Climate Impact Assessment

Summary

Directorate and Service Area	Environment and Place Directorate
What is being assessed	A new rail plan, OxRAIL2040: Plan for Rail, (the Plan) for Oxfordshire
Is this a new or existing function or policy?	The Plan will be a new 'daughter document' to the adopted Local Transport and Connectivity Plan LTCP). Its preparation is a policy requirement of the LTCP.
Summary of assessment	OxRAIL 2040: Plan for Rail (the Plan), once adopted, will be a daughter document to our adopted Local Transport and Connectivity Plan. The Plan's vision is for our railway to be a central part of a world-class integrated, accessible and sustainable transport system that enables all parts of the county to thrive and: • ensures that Oxfordshire retains its position of significance within our regional and national economy • enables significant growth and development, supporting new housing and job creation • ensures that Oxfordshire's growing communities can fully participate in our economy and in society • contributes to the protection and enhancement of our natural and historic environment. It would achieve this by: • improving connectivity and enhancing infrastructure: delivering safe, reliable, coherent connectivity to, from and across our County • leading on climate action and achieving net zero: being zero carbon at the point of use, fully inclusive and fully accessible • being a placeshaper: having existing and new stations of the highest quality, equipped for the future and embedded at the heart of the communities they serve.
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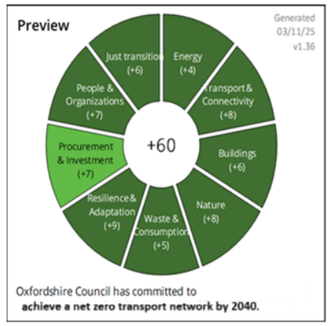

Detail of proposal

Context / Background	The Plan fulfils a policy requirement in the Council's adopted Local Transport and Connectivity Plan to prepare a new rail strategy for the County. OxRAIL 2040: Plan for Rail is called a plan rather than a strategy as it sets out a plan of action. The LTCP sets out that the new rail strategy will identify potential future rail projects and opportunities across and through Oxfordshire. It states inter-alia that implementation of the rail strategy (i.e. the Plan) will help to improve capacity and connectivity between our major employment hubs, providing a step change in rail travel options. These improvements will encourage rail use by making services more attractive and increasing access to them. Increased rail use will reduce the number of private vehicle journeys, contributing to delivery of our vision and delivering the associated benefits. The Plan is our response to that LTCP policy.
Proposal	The Plan sets out Oxfordshire County Council's bold ambitions for the future of rail in the Oxfordshire. The Plan has been developed to support the over-arching aims and ambitions of our adopted Local Transport and Connectivity Plan. The Plan describes a vision of rail in Oxfordshire being a central part of an integrated, accessible and sustainable transport system that enables all parts of the county to thrive. It also recognises the imminent and on-going changes in the structures of both local government and the rail industry and the opportunities and challenges this may create. The improved connectivity the Plan would deliver will help improve quality of life, support new housing and jobs, and drive nationally significant economic growth and productivity. It focuses on three key themes: • Improving connectivity and enhancing infrastructure – defining the services, infrastructure and operational changes required. • Climate action – setting out how rail can achieve net zero and adapt to a changing climate. • Rail as placeshaper – highlighting the role of stations and rail in shaping inclusive, connected communities. Oxfordshire County Council is committed to leading the delivery of this vision by deploying its resources, expertise and policy levers. The Plan recognises that its delivery cannot be achieved by the Council alone. Success will depend on Government, the rail industry and our local communities and partners collaborating with us and playing their part. Oxfordshire is planning for significant growth – from new housing and employment sites to nationally significant infrastructure projects (NSIPs), new health and education facilities, and major employment and leisure developments. Without better connectivity, these opportunities are constrained. Congested road networks limit workforce mobility, raise the cost of housing near employment centres, and restrict access to affordable land and workspace. This makes it harder for businesses to attract the investment and talent needed to thrive. The Plan proposes a wide range of interventions, all of which are important to Oxfordshire's future. At the heart of these interventions are four priorities that are critical to achieving the OxRail 2040 vision of a modern, inclusive and sustainable railway. These priorities will deliver the greatest impact for residents, businesses and communities, while other elements of the Plan remain vital supporting components to ensure a balanced and connected network. The four priorities are: • The Oxfordshire Metro – creating an integrated transport network that brings together rail, bus, walking and cycling. • The Electrified Railway – building a zero-carbon network for Oxfordshire, anchored by the Electric Freight Spine. • Oxford Station – increasing capacity to support more services across the county and redeveloping it into a landmark station and national gateway. • Proposed new stations to support growth – five new stations are proposed – at Ardley, Begbroke, Oxford Cowley, Oxford Littlemore and Wantage & Grove. Together, these priorities reflect the overarching themes of connectivity, climate action and placeshaping focusing investment and partnership where it will make the biggest difference for Oxfordshire's people, economy and environment. Key to the climate action theme of the Plan is the priority of electrifying the railway and the rolling stock that uses it. The Plan has a bold vision for a zero-emissions railway, underpinned by an Electric Freight Spine – a continuous stretch of new overhead line electrification linking the electrified Great Western Main Line (GWML) at Didcot Parkway to the electrified West Coast Main Line (WCML) at Bletchley. This would be delivered by 2037, enabling rail freight through Oxfordshire to operate electrically and forming the backbone of charging infrastructure for battery-powered passenger trains. Progress on delivery of the Plan will be reported annually.
Evidence / Intelligence	The Plan is supported by a technical evidence base that has informed the development of the Plan including the actions to be taken, the measures and schemes to be implemented and the partnership working and potential funding mechanisms for its delivery. The evidence base covers topics that include: •The role of rail in Oxfordshire including supporting economic and housing growth •Rail in Oxfordshire today, recognising that much of the network requires use of diesel powered passenger and freight trains •Improving connectivity and enhancing infrastructure •Climate action •Rail as Placeshaper and enabler of local and social mobility •Integration with walking, cycling and other public transport services Policy context •Air quality and health •Freight
Alternatives considered / rejected	Doing nothing is not an option as creation of a new rail strategy is a requirement of adopted LTCP policy. Now is the right time to act. More devolved powers through new mayoral authorities and the creation of Great British Railways (GBR) provide a unique opportunity to ensure Oxfordshire's railway is equipped for the future. Rail has the potential to unlock new homes, support globally competitive businesses, and ease land and housing pressures by connecting communities through fast, convenient links, with stations acting as catalysts for growth and placemaking.

Category	Impact criteria	Score (-3 to +3)	Description of impact	Actions or mitigations to reduce negative impacts	Action owner	Timeline and monitoring arrangements
Energy	Increases energy efficiency	2	Encourages switch from travel by motor vehicle to more energy efficient rail travel. More efficient energy systems at stations.			
Energy	Promotes a switch to low-carbon or renewable energy	1	The Plan includes initiatives such as retrofitting our railway buildings and car parks with solar panels and solar canopies. This approach could allow us to export this energy to the local grid where there is surplus.			
Energy	Promotes resilient, local, smart energy systems	1	We will work with our local community energy company Low Carbon Hub, the rail infrastructure manager and other stakeholders to analysis the opportunities and technical integration of renewable energy on rail in Oxfordshire. This will not only help us in delivering our electrification goals but could also provide locally generated clean and green energy to local communities in Oxfordshire.			
Transport & Connectivity	Reduces need to travel and/or the need for private car ownership	3	The Plan will contribute to the LTCP targets for reducing motor vehicle trips. It also proposes and integrated tranport network through its Oxfordshire Metro concept.			
Transport & Connectivity	Supports active travel	2	It also proposes and integrated tranport network through its Oxfordshire Metro concept. Oxfordshire Metro: Working closely with rail and bus operators we will begin to outline the details behind the Oxfordshire Metro concept and create a roadmap for its delivery over the time scales of this Plan. In Phase 1 our priority will be working towards an integrated electronic ticketing system which enables seamless travel between modes.			
Transport & Connectivity	Increases use of public transport	3	It also proposes an integrated tranport network through its Oxfordshire Metro concept.			
Transport & Connectivity	Accelerates electrification of transport	3	The Plan's Climate Action chapter sets out three core areas around which our climate action activities will be based: 1. Modern, green trains –ensure passenger trains and freight locomotives are powered by sustainable electricity with an ambition to deliver this through a net-zero supply chain. 2. A resilient railway – ensuring that our infrastructure is ready for a changing climate, sustaining levels of reliability via proactive action and contingency plans to deal with unforeseen events. 3. Green, clean railway – harnessing and using renewable energy for our rail network and embedding nature first and circular economy principles. Air quality at our stations and transport hubs should be of the highest standard and sustainable infrastructure design a base level requirement.			

Buildings	Promotes net zero new builds and developments	2	Embodied Emissions - The provision of new infrastructure and new trains will drive high steel, aluminium and concrete usage alongside emissions during construction and manufacturing. Decarbonisation of these sorts of materials and their installation will happen at national and even international levels. In Oxfordshire we will strive to pursue a net-zero emissions value chain from our designers and suppliers ensuring that embodied carbon emissions are reduced and offset as far as possible.
Buildings	Accelerates retrofitting of existing buildings	2	The OxRAIL2040 plan will be a combination of retrofitting existing infrastructure (e.g. Cowley Branch Line) and upgrading existing ones.
Nature	Protects, restores or enhances biodiversity, landscape and ecosystems	2	We should be ensuring that bio-diversity net-gain and circular economy principles are a core requirement of all major rail infrastructure projects. We want our railway stations to become a focal point for people and sustainable wildlife. To support this we will develop an Oxfordshire Railway Bio-Diversity Net-Gain Requirements Document.
Nature	Develops blue and green infrastructure	3	The Plan promotes infrastructure that will enable the electrification of the railway as well as harnessing and using renewable energy for our rail network and embedding nature first and circular economy principles.
Nature	Improves access to nature and green spaces	3	The Plan will improve access to nature through its increase in services, new stations, more accessible rolloing stick and it Oxfordshire Metro integrated transport concept.
Waste & Consumption	Reduces overall consumption	2	Encourages switch from motor vehicles travel to more energy efficient rail travel. More efficient energy systems at stations.
Waste & Consumption	Supports waste prevention and drive reuse and recycling	1	The Plan recognised that whilst the provision of new infrastructure and new trains will drive high steel, aluminium and concrete usage alongside emissions during construction and manufacturing the decarbonisation of these sorts of materials and their installation will happen at national and even international levels and statesb that in Oxfordshire we will strive to pursue a net-zero emissions value chain from our designers and suppliers ensuring that embodied carbon emissions are reduced and offset as far as possible.
Resilience & Adaptation	Increases resilience to flooding	3	Climate Resilience - Extreme weather events are becoming increasingly common and we will work with the rail industry to ensure that our priority railway assets are identified, designed, delivered, renewed and replaced with a changing climate in mind. Oxfordshire Metro will embed robust contingency plans for public transport so when issues arise people will still be able to get to where they are going. Our railway climate resilience plans will be captured in an Oxfordshire Railway Climate Change Resilience Plan.
Resilience & Adaptation	Increases resilience to other extreme weather events (e.g., storms, cold snaps, heatwaves, droughts)	3	See above.
Resilience & Adaptation	Increases resilience of council services, communities, energy systems, transport infrastructure and/or supply chains	3	See above.

Procurement & Investment	Procurement practices prioritise low-carbon options, circular economy and sustainability	1	The Plan sets out that we should be ensuring that bio-diversity net-gain and circular economy principles are a core requirement of all major rail infrastructure projects. We want our railway stations to become a focal point for people and sustainable wildlife. To support this we will develop an Oxfordshire Railway Bio-Diversity Net-Gain Requirements Document.
Procurement & Investment	Investment being considered supports climate action/ is consistent with path to net zero	3	Investment in railways including its decarbonisation supports directly the LCTP 2040 net zero transport network.
People & Organizations	Drives behavioural change to address the climate and ecological emergency	3	Integrated transport facilitites the the change from private vehicles to public transport including train.
People & Organizations	Drives organizational and systemic change to address the climate and ecological emergency	2	Integrated transport facilitites the the change from private vehicles to public transport including train.
Just transition	Promotes green innovation and job creation	3	A key aim of the Plan is to support development and job creation including in connection with the Oxford - Cambridge arc. We will work with our local community energy company Low Carbon Hub, the rail infrastructure manager and other stakeholders to analysis the opportunities and technical integration of renewable energy on rail in Oxfordshire. This will not only help us in delivering our electrification goals but could also provide locally generated clean and green energy to local communities in Oxfordshire.
Just transition	Promotes health and wellbeing	1	Decarbonised railways will improve air quality.
Just transition	Reduces poverty and inequality	2	The Plan will increase opportunities to switch from travel by motor vehicle to rail travel integrated with bus and active travel thereby reducing the need for/dependency on private motor vehicle ownership/use.