicate that EV infrastructure functions primarily as an enabling measure as it does not directly influence behaviour, connectivity or public space design in the same way that mass transit, active travel or severance-reduction schemes might.

These programmes provide long-term potential benefits that currently fall beyond the immediate scope of the HIA, EqIA and Rural Needs scoring framework. As a result, the scoring is appropriately cautious, characterised by a predominance of neutral assessments alongside limited minor positive effects, indicating that the infrastructure is broadly benign and supportive but not transformative within the context of the ISA.

Cumulative Impacts of the Programmes

The following section provides an overarching summary of how the IP performs across the HIA, EqIA and RNA sub-objectives.

These cumulative patterns form the evidence base for the mitigation and enhancement measures presented in the appendix and demonstrate at a strategic level, how the programme influences the wider determinants of health, equality and rural wellbeing.

Health Impact Sub-Objectives

Su-objective	Score
15a: Access to services	**++**
This indicates that most schemes meaningfully improve people's ability to reach key services, particularly where public transport, active travel or community transport enhancements are present,	

Su-objective	Score
15b: Affordability of public transport	**0**
Most schemes do not affect fare levels or travel costs, resulting in predominantly neutral impacts on affordability.	

Su-objective	Score
15c: Safety	**++**
Safety consistently improves across many schemes, especially in road safety, active travel and mass transit programmes.	

Su-objective	Score
15d: Severance	**++**
Many schemes help reduce physical and psychological barriers to movement, though highways and freight reduce the overall consistency of this benefit.	

Su-objective	Score
15e: Community Connections	**++**
Transport improvements typically strengthen local connectivity by making it easier for communities to move between places.	

Su-objective	Score
15f: Air/noise/odour/light	**Mixed**
Environmental exposure impacts are highly variable, with many schemes showing neutral or uncertain effects and only a minority delivering clear improvements	

Su-objective	Score
15g: Active Travel	**+**
Active travel conditions generally improve, especially under walking, cycling and public realm schemes, though not uniformly across all programmes.	

Su-objective	Score
15h: Public Transport access	**++**
Most schemes strengthen access to buses, rail or mass transit, making public transport easier to reach and use.	

Equality Impact Sub-Objectives

Su-objective	Score
16a: Accessibility for protected groups	**++**
Most schemes improve accessibility for disabled people, older residents and other protected groups through better infrastructure and inclusive design.	

Su-objective	Score
16b: Affordability for protected groups	**0**
Affordability impacts remain neutral because most schemes do not directly influence fare or travel cost structures.	

Su-objective	Score
16c: Safety for protected groups	**++**
Safety improves for groups most vulnerable to traffic risk due to better crossings, calmer streets and safer walking and wheeling environments.	

Su-objective	Score
16d: Public transport provision in underserved areas	**++**
Enhancements to bus and rail services provide clear benefits for protected groups who depend on public transport.	

Su-objective	Score
16e: Severance	**++**
Many schemes reduce barriers for people who walk, wheel or rely on public transport, though highway-based schemes weaken this consistency.	

Su-objective	Score
16f: Air/Noise exposure	**Mixed**
Environmental exposure impacts for protected groups are the most uncertain, with many schemes showing neutral or unclear effects.	

Rural Needs Sub-Objectives

Su-objective	Score
17a: Rural access	**+**
Many schemes modestly improve rural access to services or mobility, particularly through rail, bus and community transport.	

Su-objective	Score
17b: Rural economic viability	**+**
Schemes generally support rural economies in small but positive ways by improving access to jobs and services.	

Su-objective	Score
17c: Connecting people with nature	**0**
Most schemes have no meaningful effect on access to nature or greenspace, except for targeted active-travel and PROW improvements.	

Across all programmes, the scoring shows a clear pattern: some sub-objectives deliver consistently strong impacts, others are largely neutral, and a small number remain uncertain or depend heavily on specific design choices.

As each sub-objective is scored many times across multiple schemes, the 'most common' score provides a reliable indication of where the programme performs well and where it is neutral or uncertain.

Within the HIA sub-objectives, 15a (access to services) shows predominantly moderate beneficial scores, indicating that across the network the proposed investments are strongly improving access to health, leisure, education and other essential destinations.

Likewise, 15c (safety) and 15e (community connections) register consistently high frequencies of moderate beneficial scores, demonstrating robust programme-wide contributions to accident reduction, safer travel environments and strengthened connections between and within communities. These sub-objectives emerge as core strengths, with many schemes delivering meaningful positive health outcomes.

Other health sub-objectives show more nuanced profiles.

15d (severance) is split between slight beneficial and moderate beneficial scores, indicating that many schemes help to reconnect places, though performance varies by intervention type. Active travel, rail and public realm schemes consistently score well, while highway capacity improvements or freight schemes often score more neutral.

15g (active travel) also score positive, most commonly scoring slight beneficial, with a substantial number of moderate beneficial scores in active travel and station-access projects. This shows a general uplift, but with considerable variation linked to whether active travel is a core part of scheme design.

Two health-related sub-objectives stand out for being far more mixed includes 15f (air, noise and other emissions) and, to a lesser extent, 15h (public transport access). Although 15h still most commonly scores moderate beneficial, there is a significant number of neutral scores where schemes do not meaningfully shift public transport availability or quality.

Meanwhile 15f is notably inconsistent, as its most common score is slight beneficial, but it also has high counts of uncertainty and neutral scores, reflecting substantial uncertainty on air and noise exposure. This pattern suggests that environmental exposure benefits are highly dependent on scheme type and local context.

Across the EqIA sub-objectives, a broadly comparable pattern is observed. The IP performs well on 16c (safety for protected groups) and 16d (public transport provision for

those with constrained mobility), both of which most commonly score moderate beneficial. The consistently positive distributional performance here indicates that the programme offers real improvements to protected groups' journey safety and the availability of viable travel choices. 16a (accessibility) also trends strongly positive, with moderate beneficial as the most frequent score, showing widespread improvements in access for disabled people, older adults and other protected groups.

However, like its HIA equivalent, 16b (affordability) is overwhelmingly neutral. This reflects the fact that infrastructure alone rarely changes fare levels or cost structures.

16e (severance affecting protected groups) trends moderately beneficial, although the presence of neutral scores indicates that severance impacts are unevenly addressed across schemes.

16f (air/noise distribution) exhibits the highest levels of uncertainty, although slight beneficial is the most common score, the high number of uncertainty and neutral ratings indicates difficulty attributing distributional environmental impacts without more detailed design or place-specific information.

Finally, the Rural Needs sub-objectives present a distinct pattern. 17a (rural access) and 17b (rural economic vitality) both show predominantly slight beneficial outcomes, demonstrating modest but widespread positive effects across rural communities.

These represent broad improvements, though not typically as strong as those seen in public transport access or safety.

The clearest pattern appears in 17c (connecting people with nature), where the most common score is neutral. Across the programmes, most schemes do not significantly affect rural residents' access to green and natural environments, except in specific active travel and PROW projects where higher scores appear. As 17c is overwhelmingly neutral is a prominent finding, signalling a consistent gap across the IP.

The IP strongly advances safety, connectivity, public transport access and inclusive mobility, with particularly robust positive scores for both HIA and EqIA safety objectives (15c and 16c) and for public transport access (15h and 16d). Severance (15d/16e) and active travel (15g/16a) also perform well.

However, many schemes are neutral on affordability (15b/16b) and moderately positive on rural access (17a/17b). The most persistent neutral or uncertain lie in air/noise exposure impacts (15f/16f) and, in Rural Needs terms, 17c, which is consistently neutral across the dataset, indicating a 'gap' in the programme's ability to connect rural communities with nature.

Mitigation and Enhancement

Although many programmes show consistently beneficial outcomes, several sub-objectives appear repeatedly as neutral or uncertain, signalling where targeted

mitigation and enhancement would most effectively strengthen the overall performance of the programme.

Although the scoring shows that affordability (15b and 16b) is one of the most consistently neutral sub-objectives across the whole programmes, this reflects the fact that most infrastructure interventions cannot, by themselves, influence fare levels or the overall cost of travel.

Affordability is structurally determined by operational, commercial and policy decisions rather than by design or construction. This means that, without complementary measures, there is limited scope for affordability benefits to materialise for low-income households, younger people or rural residents purely through the infrastructure programme.

However, the IP proposes to standardise bus fares for children and young people which represents an important and proactive step in addressing this gap. By reducing and simplifying fares for groups who are particularly sensitive to cost, and who rely more heavily on bus travel, this initiative begins to counterbalance the widespread neutrality observed in the infrastructure scoring and demonstrates a commitment to tackling financial barriers alongside physical accessibility improvements.

Nevertheless, enhancements would still need to focus on complementary policy, integration of ticketing offers, or targeted schemes to support lower-cost access to the transport system, rather than physical design changes.

A second area of consistent uncertainty relates to air, noise, odour and light pollution impacts, captured in sub-objectives 15f and 16f. These indicators display some of the highest frequencies of neutral and uncertain scores, demonstrating that for many schemes the air and noise outcomes are either unclear or do not shift substantially in either direction.

The variability is partly due to localised traffic conditions, construction impacts and uncertainty about future vehicle fleets. Schemes involving highways, freight, and certain town-centre public realm improvements show the greatest concentration of uncertain or mixed scoring.

Therefore, targeted mitigation around construction management, traffic routing, emissions management and noise minimisation would be essential to reduce potential adverse effects and to provide clearer, more predictable outcomes.

The assessment also highlights severance-related concerns. While the most common scores for 15d and 16e are positive, there is substantial variation, and several schemes, particularly highway and freight-orientated interventions, often record neutral or negative outcomes.

This indicates that despite notable programme strengths in reconnecting places, severance remains a risk in corridors experiencing increases in traffic dominance or where pedestrian facilities are not explicitly integrated into scheme design.

Enhancements should therefore focus on guaranteeing safe and convenient walking and wheeling routes through all junction and corridor schemes, ensuring that transport infrastructure does not create or extend barriers for communities or protected groups.

A particularly consistent area of neutrality appears under Rural Needs sub-objective 17c, where the scoring is overwhelmingly 0 across the programme.

This reflects the fact that most transport schemes do not actively influence rural residents' ability to access nature, greenspace or recreational landscapes. Only PRoW improvements and certain active travel schemes record clear positive scoring, demonstrating that direct interventions in the green access network are limited within the current programme.

The prevalence of neutral scoring in 17c therefore highlights a strategic opportunity for the IP to better support rural health, wellbeing and environmental connection. In response, the IP proposes to develop a Resilience Plan, within which improving access to nature, and green and blue infrastructure will form a key element. This represents an important future step towards addressing the consistently neutral performance in 17c and ensuring that rural communities benefit more fully from opportunities to access natural spaces.

Overall, the scores suggests that enhancements should be prioritised where the 'baseline' effect of an intervention is mostly neutral. These include situations where schemes do not explicitly provide for active travel (reducing opportunities for positive scoring under 15g and 16a), where they do not meaningfully change the public transport offer (leading to neutral values for 15h and 16d), or where rural communities do not experience direct connectivity gains (resulting in neutral 17a and 17b scores for primarily urban interventions).

Enhancing these dimensions would involve embedding multimodal design into all schemes, ensuring inclusive access is standard across all modes, and extending the reach of transport benefits into rural areas wherever network geography makes this feasible.

Finally, the high frequency of uncertainty scores across pollution, severance and certain access indicators shows that uncertainty itself is a recurring issue. Much of this arises from early-stage or conceptual schemes where final alignments, junction treatments, traffic changes or public transport arrangements are not yet defined.

In these cases, proactive design decisions, such as committing to continuous active travel links, guaranteeing step-free access, safeguarding air quality, and ensuring that rural catchments are included in operational planning, can convert many uncertain outcomes into positive and predictable ones.

Overall, the mitigation and enhancement needs identified here are not isolated to individual schemes but are programme wide. They emerge from consistent patterns in the scoring and therefore offer a strong evidence base for strengthening the overall health, equality and rural performance of the IP.

Conclusions

Overall, the assessment demonstrates that the IP delivers a broadly positive set of outcomes across the Health Impact, Equality Impact and Rural Needs sub-objectives.

The strongest and most consistent benefits arise in areas related to safety, public transport access, community connectivity, and improved accessibility for protected groups, reflecting the clear strengths of rail, mass transit, bus, active travel, public realm and community transport programmes.

These schemes work collectively to enhance everyday mobility, support inclusive access to key services, and reduce longstanding physical and social barriers within many communities.

At the same time, the scoring also highlights several areas where impacts are more limited, remain neutral, or are characterised by uncertainty. Affordability (15b/16b), environmental exposure (15f/16f), and rural connection to nature (17c) emerge as the most consistently under-served determinants, with neutral or uncertain scores dominating across a wide range of schemes. In these areas, impacts depend heavily on complementary policy decisions, scheme design refinement, and integration with wider strategies such as bus fare reforms and the proposed Resilience Plan.

The results show that while the IP performs strongly in improving equitable access, safety and connectivity, there remains scope to strengthen outcomes in areas less directly influenced by infrastructure alone. Addressing these gaps through targeted mitigation, policy alignment and future scheme development will ensure that the IP continues to deliver inclusive, healthy and sustainable benefits for communities across Lancashire.

LANCASHIRE

COMBINED COUNTY AUTHORITY

Lancashire Transport Plan: Implementation Plan

Carbon and Climate Change Assessment

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Contents

1. Introduction

1.1. Overview

This appendix is part of the Implementation Plan (IP) Integrated Sustainability Appraisal (ISA) and provides a strategic carbon and climate change assessment required to support the Lancashire Local Transport IP.

The IP must align with net zero trajectories, national expectations for local transport authorities, the ISA Framework and additional carbon reduction commitments set by national and local policies.

This appendix is built directly on the evidence base established in the LTP Core Strategy and Carbon Assessment, and aligns with the methodology set out in the ISA.

Transport is the largest emitting sector within the Lancashire County Combined Authority (LCCA) area, the transport sector contributes around 29% of Lancashire's total greenhouse gas (GHG) emissions, producing almost 3.0 million tonnes of CO_2e in 2018, with road transport accounting for over 99% of this total (Lancashire Core Strategy 2025).

This appendix does not attempt a full lifecycle carbon modelling qualification for each scheme as a number of IP projects are at early concept stage.

1.2. Climate Objectives

Climate change represents both the greatest long-term environmental challenge and one of the most immediate operational risks facing Lancashire's transport network. Rising temperatures, increased flooding, and more extreme weather events are already affecting infrastructure performance and service reliability.

The IP must therefore deliver actions that both reduce GHG emissions (mitigation) and increase resilience to climate impacts (adaptation), providing an infrastructure network that is resilient to today's natural hazards and is prepared for the future changing climate. These dual objectives are embedded in the ISA framework for the IP, consistent with Objectives 5 and 6 of the Core Strategy (2025):

Mitigation Objective: Reducing Greenhouse Gas Emissions

ISA Objective 5:

"Reduce carbon emissions from transport and contribute to meeting the UK's Net Zero carbon target."

Purpose of this objective:

To ensure that the IP contributes to the decarbonisation of Lancashire's transport system, supporting the UK's legal target of net zeronet zero by 2050.

Adaptation Objective: Increasing Climate Resilience

ISA Objective 6:

"Maximise adaptation and resilience of the transport network to the effects of a changing climate, including through reducing the risk of flooding."

Purpose of this objective:

To ensure that Lancashire's transport infrastructure and services are resilient to current and projected climate impacts, safeguarding connectivity, safety, and long-term asset value.

By 2050, average annual temperatures across the Northwest are expected to rise by 1.5–2.0°C, while winter rainfall could increase by up to 20%, heightening flood and landslip risks (Met Office UKCP18).

Lancashire's combination of coastal lowlands, flood-prone valleys, and upland catchments makes resilience a key delivery priority.

2 Policy Context

A Carbon and Climate Change Assessment should be aligned with national, regional and local policy framework.

2.1 National Policy

In June 2019, the UK Government made a legal commitment to achieve net zero GHG emissions nationally by 2050 through an amendment to the Climate Change Act 2008. Key related national policies and guidance underpinning this assessment include:

- Transport Decarbonisation Plan (DfT, 2021) – sets out the vision for a net-zero transport system, outlining interventions across all modes under the themes Avoid, Shift, Improve.
- Net Zero Strategy (BEIS, 2021) – sets out clear policies and proposals for keeping on track for coming carbon budgets, ambitious Nationally Determined Contribution (NDC), and then sets out the vision for a decarbonised economy in 2050.
- The Sixth and Seventh Carbon Budgets Reports (CCC, 2020; 2025) – define emissions pathways to net zeronet zero, requiring a 70% cut in surface transport emissions by 2035 relative to 2020.
- DfT Quantified Carbon Guidance (QCG, 2025) – requires authorities to integrate quantifiable carbon assessment into transport planning, including user carbon, construction-related (infrastructure) carbon, and operational CO_2e emissions where relevant.

- National Planning Policy Framework (NPPF, 2026) – embeds climate change as a strategic objective in local transport and land-use planning.

2.2 Regional and Local Policy

The following districts have declared a climate emergency:

- Blackpool Council declared a climate emergency in 2019
- Blackburn with Darwen declared a climate emergency in 2019.
- Burnley Borough Council in July 2019.
- Chorley Borough Council supported and passed a motion declaring a climate emergency February 2020.
- Hyndburn Borough Council in September 2019.
- Lancaster City Council declared a climate emergency in 2019.
- Pendle Borough Council declared a climate emergency in 2019.
- Preston City Council declared a climate emergency in April 2019.
- Ribble Valley Borough Council declared a climate emergency in 2025.
- Rossendale Borough Council declared a climate emergency in 2019.
- South Ribble Borough Council declared a climate emergency in 2019.
- West Lancashire Borough Council declared a climate emergency in July 2019.
- Wyre Council declared a climate emergency in 2019.

2.3 LTP Core Strategy Policy Framework

The Core Strategy establishes a long-term policy foundation for sustainable and low-carbon transport across Lancashire. The IP translates these policies into deliverable schemes over approximately four years (2026-2030), which collectively aim to shift Lancashire towards a more sustainable transport system.

2.3.1. Connecting Lancashire

This workstream focuses on long-distance connectivity, strategic rail enhancements, major road network interventions, and improved links to ports, airports, and key development sites. Investment in rail electrification, mass transit feasibility, and freight efficiency offers opportunities to decarbonise longer trips and reduce dependence on carbon-intensive road travel. However, it is recognised that improvements to the strategic road network may increase traffic levels in some locations, which could result in higher vehicle kilometres and associated CO_2e emissions. This reflects the need for the IP to balance carbon reduction objective with wider priorities, including economic growth, connectivity and accessibility.

2.3.2. Transforming Travel Choices

This is the main workstream enabling modal shift. It includes the development of comprehensive active travel networks, bus priority and integration, simplified and multi-modal ticketing, behaviour change programmes, and demand-responsive travel. These

interventions provide the primary mechanism for reducing private car use, lowering vehicle-km, and achieving significant carbon reduction across short and medium-distance trips.

2.3.3. Safe and Vibrant Communities

This workstream improves local accessibility and public realm quality through road safety investment, inclusive design, reduction of traffic severance, and enhancements to streets and neighbourhood centres. These measures make active modes more attractive, particularly for shorter trips, and support reduced car dependency in urban and rural settings.

2.3.4. Future-Ready Networks

This workstream supports innovation, resilience and technological change through investment in electrical vehicle infrastructure, digital network management, intelligent transport systems, freight consolidation, and adaptation measures that address flood risk, heat stress, and infrastructure vulnerability. This workstream provides essential enablers for zero-emission travel and strengthens the network's ability to withstand the impacts of carbon.

3 Methodology

This assessment provides a high-level, proportionate appraisal of the likely carbon and climate change implications of the schemes in the IP. The methodology aligns with the ISA Framework and specifically considers effects against ISA Objective 5 (emissions reduction) and ISA Objective 6 (climate adaptation and resilience).

Given that many schemes within the IP are at early concept or feasibility stage, the assessment draws on a qualitative approach, using reasonable assumptions informed by available evidence, scheme descriptions, the LTP Core Strategy, and the ISA methodology.

No project-level lifecycle carbon modelling or quantified emissions assessment has been undertaken, reflecting the absence of detailed design, material specifications or construction requirements at this stage. Instead, the assessment identifies likely directional effects based on the nature, scale and intent of each scheme, and the types of carbon or climate risks typically associated with similar interventions.

To ensure consistency with the strategic framework of the LTP, schemes have been categorised according to the four workstreams set out in the Core Strategy: Connecting Lancashire, Transforming Travel Choices, Safe and Vibrant Communities, and Future-Ready Networks. This categorisation reflects the different functional roles each workstream plays in influencing greenhouse gas emissions, supporting modal shift, or improving network resilience to climate impacts.

The ISA's qualitative scoring system is then applied to determine the relative magnitude of effects for the IP. Scores range from major beneficial (+++) to major adverse (---), with intermediate categories identifying moderate or slight effects, neutral effects, or uncertainty where insufficient evidence exists.

As per ISA guidance, slight beneficial (+) and uncertain (?) outcomes are classed as not significant, highlighting where further design development, additional evidence, or targeted mitigation will be required to secure measurable improvements in carbon reduction and climate resilience.

This approach ensures that the assessment remains proportionate to the evidence available at this stage of the IP, while identifying clear opportunities for mitigation and enhancement as schemes progress through design, appraisal and delivery.

3.2 Assessment Approach

The overall 'whole plan effect' of the IP has been scored against the relevant climate change objectives set out in the ISA framework:

ISA Objective 5 – Reduce emissions from transport

ISA objective 6 – Maximise adaptation and resilience of the transport network

A qualitative scoring system is used to identify the likely direction and relative magnitude of effects. The assessment scale is set out in Table 1.

Table 1 Qualitative Assessment Scale

Assessment scale	Assessment category	Significant of effects
+++	Major beneficial	Significant
++	Moderate beneficial	
+	Slight beneficial	Not significant
0	Neutral or no obvious effect	
?	General uncertainty where there is a lack of current evidence or uncertainty surrounding the degree of impact assessed.	
-	Slight adverse	
--	Moderate adverse	Significant
---	Major adverse	

3.4 Limitations

It's recognised that transport schemes have carbon impacts across their whole lifecycle, including construction, operation, maintenance and end-of-life stages. However, given the limited information available at this stage i.e. detailed design, scale and material requirements has not been defined. No lifecycle carbon modelling has been carried out,

which means the full environmental impact of a project from construction through operation and eventual decommissioning is not being assessed.

Additionally, some behavioural outcomes, such as how much people would shift to more sustainable modes of transport or how much extra traffic might be introduced by new infrastructure, remain uncertain and difficult to predict accurately because of the limited information available on these measures.

Land-use patterns, rail electrification, and changes in freight systems tend to evolve over much longer timescales, so their interactions with current schemes are complex and not immediately clear.

Some schemes are at an early stage of development, and details may change as design progress or funding become available.

4 Assessment of the IP

Within the ISA, each objective has been scored as part of a 'whole plan effect', combining the most common scores which highlights where the IP is likely to deliver benefits, where risks or adverse impacts may arise and where further analysis or mitigation is required.

The overall score for Objectives 5 and 6 is presented in Tables 2 and 3.

Table 2: Objective 5

ISA Objective	Overall Score
5: Reduce carbon emissions from transport and contribute to meeting the UKs net zero carbon target	+ Slightly Beneficial
This objective is dominated by moderate and slight beneficial scores, alongside some uncertainty. Overall, the programme shows a clear tendency to support carbon reduction, although the strength of benefit varies across proposals. Effects are largely beneficial, with some potential for significant positive effects where strong emission reductions are anticipated.	

Table 3: Objective 6

ISA Objective	Overall Score
6: Maximise adaptation and resilience of the transport network to the effects of a changing climate, including through reducing the risk of flooding	Uncertain

This objective highlight mostly slight beneficial or uncertain. Many proposals show potential to improve resilience or reduce flood risk, but the extent of benefit depends on design detail and implementation. Overall, the effects are positive but remain largely not significant at this stage

The IP demonstrates a clear tendency to support both emissions reduction and improved climate resilience, though the degree of benefit varies significantly by intervention type.

Objective 5 Outcomes

The most positive performance against Objective 5 (Reducing carbon emissions) primarily comes from the rail and sustainable transport schemes and programmes, which consistently show the highest likelihood of enabling modal shift away from private car travel.

Rail schemes such as the East–West Rail improvements, Restoring Your Railways (RYR) proposals, and the Colne–Skipton line reinstatement are expected to deliver substantial reductions in transport emissions over time, particularly through electrification, improved service reliability and the reactivation of corridors that currently force long, car-dependent journeys.

These proposals perform well as they create long-term alternatives to car travel and therefore should directly contribute to regional decarbonisation objectives.

Similarly, the IP's suite of sustainable transport packages, including the Eden Project Transport Package, Southeast Blackburn Active Travel Network, Blackburn Cyber Campus access improvements, and the wider LCWIP and PRoW programmes offer further cumulative benefits for carbon reduction.

These schemes collectively broaden travel choice, improve bus journey times, strengthen cycling and walking links, and reduce reliance on high-carbon modes for short and medium trips. The LCWIP and PRoW programmes have the potential to generate significant carbon savings in the long term by embedding active travel infrastructure across both urban and rural areas.

However, these positive outcomes are moderated by a different category of schemes, primarily those focused on highway capacity, junction upgrades or access to new development sites which tend to perform neutrally or negatively against Objective 5.

Interventions such as the A570 corridor improvements, the A588/A683/A6 corridor schemes, and access roads linked to major housing development (for example North Blackburn Strategic Housing Site transport package phase 1 and Huncoat Garden Village access) are likely to enable or intensify car travel and therefore risk increasing carbon emissions. In these cases, the carbon effects are either slight adverse or uncertain, particularly where design and mitigation measures have not yet been fully defined. Although some may deliver operational efficiency or safety benefits, these do not

outweigh the potential increase in road capacity or the associated long-term emissions trajectory.

The overall balance of evidence suggests that the IP does achieve Objective 5, as the modal shift potential of the rail, bus and active travel interventions is collectively more positive than the carbon disbenefits associated with the more limited number of highway schemes.

The positive elements of the programme, notably rail electrification, increased service provision, and wide-ranging active travel investment represent emission reduction opportunities, whereas the highway schemes tend to be more localised and often still incorporate some sustainable mode components.

Thus, the Programme's overall score of 'Slight Beneficial' for carbon is well supported by the pattern of assessment across the individual schemes.

Objective 6 Outcomes

In terms of Objective 6 (maximising adaptation and resilience), the IP also shows several areas of strong performance, though the overall score remains uncertain due to the early stage of many proposals. The clearest climate resilience benefits arise from the rail improvements, where enhanced capacity, electrification and corridor strengthening improves the reliability of the network under future climate conditions.

Schemes such as the East–West Rail improvements, Restoring Your Railway programme, and the Colne–Skipton Line Reinstatement strengthen network redundancy and reduce the vulnerability of transport links to flooding, extreme weather and diesel-based operational disruptions.

The sustainable transport packages again perform positively for adaptation. The Eden Project Transport Package, A666 corridor improvements, south east Blackburn strategic employment site sustainable transport network, and the LCWIP and PRoW programmes have moderate beneficial to slight beneficial effects on resilience as they reduce road pressures, are likely to improve drainage and surface conditions, and increase the permeability of the network. They also support climate-positive behaviour shifts, such as shorter active travel trips, which reduce total exposure to at-risk road corridors during extreme weather. Where these schemes incorporate improvements to footways, crossings and public realm, they also support safer access during heatwaves or heavy rainfall, contributing to community-level resilience.

In contrast, several highway and development-enabling schemes raise adaptation concerns, particularly in areas where works are proposed near designated ecological sites, flood zones or sensitive landscapes.

Schemes such as the A570 corridor, the A588/A683/A6 corridors, and growth-related access schemes (e.g. Huncoat Garden Village access, and North Blackburn Strategic Housing Site transport package phase 1) may increase impermeable surfaces, disturb sensitive hydrology, or create additional exposure to climate-sensitive locations.

In many cases, these risks are not inherently unmanageable, but they remain uncertain until detailed design incorporates suitable drainage, flood mitigation, ecological buffers and resilience features.

Similarly, the potential development of a freight rail terminal or mass transit corridor shows mixed adaptation outcomes as they may ultimately support long-term resilience, but the scale of construction and environmental sensitivity of the corridors introduce uncertainty that prevents a fully positive assessment at this stage.

While some uncertainty and minor adverse effects remain where car-based growth or additional highway capacity is introduced, the balance of evidence indicates that the IP will contribute positively to reducing transport emissions at this stage of plan development.

Furthermore, while Objective 6 evidence is more mixed than Objective 5, the IP does contain several schemes that clearly achieve the aims of Objective 6, particularly those expanding low-carbon, weather-resilient rail and sustainable transport networks.

Summary

Overall, although the IP shows a clear directional benefit for both carbon reduction (Objective 5) and climate resilience (Objective 6), the overall scores of 'Slight Beneficial' and 'Uncertain' fall within the ‘not significant’ range within the ISA framework.

For Objective 5, this means that while the programme’s rail, active travel and wider sustainable transport schemes offer meaningful decarbonisation potential, these gains are currently modest and partially offset by the presence of highway and growth-enabling schemes that introduce mixed or adverse carbon outcomes.

Similarly, for Objective 6, the IP contains several schemes with the capacity to enhance long-term climate resilience, particularly rail improvements and sustainable access measures, however, many proposals remain at an early stage of development, with insufficient design detail to confirm whether potential adaptation benefits will be realised, and several highway schemes present uncertainty or risk where they interact with sensitive landscapes or flood-prone areas.

As a result, this indicates that neither objective is yet achieved to a significant level, and there is a clear need to strengthen the carbon and resilience performance of the programme. Therefore, further assessment is required as to how these objectives can be improved through targeted enhancements to scheme design and mitigation.

6 Mitigation and Recommendations

Table 4 demonstrates the score of each objective within the ISA and what the score would likely be post recommended mitigation.

Table 4: Mitigation

ISA Objective	Score before mitigation	Risk/Effect	Mitigation / Recommendations	Anticipated score after mitigation
5 Carbon	+ Slight beneficial	Embedded and induced carbon emissions (slight adverse)	Whole-life carbon assessment at options at design stages for schemes. Low carbon materials	+ Slight beneficial
6 Climate adaptation	Uncertain	Uncertain due to detail of materials used	SUDs treatments Permeable surfaces and heat resilient materials and shade in public realms	+ Slight beneficial

The mitigation measures identified for Objectives 5 and 6 indicate that, although the IP currently delivers only slight beneficial or uncertain effects, there is strong potential to strengthen outcomes through targeted design-stage interventions.

For Objective 5, the main residual risk relates to embedded and induced carbon associated with the delivery of new infrastructure. Requiring whole-life carbon assessment at options and design stages, alongside the specification of low-carbon and recycled materials, provides a clear mechanism to minimise these emissions and improve overall carbon performance. Following mitigation, the anticipated effect remains slightly beneficial, but with greater confidence that carbon intensity will be reduced through design choices.

For Objective 6, the uncertainty in scoring arises from the early stage of scheme's design, particularly the lack of detailed information on material specifications, drainage strategies, and the selection of surface treatments, all of which are critical for assessing long-term climate resilience.

By introducing Sustainable Drainage Systems (SuDS), permeable surfacing, and heat-resilient materials, as well as incorporating shade, greenery and climate-adaptive public realm features, can substantially reduce flood risk, surface water runoff and heat exposure. With these measures in place, the overall effect is expected to improve to slightly beneficial, reflecting stronger alignment with climate resilience objectives.

Proposed wider strategic mitigation measures

The proposed 'Resilience Strategy' within the IP provides a programme-wide framework for delivering many of these requirements, helping to embed climate-responsive design, construction and operational practices across all scheme types. By establishing principles for flood risk management, heat resilience, material selection, nature-based solutions and adaptive asset management, the Resilience Strategy complements the ISA

recommendations and offers an important mechanism for ensuring consistent delivery of resilience benefits.

Further Recommendations

Drawing on the wider assessment of the IP, particularly the patterns identified across rail, sustainable transport, active travel and highway schemes, there are several additional measures that may help further improve both carbon and adaptation scores:

Objective 5:

Apply carbon hierarchy principles at scheme level

Using a structured approach, *avoid, reduce, replace, offset*, may ensure that every project considers low-carbon construction, minimising new materials, and prioritising refurbishment or repurposing before new-build where feasible.

Integrate EV infrastructure across more schemes

Where schemes currently show neutral or adverse carbon impacts, enabling EV charging, electric bus infrastructure, or shared mobility hubs can help mitigate long-term emissions.

Embed carbon targets into procurement

Mandating low-carbon construction practices, verified Environmental Product Declarations (EPDs), and contractor-level carbon reduction commitments can materially reduce embedded carbon.

Objective 6:

Incorporate nature-based solutions across schemes

Tree planting, green corridors, bioswales and verge greening can address flood risk, heat stress and habitat fragmentation, which are particularly important in highway schemes where risks were most evident.

Require climate risk assessment for 'major' schemes and projects

A consistent, scheme-level climate risk and vulnerability assessment would help identify location-specific adaptation needs (flood storage, shading, culvert upgrades for example) early in design.

Enhance resilience of public transport corridors

To maximise resilience benefits from rail and bus schemes, include measures such as rain-resistant drainage systems, overheating mitigation, resilient rail station design, and route redundancy planning.

Strengthen adaptation governance

Embedding adaptation requirements into design standards, maintenance regimes, and long-term asset management plans ensures resilience improvements are not lost at later stages.

Overall, these mitigation measures provide a clear pathway to improving both the carbon and climate resilience outcomes of the IP. While the baseline scores for Objectives 5 and 6 remain not significant, the application of Whole-Life Carbon Assessment (WLCA), low-carbon materials, SuDS, permeable surfacing, heat-resilient design and nature-based measures creates a strong foundation for achieving significant beneficial effects as schemes move into later stages of development.

Proposed schemes for Whole-Life Carbon Assessment

Given the varied performance observed across the IP, and the presence of several schemes with clear embedded and induced carbon risks, a Whole-Life Carbon Assessment (WLCA) will be essential at design stage for those interventions involving substantial construction, new highway capacity, major structures or significant material use.

Applying WLCA to these schemes will enable early identification of carbon-intensive elements, support low-carbon material choices and design optimisation, and help ensure that the programme's overall carbon contribution is minimised as proposals move into delivery.

Highway Capacity, Junction and Corridor Schemes

These schemes have potential embedded carbon risks and potential to generate traffic.

- A570 Corridor Enhancements (M58 to A59)
- A588 / A683 / A6 Corridor Improvements (Ashton Road, Caton Road, Sylne Road)
- M6 Junction 34 Network Improvements
- M55 Junction 3 to Windy Harbour Development Works
- A56–M66 Junction and Capacity Improvements
- A6 Lancaster to Preston Safety & Connectivity Improvements
- A59 Safer Road Corridor (Fleetwood Road North)

These schemes present the largest embedded and operational carbon risks and must be prioritised for WLCA.

Growth-Enabling and Development Access Schemes

These schemes often involve major junction changes, new links, or land take.

- North Blackburn Strategic Housing Site Transport Package phase 1
- Huncoat Garden Village Access
- Botany Bay / Hartwood S278
- M65 Junction 13 Phase 2

These schemes risk embedding higher long-term emissions unless low-carbon design choices are integrated from the earliest stages of development.

Freight, Mass Transit and Rail Infrastructure Construction Schemes

These are large-scale projects with substantial embodied carbon in structures, rail systems and earthworks.

- East Lancashire Freight Rail Terminal
- Blackpool–Fleetwood Tramway Extension
- Colne–Skipton Line Reinstatement

These involve high-carbon materials (steel, aggregates, concrete) and large construction footprints.

Station Development and Access Schemes

These schemes involve new or upgraded station facilities, platforms and access infrastructure, all of which require significant construction activities and material use. As a result, they carry notable embodied carbon risks, particularly through structural works, foundations, surfacing and drainage improvements, and therefore warrant early whole-life carbon consideration.

- New Ewood / Lower Darwen Station
- Preston and Blackpool North Station Upgrades (future delivery) – early WLCA will influence material and retrofit decisions

7 Conclusion

The assessment of the IP against ISA Objectives 5 and 6 demonstrates that the programme offers clear potential to contribute to Lancashire's emissions reduction and climate resilience ambitions.

Rail enhancements, active travel schemes, public transport improvements and supporting behavioural measures collectively provide the strongest contribution to decarbonisation and network resilience, helping to shift travel away from private car use and embedding more sustainable transport behaviours.

However, the overall scores of 'Slightly Beneficial' for carbon reduction and 'Uncertain' for climate adaptation indicate that these benefits are not yet significant within the ISA framework. This reflects the early stage of scheme development, gaps in design detail, and the presence of several highway and growth-enabling schemes that introduce embedded carbon risks, potential induced traffic, or uncertainty relating to flood risk, drainage and impacts on sensitive landscapes.

The IP therefore represents a positive direction of travel, but one that requires further strengthening to ensure that it delivers meaningful, measurable progress towards Net Zero and a climate-resilient transport network. The recommended mitigation measures

particularly Whole-Life Carbon Assessment, low-carbon materials, Sustainable Drainage Systems, nature-based solutions and climate-adaptive design provide a clear and practical route to improving these scores as schemes evolve.

With the proposed Resilience Strategy offering a strategic mechanism for embedding these principles consistently across the programme, the IP has a strong foundation from which to enhance both its carbon and climate resilience performance. Ensuring these measures are fully integrated during scheme design and procurement will be essential for the IP to deliver significant positive effects in future iterations of the LTP and subsequent ISA assessments.

LANCASHIRE
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Appendix E: Recommendations for scheme delivery

Appendix E: Key recommendations for scheme design and delivery

To strengthen sustainability outcomes and address gaps identified in the assessment, the following recommendations should be embedded into scheme design and delivery:

Table 15: Actions recommended for scheme design and delivery

Action	Responsible Body	Approximate time period
Environment		
The LCCA as scheme promoters would engage its statutory bodies including the Environment Agency, Natural England and Historic England to adhere to advance any schemes or strategies and to understand, avoid or mitigate against any adverse impacts	LCCA and scheme promoters	Lifetime of the IP
Scheme promoters would be responsible for undertaking statutory assessments where required include Environmental Impact Assessments and Habitat Regulation Assessments.	Scheme promoters	Lifetime of the IP
Scheme promoters would integrate green infrastructure into transport schemes	Scheme promoters	Lifetime of the IP
Scheme promoters would include safe walking , wheeling and cycling routes that connect communities to parks, rivers and nature reserve	Scheme promoters	Lifetime of the IP
Where applicable and possible, scheme promoters would design multi-functional spaces (for example, roadside verges as pollinator habitats).	Scheme promoters	Lifetime of the IP
Efforts would be taken to enhance the natural environment where possible, this includes implementing Biodiversity Net Gain and enhancing green and blue infrastructure through scheme delivery	Scheme promoters	Lifetime of the IP
Use native species planting and avoid invasive species	Scheme promoters	Lifetime of the IP
To reduce flood risk, schemes would be designed with appropriate drainage or attenuation systems. Opportunities to improve sustainable drainage systems would be explored where possible.	Scheme promoters	Lifetime of the IP
Key habitat sites, protected landscapes and historic features would be preserved in the delivery of this plan through early engagement and design, where possible scheme promoters would seek to undertake enhancements	Scheme promoters	Lifetime of the IP
Carbon Management Plans aligned to LTP Core Strategy Carbon Assessment would be implemented. The approach would be designed to reduce embodied and operational carbon arising from the delivery of interventions.	Scheme promoters	Lifetime of the IP
Embed EV charging infrastructure and active travel facilities in all major schemes	Scheme promoters	Lifetime of the IP

Prioritise low-carbon materials and circular procurement (reuse/recycle	Scheme promoters	Lifetime of the IP
Undertake heritage impact assessments early and avoid harm to listed assets	Scheme promoters	Lifetime of the IP
To improve water quality, scheme promoters would install pollution prevention measures during construction (e.g., runoff containment), align drainage design with catchment-scale water management plans and where adverse effects on flood risk, water quality, or habitat are identified, SuDS would form a primary mitigation measure.	Scheme promoters	Lifetime of the IP
Use low noise surfacing and acoustic barriers near sensitive receptors.	Scheme promoters	Lifetime of the IP
Prioritise zero-emission buses and modal shift in Air Quality Management Areas	Scheme promoters	Lifetime of the IP
A Construction Environmental Management Plan (CEMP) would be required for all schemes involving excavation, vegetation clearance, drainage alteration or proximity to watercourses	Scheme promoters	Lifetime of the IP
Population and Health		
Ensure active travel routes are safe, direct, and integrated with public transport.	Scheme promoters	Lifetime of the IP
Include green spaces and seating areas in urban transport hubs.	Scheme promoters	Lifetime of the IP
Ensure new services and active travel routes are affordable for low-income groups and consider fare caps or concessionary schemes.	Scheme promoters and LCCA	Lifetime of the IP
Incorporate lighting, CCTV, and safe crossing points to address safety concerns for women, older people, and minority groups.	Scheme promoters	Lifetime of the IP
Prioritise schemes that link rural communities to essential services (healthcare, education, employment) through integrated transport hubs and demand-responsive transport	Scheme promoters and LCCA	Lifetime of the IP
Embed safe walking, wheeling and cycling routes connecting villages to local amenities and green spaces.	Scheme promoters and LCCA	Lifetime of the IP
Support real-time travel information and booking systems for rural transport to reduce isolation.	LCCA	Lifetime of the IP
Combine rural transport improvements with green infrastructure to enhance access to nature and recreation	LCCA	Lifetime of the IP
Focus interventions in high TRSE clusters (e.g., Fleetwood, Bacup, Blackpool South) where poor connectivity and vulnerability coincide.	LCCA	Lifetime of the IP

Apply accessible design standards (e.g., tactile paving, step-free access, clear signage) for all schemes.	Scheme promoters	Lifetime of the IP
Engage with protected characteristic groups during design to identify barriers and co-create solutions.	LCCA and Scheme promoters	As required

The recommendations are intended to guide scheme design and delivery in strengthening sustainability outcomes. They are not an exhaustive list but highlight key areas where improvements can be made at the scheme level. Individual projects should consider these alongside site-specific assessments and stakeholder engagement to ensure tailored, effective solutions.