



**Chilternrailways**

# **Chiltern Railways**

Economic, Social and  
Environmental Value Report  
2023

**March 2024**



# 1. Managing Director's Introduction

Chiltern railways provides rail services between London, Buckinghamshire, Oxfordshire, Warwickshire and the West Midlands. In 2023, Chiltern Railways carried over 19 million customers to access employment, leisure and other social opportunities. We have ambitious plans to grow customer numbers further to ensure we can meet the demand from our growing communities.

Chiltern are proud to be an inclusive and flexible employer for around 900 colleagues based in more than 30 locations on our network. We use a wide range of suppliers across the UK which support the delivery of our railway services, as you can see from the maps enclosed.

This report shows that Chiltern's operations generated £1,342.7 million of economic, environmental, and social value benefits in 2023. This includes a direct contribution through colleague wages and procurement contracts. These interactions also helped to generate a wider indirect economic impact

through supplier activity in our regions, as well as wider societal and environmental benefits.

Chiltern is committed to delivering an easier, greener, and better service for our customers, colleagues and stakeholders. To support these goals, we recently launched our 2030 Vision<sup>1</sup> to modernise and decarbonise our trains. We are making progress on these core challenges from introducing hydrotreated vegetable oil fuel into our locomotive trains in July 2023, to delivering our plan to replace our 33-year-old diesel trains with low emission trains before the end of the decade.

We are committed to generating economic growth, encouraging social interactions, and reducing our environmental footprint to achieve net zero status by 2050. We will use this report to inform our social value plan and activity. We will continue to gather regular feedback through our engagement with local and national stakeholders and industry partners.



**Richard Allan, Managing Director**

## 2. Summary of findings

### Introduction & Methodology

This report presents Steer's independent assessment of our economic, social, and environment value. Steer's previous report covered our economic, social and environmental impact for 2022 and found that:

- We generated over **£200 million in direct and indirect economic impact** through our own staff and our wide and varied supply chain;
- Over **£145 million in induced impacts** were generated through the employment and economic activity that our staff and supply chain support; and
- Our services generated just under **£700 million of catalytic impacts** By providing connectivity to rail passengers and through the wider societal and economic benefits that arise when passengers use our services.

For this assessment, which covers our impact in 2023, Steer has deployed the same recognised quantitative methodology known as an Economic Impact Assessment.

Steer's analysis has shown **our 2023 economic impact is £1,342.7 million** which has grown by **£284.5 million** from our 2022 impact.

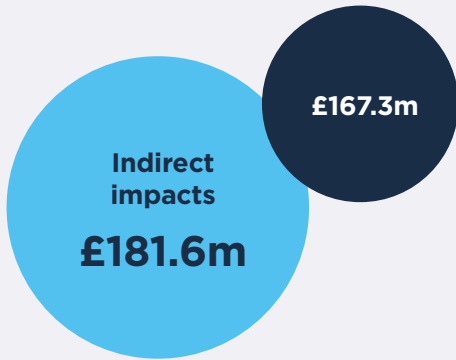
### Right Route 2030 Vision

As well as presenting updated analysis of our current impact, Steer's independent analysis has been expanded to cover our Right Route 2030 Vision<sup>1</sup>, which we published in summer of 2023. This report sets out an estimate of the potential growth in our economic, social and environmental value that realising our 2030 Vision could deliver. This analysis specifically focuses on the social value benefits of replacing our 33-year-old Class 165 diesel trains with low carbon battery or hybrid replacements to operate on our commuter routes from London Marylebone to High Wycombe and Aylesbury.

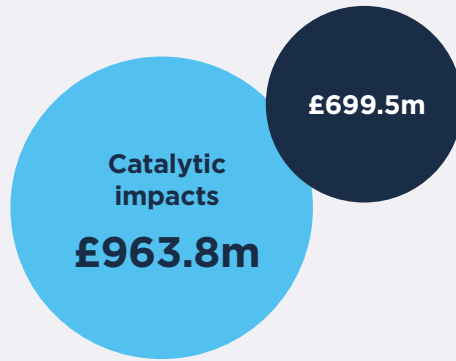
The analysis shows that:

- Replacing our fleet of ageing Class 165 rolling stock with a new and more sustainable alternative would generate **between £5.3 million and £25.3 million** in monetised benefits to existing passengers, depending on which routes the rolling stock is replaced on, and reduce our annual CO<sub>2</sub> emissions by **16,491 tonnes**, representing a monetised benefit of **£5.6 million**.
- Growing the number of passengers that use our services in line with our 2030 Vision would generate an additional **£477.7 million in economic, social, and environmental impacts per annum**.

● 2022  
● 2023



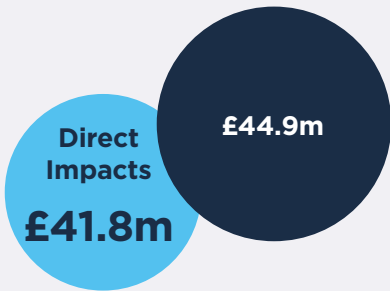
Supply chain spend **£181.6m** (2023) **£167.3m** (2022)



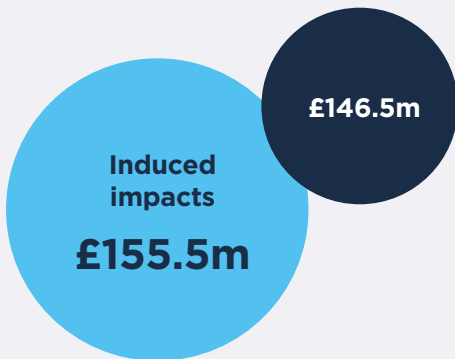
User benefits **£863.0m** (2023) **£630.9m** (2022)

Social and environmental non-user benefits **£62.0m** (2023) **£19.6m** (2022)

Wider economic benefits **£38.9m** (2023) **£49.0m** (2022)



Expenditure on staff **£41.8m** (2023) **£44.9m** (2022)



Multiplier impact **£145.2m** (2023) **£137.9m** (2022)

Passenger spend at stations **£10.2m** (2023) **£8.6m** (2022)

# Total Impact

**2023**

**£1,342.7m**

**2022**

**£1,058.2m**

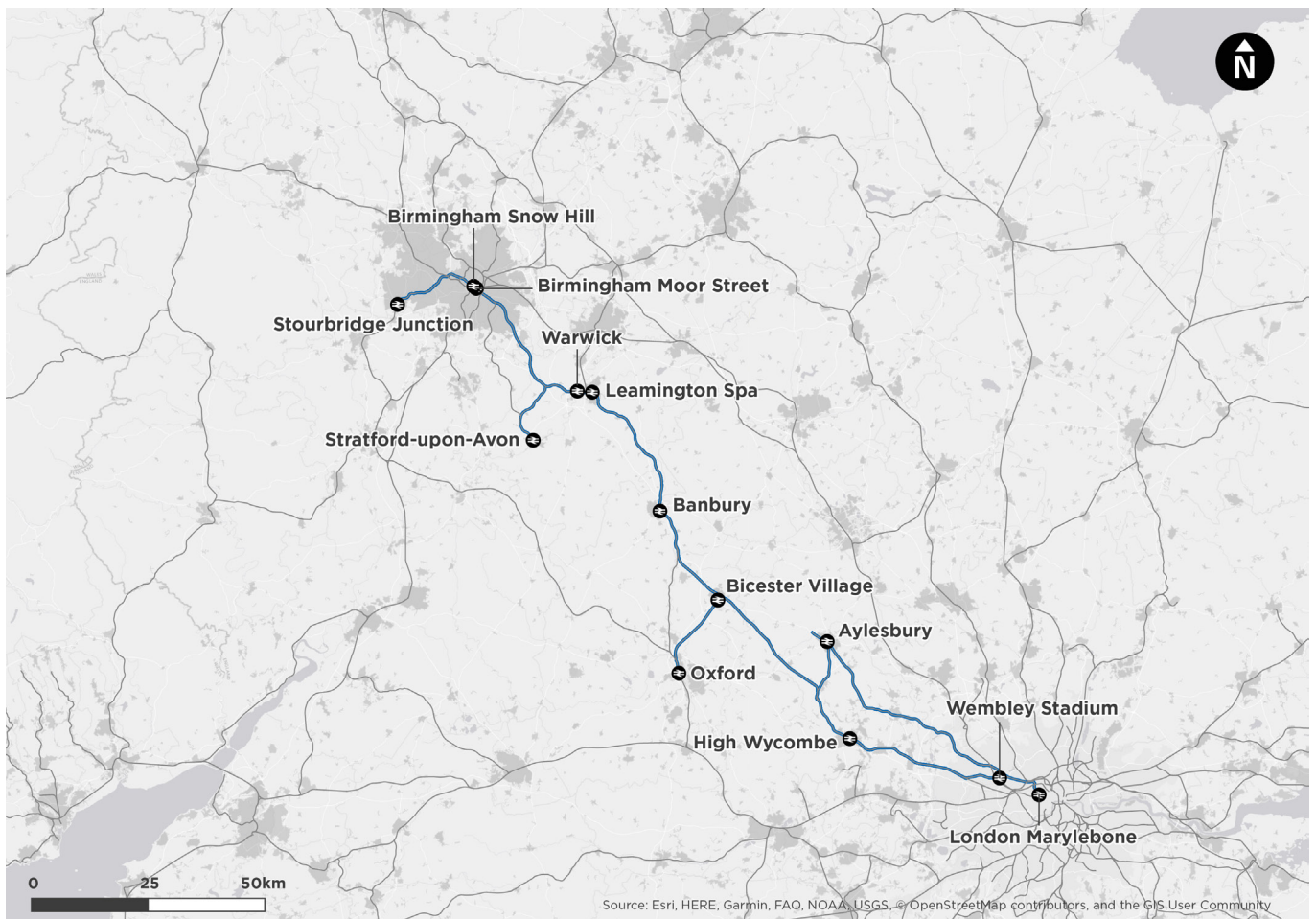
# 3. Introduction and context

## Introduction to Chiltern Railways

Chiltern Railways operates both commuter and intercity services along the Chiltern Main Line between London Marylebone and Birmingham, calling at a total of 66 stations.

Our vision for Chiltern includes operating a fully decarbonised route by 2035 alongside delivering more capacity and quicker journey times. These changes will help us offer more comfortable, greener, and reliable services to our passengers.

In 2023, **19.3 million** passenger journeys were made using our services, compared to **14.3 million** in 2022. According to the Office of Rail and Road (ORR) pre-pandemic usage of Chiltern services was at 28.4 million passenger journeys in 2019/20. Despite changes to commuting patterns following the pandemic, we have ambitious plans to grow leisure patronage by delivering enhanced seating capacity and improved onboard customer facilities.



## Chiltern Railways Services and Stations

We serve a variety of customer markets across our network. These include:

- Short distance commuter and leisure trips in north west London, between Marylebone, Ruislip, Wembley, and Harrow;
- Commuter routes out of London to and from major towns in Buckinghamshire, Oxfordshire, and Warwickshire;
- Intra-urban journeys in the West Midlands;
- Inter-urban flows across the Chiltern network, including between Birmingham and London; and
- Leisure and tourism journeys including to Wembley Stadium, Bicester Village and Stratford-upon-Avon.

We are the station facility operator for 35 stations across our network. In 2022/23, the 35 Chiltern operated stations recorded nearly 34 million entries and exits in total.

## Employees and Suppliers

Our impact can also be seen through our employment and supply chain, including how these are spread across the country. As of January 2024, we had a Full Time Equivalent (FTE) of 887, with growth from a pre-pandemic March 2019 level of 852 FTE. Our workforce is distributed widely, with a strong core along the route we serve. In addition to the spend on employment, we contract and use suppliers across the country, with information further in this report showing that our economic and social impacts are spread across our route and beyond.

## Full Time Equivalent



## Chiltern's Community Activities for 2023

We have an active and expanding Community Rail Network. This aligns with the Department for Transport's Community Rail Strategy which aims to:

- Promote a voice for local communities;
- Promote sustainable, healthy, and accessible travel;
- Bring communities together and support diversity and inclusion;
- Support social and economic development in local communities.

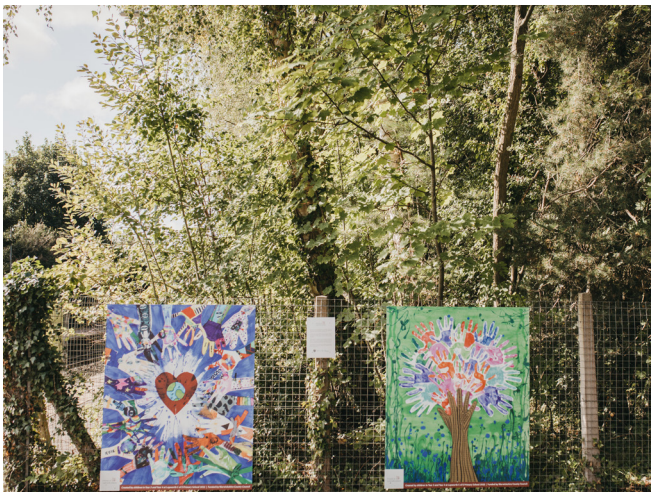
### Station Adoption

We have nine Station Adoption Groups with over 120 community volunteers in total. These groups bring a local connection to Chiltern's stations and undertake projects that improve community cohesion. Friends of Station Groups work towards the improvement of stations through gardening projects, artwork installation, and hosting events for prominent national celebrations such as the King's Coronation in 2023.

## Community Rail Partnerships

The Heart of England Community Rail Partnership (CRP)<sup>2</sup> covers six Chiltern managed stations in the West Midlands, and helps to integrate with their local communities, alongside partners at CrossCountry, Avanti West Coast and West Midlands Railway. The CRP supports Chiltern's Station Adoption Groups, works with local schools on railway education programmes and collaborates with local stakeholders on promoting active travel. In 2023, this has ranged from taking pupils and refugees on confidence building trips on the railway, working with local schools to create artwork at locations such as Lapworth and Leamington and creating Rail Trail walking routes that connect Chiltern stations to local tourist attractions.

Chiltern have also joined the newly formed Oxfordshire CRP<sup>3</sup>. This covers our seven managed stations in Oxfordshire in partnership with Great Western Railway and Oxfordshire County Council. Whilst the new partnership is finding its feet, initial projects delivered in 2023/4 include the creation of Rail Trails for Bicester and Banbury stations and running a set of rail confidence trips for disadvantaged young people in Oxfordshire.



Community artwork at Lapworth



Community planters at Solihull

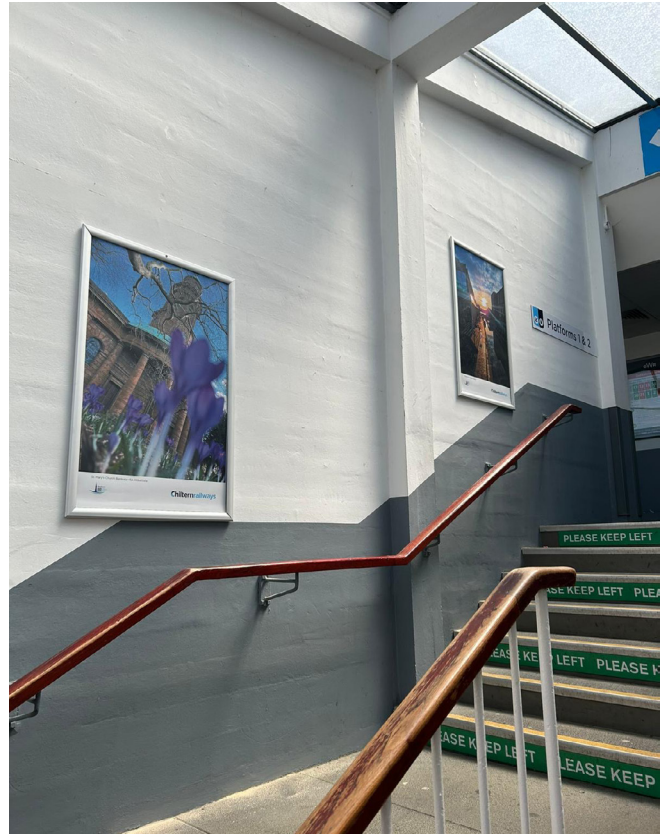


## Community Investment Fund

Supporting and investing in our local communities is important to us and is imperative to furthering social, economic, and environmental development across our route. In 2023 we launched a new Community Investment Fund<sup>4</sup> to support not for profit organisations and charities across our route. The application criteria focused on projects that deliver economic benefits to local people, social benefits such as volunteering opportunities and environmental benefits such as promoting active travel links or biodiversity. **We have provided £126,000 to 12 projects this year.**

### Projects delivered in 2023/4 include:

- Friends of Leamington Spa creating a new Coronation Garden at the station.
- Delivering community focused artwork installations with Banbury Business Improvement District.
- Supporting Lindengate, a mental and physical wellbeing charity, to make their community garden accessible in Wendover.
- Supporting rail confidence sessions for refugees and survivors of modern slavery in the West Midlands.
- Creating new active travel trails at Bicester North and Banbury stations.



Banbury community gallery



Leamington Spa gardens

## Chiltern's Environmental Activities for 2023

### Hydrotreated Vegetable Oil Fuel

During the summer of 2023, we began fuelling our locomotive trains with Hydrotreated Vegetable Oil (HVO) fuel as part of our plan to modernise and decarbonise our operations through the Right Route 2030 vision. This was the first instance of HVO being used in passenger service in the UK and helps to reduce total carbon emissions on this type of train by up to 90%.

Our Class 68 locomotive-hauled trains are now powered with this innovative fuel, derived from used cooking oils, tallows and other recyclable wastes, rather than conventional diesel. A fossil free drop-in alternative to conventional diesel fuel, HVO contains few impurities and burns cleanly, drastically reducing the impact the trains have on the environment and air quality across the network.



HVO delivered a **90%** reduction in carbon emissions and an **85%** reduction in particulates for our locomotive trains

### Air Quality Monitoring Network

We are proud to work in collaboration with the RSSB to participate in their Air Quality Monitoring Network (AQMN). The AQMN is the first of its kind for rail in the UK. It is a comprehensive and systematic monitoring programme for measuring air quality at mainline train stations across England, Scotland, and Wales, to provide high quality and robust pollutant concentration data. The network is funded by the DfT, as part of their commitment to improve air quality in and around train stations.

Previous air quality studies have shown that the area inside enclosed train stations is of particular concern, especially when idling diesel trains are present. Air quality monitoring of train stations was limited in the past and so a need to develop and operate a monitoring network for stations in the UK has been recognised. This aims to achieve the following:

- Provide current state air pollution information across the rail network, focussing on train stations.
- Provide location-specific air quality information to prioritise improvement initiatives.
- Assess the effectiveness of policies and mitigation measures to improve air quality.
- Inform the public about air quality at train stations.
- Establish the most accurate and cost-effective air quality monitoring solutions.

Cllr Robert Rigby Westminster Council, Cynthia Poole, Kirsty Tullett-Jones, Shelia D'Souza and Gaby Higgs, Residents Associations, Zach Bailey, Regional Growth Manager Chiltern Railways



Richard Allan, MD Chiltern Railways, Cllr Robert Rigby, Cynthia Poole and Gaby Higgs (as above), Nickie Aiken MP Cities of London and Westminster, Tony Devenish London Assembly Member



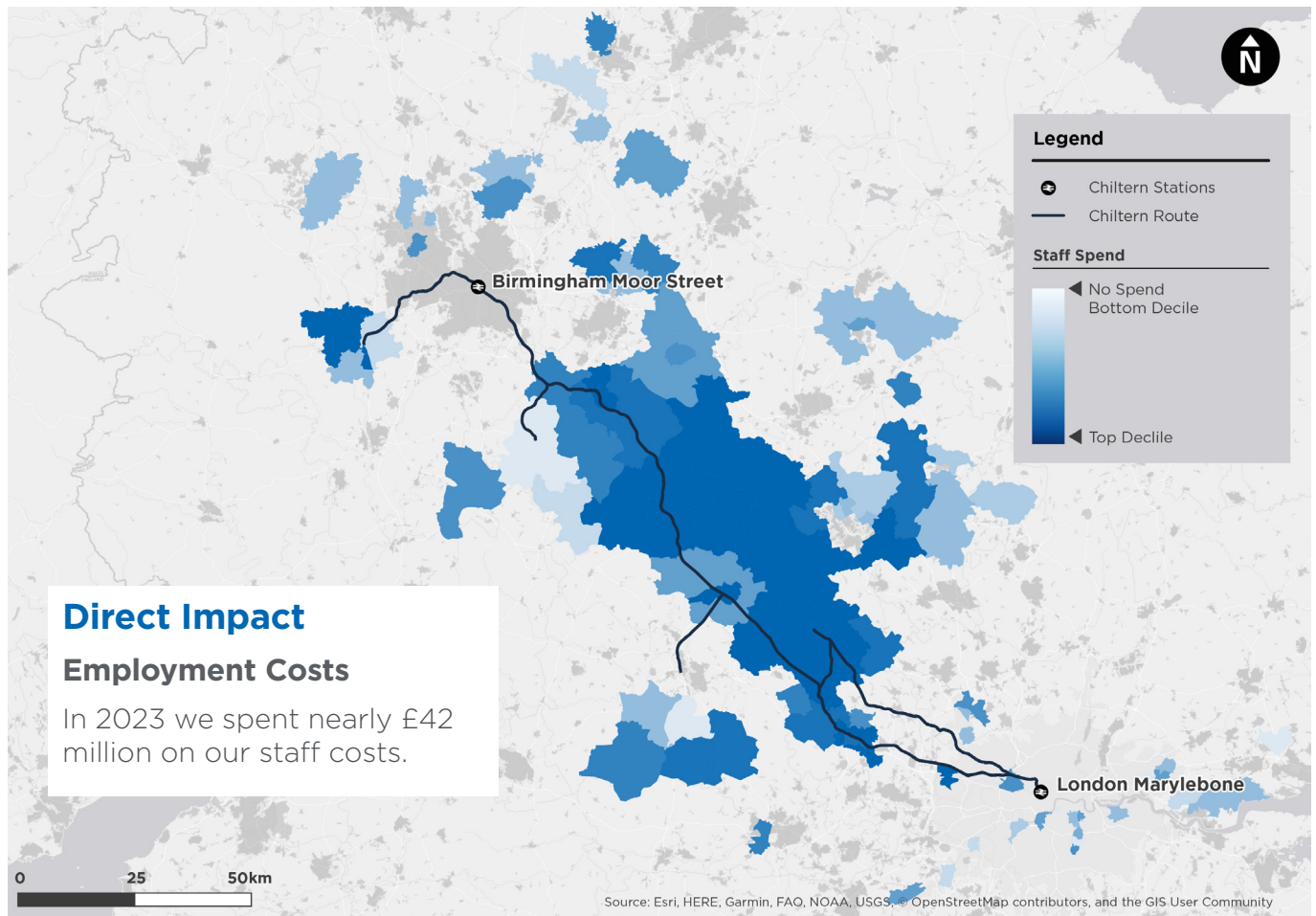
# 4. Economic, Environmental and Social Value for 2023

## Introduction

This chapter presents the results of the 2023 Chiltern Railways Economic Impact Analysis. The chapter is split into the four core channels of direct, indirect, induced, and catalytic impacts.

During the calendar year of 2023 we spent **£41.8 million** on staff base salaries, national insurance, pensions, allowances, and overtime. This is a small reduction on our 2022 spend as a result of fewer hours worked in total by our staff.

The map below shows that our spend on our staff is distributed across the length of our route, and is not exclusively focussed on London. In total, our employees live within 58 of the UK's 121 postcode areas.



## Indirect impact

### Supply Chain Expenditure

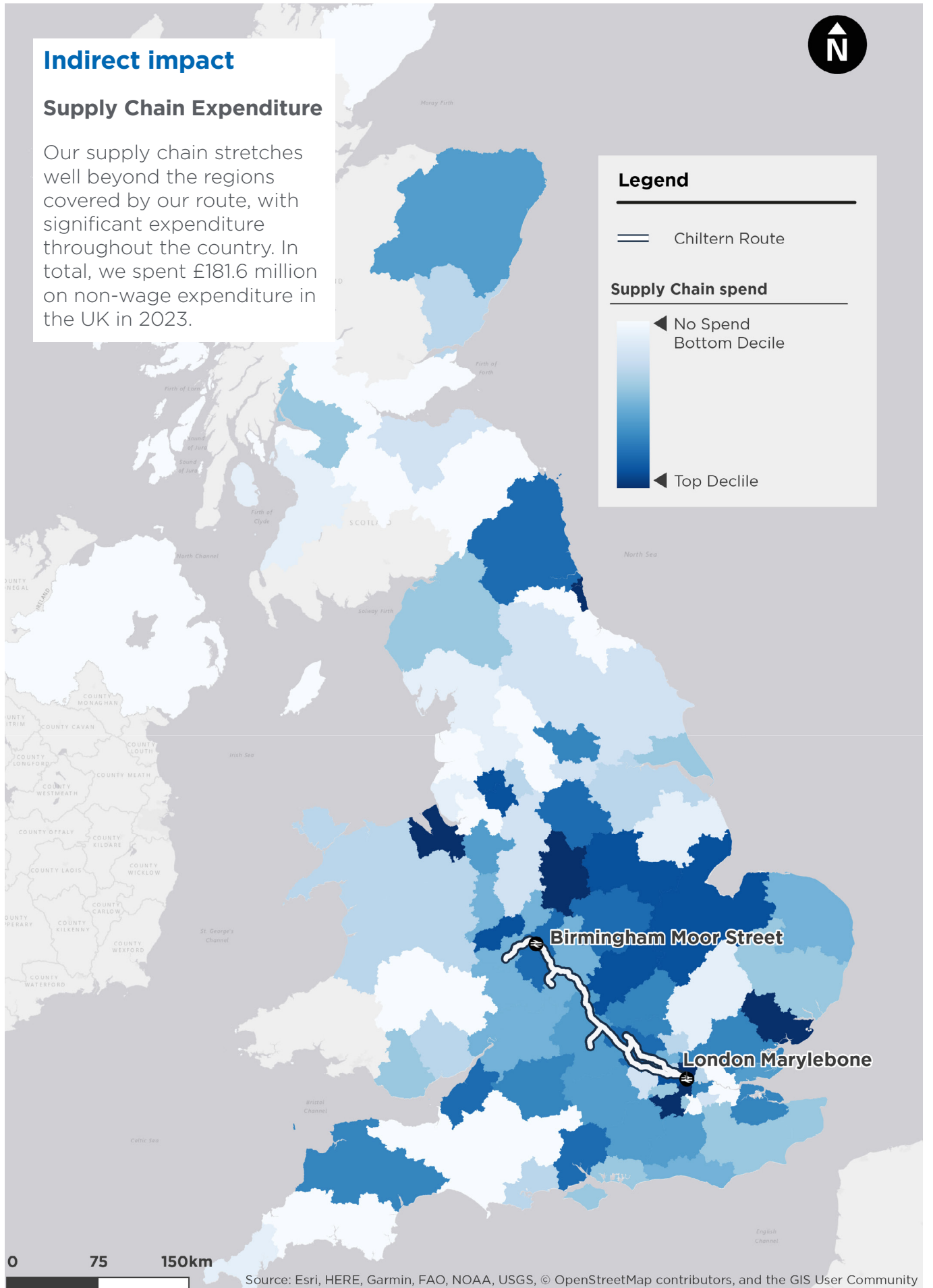
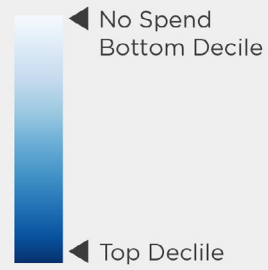
Our supply chain stretches well beyond the regions covered by our route, with significant expenditure throughout the country. In total, we spent £181.6 million on non-wage expenditure in the UK in 2023.



#### Legend

Chiltern Route

#### Supply Chain spend



Source: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

## Induced Impact

Induced impacts are primarily those generated where our spend on our staff and supply chain then supports jobs in other sectors of the economy. For example, our employees may spend their income on clothing, groceries, restaurants, or household goods which in turn generates employment in a range of sectors of the wider economy.

A common-practice approach to assessing the induced effects of an activity or industry on the economy – known as economic multipliers – has been deployed to calculate the estimated impact. Using the total direct and indirect impact of our activities, this multiplier impact is estimated to be £145.2 million.

## Spend at Stations

As well as multiplier impacts, our services generated further induced impacts when our passengers spend money as a part of their journey. Retail spending at stations across the network from Chiltern passengers in 2023 is estimated to be **£10.2million.**

## Total Induced Impact

Using the figures quoted above, our total induced impact is estimated to be **£155.5 million.**



Bicester Village Station



London Marylebone Station concourse

## Catalytic Impact

Catalytic impact captures the longer term social, economic, and environmental impacts resulting from rail services, both to passengers that use those services, and also wider society and the whole economy.

### User Benefits

User benefits are realised by our passengers travelling by rail and experiencing a quicker journey time than the alternative. The total annual user journey time benefits for our services and passengers in 2023 are estimated to be £863.0 million.

### Non-user Benefits

These are the wider societal benefits due to the positive externalities of our passengers using rail instead of alternatives, primarily private car. These include congestion avoided, fewer accidents and lower CO<sub>2</sub> emissions.






The total annual non-user benefits, with road as the alternative to our services, are £62.0 million.

### Wider Economic Impacts

These agglomeration and market output benefits occur as transport networks bring firms, people and places closer together. The annual agglomeration benefits of our services are estimated to be £38.9 million.

The output change in imperfectly competitive markets attributed to our services is 10% of our business user benefits, £19.7 million.

## Non-user Benefits Breakdown

	<b>Congestion</b> £50.6m
	<b>Greenhouse gases</b> £11.1m
	<b>Accidents</b> £6.6m
	<b>Local air quality</b> £0.7m
	<b>Other (including indirect taxation)</b> -£7.1m

**Total**  
£62.0m

## Chiltern Railways 2030 Vision

The Right Route 2030 Vision represents an ambitious plan to modernise Chiltern Railways trains this decade. It is informed by engagement with customers, stakeholders, and colleagues to bring about the right route for people, connections, innovation, the environment, and the future of our communities.

We are aiming for a fully decarbonised route by 2035, with a mixture of new battery trains on our London commuter routes and upgraded trains on our mainline from London to Birmingham. This will benefit the environment and our passengers.

Increased capacity and faster trains will give our passengers shorter, more comfortable journeys, enabling more people to choose rail as an alternative to the car. Our Vision is that by 2030 we will offer a more comfortable, greener, and reliable service to more passengers with strong economic and environmental benefits for our communities.

### Benefits to Passengers Travelling on New Fleet

Analysis has been carried to estimate the monetised benefit that passengers will experience from travelling on our new fleet. These are based on the improvements that a new fleet would provide, and the associated impact each of those would have on patronage of Chiltern services.

The improvements to passenger facilities we expect our potential new fleet to delivery include:

- A better seating layout that customers prefer;
- Comfortable and consistent air conditioning;
- Additional passenger information shown on electronic screens;
- Toilets in every carriage;
- Stronger phone signal and USB sockets for charging personal devices;
- High speed Wi-Fi and connections enabling customers to work on the train.

Using industry-recognised parameters and our existing level of patronage we estimate the monetised benefit of these improvements to be **between £5.3 million and £25.3 million**, depending on which routes the new fleet is rolled out on. Improvements to our fleet would also be expected to attract new passengers for rail, and we estimate this uplift to be between **0.5 and 2.6 million passengers** per annum.





### Decarbonisation of Our Fleet

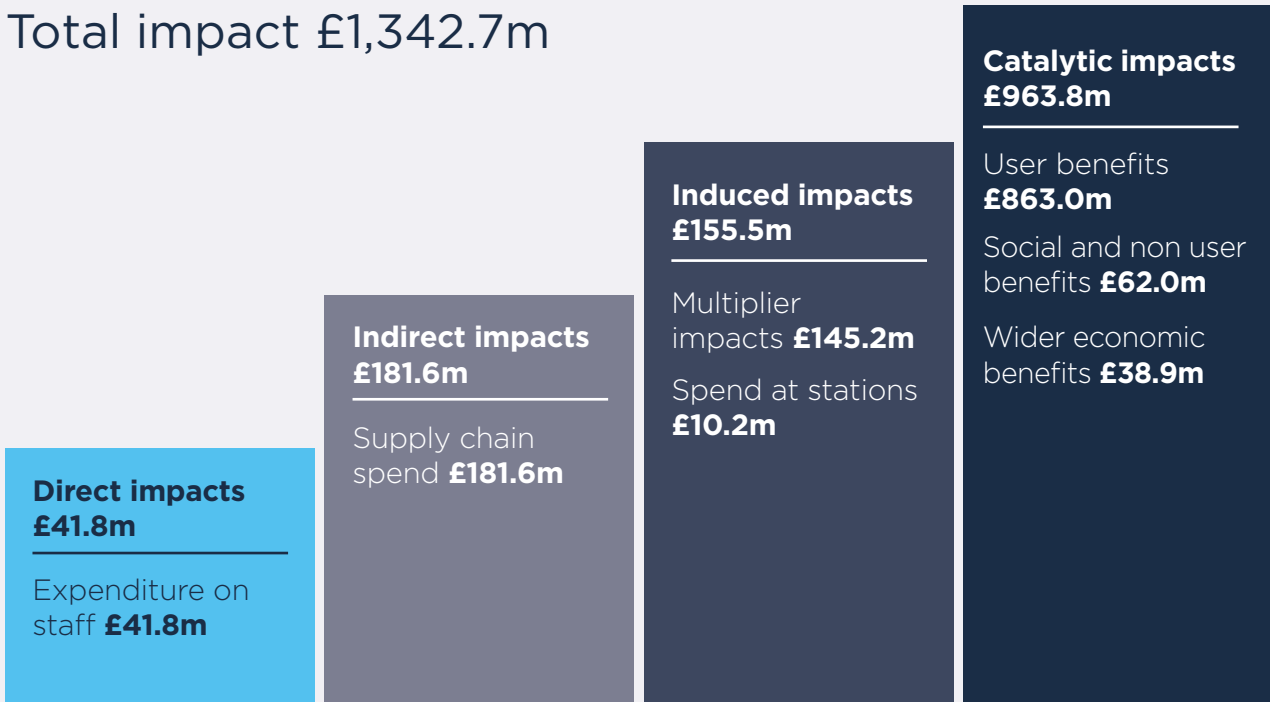
The latest available data shows that our existing Class 165 fleet emits 16,491 tonnes of CO<sub>2</sub> per annum. These emissions would be saved if a new zero-emission fleet was procured. Using the carbon monetary values from the DfT, these reduced emissions would equal up to £5.6 million in savings.

### Growth in passengers to 2030

Analysis has been undertaken to show our impact is projected to grow as we realise our ambitious plans for patronage growth up to 2030. By growing our patronage to pre-Covid levels of just over 29 million, we would expect to generate an additional £477.7 million in economic, social, and environmental impacts per annum.

## Summary of impact in 2023

Total impact £1,342.7m



## Realising our 2030 Vision

- Existing passenger benefits of new fleet → up to £25.3 million
- New fleet patronage growth → up to £2.6 million
- Decarbonisation benefits of new fleet → 16.5 thousand tonnes of CO<sub>2</sub>/£5.6 million
- Benefits of 2030 growth in passengers → £477.7 million





Chilternrailways

chilternrailways.co.uk

dc

www.chilternrail.com

# Endnotes

- 1 Right Route 2030 Vision
- 2 [heartcommunityrail.org.uk](http://heartcommunityrail.org.uk)
- 3 [gloucestershirecommunityrail.org](http://gloucestershirecommunityrail.org)
- 4 Community Rail | Chiltern Railways

