



The longer-term impacts of the Covid-19 pandemic on Transport and Land Use in Britain

Sarah Kendall, Matthew Niblett and Jana El Hajj

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Executive Summary

1. The global Covid-19 pandemic was the most disruptive event to affect daily life in Britain since the Second World War. Public health measures imposed to reduce the spread and impact of the virus required radical and rapid changes to behaviour. Now, over two years since the last measures were removed, it is possible to assess the longer-term impacts of the pandemic and how it has reshaped a range of trends. The ITC has commissioned this report to examine these impacts on the fields of transport and land use, as well as the implications for policy making. It follows an initial position paper published at the end of 2021, and a wide-ranging consultation process and literature search.¹ This summary provides an overview of the key messages arising from the report; for more detailed information please consult the relevant chapters.
2. This report outlines some of the wider impacts and changes the pandemic wrought on the UK economy and society. Initially, the public health measures imposed caused a sharp shock to the economy. Although the UK economy is larger at the end of 2023 than before the pandemic, it remains below the trend line of the previous decade. During the first phase of the pandemic, incomes and savings increased for some in part due to Government support measures, however rampant inflation since late 2021 has reversed these gains such that in real terms many households are now poorer than before the pandemic.
3. The impacts on the labour market and working patterns have been particularly long-lasting and significant. There was a substantial increase in hybrid and home working during the pandemic, particularly for knowledge-based workers. Although most have made a partial return to the office, the flexibility provided has been welcomed by employees. This trend appears unlikely to reverse while the labour market remains tight and unemployment low and with the the Employment Relations (Flexible Working) Act coming into effect during 2024. Furthermore, there has been a substantial rise in long-term sickness affecting approximately 2.8 million workers which has constricted the labour market. It is noteworthy that 'key workers', the majority of whom continued to attend their workplace throughout the pandemic, are generally less able to benefit from hybrid and homeworking.
4. The pandemic accelerated many trends that were already underway in the years before 2020. The digitalisation of services, both from the public sector and in leisure/entertainment, has increased significantly. The continuing growth of online shopping has impacted retail, while more opportunities have opened for digital and remote provision of public services such as social security, training and health care, many of which continue so that the use of such services has become a 'new normal'.
5. There are a number of longer-term impacts on land use and the built environment. With reduced demand for office space, there has been a flight to quality in terms of commercial property and a rise in hotdesking and use of flexible work space. This has created new opportunities in urban areas for repurposing underused commercial property as much-needed residential units. Urban planners have recognised the need to include more green and natural space in their masterplans to address changed

1 Sarah Kendall and Matthew Niblett, *The Covid19 Pandemic, Transport and Land Use in Britain: Key strategic issues for policy makers* (ITC, 2021), http://www.theitc.org.uk/wp-content/uploads/2015/03/ITC-Impacts-of-the-Pandemic-on-Transport_Sept-21-final.pdf



priorities since the pandemic. A rise in demand for residential property with access to natural green space, as well as locations for working, has influenced design and house/rental prices.

- 6.** The rise of hybrid working has provided a boost to some lower-income towns and areas, but resulted in lower footfall in large urban centres compared to the pre-pandemic situation. While demand at out-of-town shopping centres has recovered, the volume of high street sales remains below levels seen before 2020 and has been impacted by the growth of online retail. There remains a challenge for planners on how to meet changing demand and behaviours. Initiatives implemented during the pandemic, such as low-traffic neighbourhoods, have proved controversial, with success dependent on whether these simply displace traffic to other locations and the attractiveness of the facilities in the reduced traffic streets.
- 7.** There have also been significant impacts with longer-term consequences for transport and travel. Although personal travel demand has largely recovered, passenger journeys by public transport remain slightly below pre-pandemic levels. The rise in online retail has resulted in an increase in freight transport on roads, with vans and HGV traffic rising compared with the pre-pandemic era. Active travel has also seen a modest boost as people now spend more time in their locality.
- 8.** Across passenger modes we have seen a shift in journey purposes with a decline in commuting and business travel and a relative increase in leisure travel. This is related to the rise of hybrid and flexible working patterns reducing work related travel, and people placing a higher value on leisure activities after periods of restriction. Such trends have altered when people travel, with a flattening of weekday peak hours demand, commuting concentrated on a Tuesday to Thursday midweek 'peak', and increased leisure travel on Fridays and at weekends. This has resulted in changes to times of overcrowding and congestion, and presented fresh challenges to operators in terms of managing capacity.
- 9.** Cost of living challenges for many households appear to be reinforcing some of these pandemic-related trends. For example, high childcare costs encourage parents to work from home more frequently. Walking or cycling locally for short journeys saves on bus fares. Flexible or reduced office hours can allow cheaper off-peak tickets to be purchased or reduce fuel and car parking costs compared with a previous pattern of workplace 'presenteeism' attendance five days per week for a full working day.
- 10.** The financial challenges arising from these longer-term impacts are significant. Funding for public transport remains a serious concern, since changed demand patterns have disproportionately reduced revenues especially for commuter rail, due to the previous reliance on high revenue season tickets and peak hour fares for commuting and business travel. Declining bus use has led to reduced commercial services and an increase in the routes and service levels requiring subsidy. Currently the £2 bus fare cap supported by a central Government grant is helping to prop up bus demand. It is likely that the UK Government will need to continue to provide increased financial support for public transport. The shift of a bigger proportion of costs onto the traveller rather than the taxpayer is no longer sustainable so the taxpayer funded contribution seems likely to need to be raised to be closer to the levels provided by neighbouring countries. Without higher subsidy, the range, extent and quality of public transport services is likely to decline, contrary to Government policy objectives to enhance the passenger experience.

- 11.** Policy makers will need to reshape their assumptions in order to address the challenges arising from these impacts. To achieve long-term policy goals, the ITC recommends that the appraisal process for transport schemes be revisited to ensure that the right objectives and benefits are correctly identified. In particular the 'value of time' seems somewhat less relevant in a post-pandemic environment with reduced travel demand for business and work-related purposes. Conversely the social and health benefits of travel and connection with others may need to be given greater importance. Fares reform on passenger transport is now needed, to reflect changes in the nature of 'peak hour' travel, and to reflect more dynamic travel patterns over the working week and reduce complexity for the user.
- 12.** Investment in transport-related infrastructure generally takes many years from concept to delivery. It is important for policy makers that the overall pipelines of development and investment continue to bring benefits in the years and decades ahead. This could be providing new and upgrading existing rail infrastructure to reduce costs and improve reliability, new power networks to support the charging of EVs, or road improvements to reduce congestion pinch-points. There is potential for the pandemic followed by inflation challenges to lead to a pause in infrastructure investment. This potential failure to invest sufficiently in passenger and freight transport by the Government will conflict with longer-term policy objectives on decarbonisation.
- 13.** Furthermore, a long-term legacy of the pandemic has been an increased focus on sustainability issues and environmental quality. If policy measures are poorly designed, or seen as inequitable, the public and political backlash can jeopardise wider objectives. There is a limited pool of political capital to implement such measures. As a result, we encourage policy makers to thoroughly review sustainability policies before implementation to understand their unintended consequences. Comprehensive Mobility as a Service (MaaS) and Road User Charging schemes should be considered to incentivise and support behavioural change towards more sustainable travel at local, regional and national levels.
- 14.** Freight movements, and particularly van traffic, have continued to grow since the pandemic. Policy in this area is limited compared with passenger transport. Consideration may need to be given to the balance between freight and passenger modes at certain times of the day or week. Consideration of Road User Charging may be needed to reflect the impact of heavier freight vehicles on road maintenance or smaller freight vehicles on urban congestion.
- 15.** Policy makers will also need to rethink assumptions about land use and urban design. Changing demand patterns suggest the need for a reconfiguration of office space and design, as well as accommodating high levels of unmet demand for residential accommodation especially in southern England. Better public realm design, with a greater emphasis on green space and meeting places, will need to feature prominently in planning new developments. The changing nature of retail demand is likely to require innovation in terms of keeping high streets active and attractive, providing experiences as well as opportunities to buy consumer goods.



Introduction

1.1 The Covid-19 Pandemic

- 1.1.1** The global pandemic caused by the SARS-CoV-2 virus has had the most disruptive impact on transport in Britain since the Second World War. Since the arrival of the virus in the UK at the start of 2020 many emergency measures were needed to control transmission and reduce infection. These measures included restrictions on movement that dramatically impacted both domestic and international travel. Medical advances, including vaccines and treatments, enabled progress to be made in reducing the health impacts of the virus in Britain, such that these restrictions were gradually lifted during the course of 2021 and 2022 as discussed in **Section 1.4**.
- 1.1.2** It is clear that the pandemic affected many aspects of our lives, and forced major changes to how we live, work and travel. The reshaping of travel demand and behaviour over the past three years, and the consequences for policy making, are profound. Now that more than two years have passed since significant public health measures were lifted, it is possible to examine the extent to which travel and wider behaviours have been permanently changed, and the imprint this has left on transport and land use in the UK. This report examines the available data to assess the legacy of the pandemic and its implications for policy makers.

1.2 ITC Research Study overview

- 1.2.1** The Independent Transport Commission (ITC) is Britain's leading pan transport and land use research charity. Our remit is to explore longer-term, strategic policy issues, and our focus is therefore on the 'big picture' issues which underpin policy formation. Following the outbreak of the Covid-19 pandemic in 2020, the ITC commissioned a new work stream to explore the impacts and implications of the pandemic for transport and land use.
- 1.2.2** As an initial step, to help gather the best evidence on the impacts of the pandemic, the ITC conducted an industry-wide consultation during 2020-21 seeking viewpoints and data. This was based on a questionnaire to which respondents could provide a written submission or take part in an online interview. The ITC collected the main views and issues raised into a submission to the UK Parliament's Transport Select Committee inquiry. This was followed by an interim paper released in Autumn 2021 examining the key impacts to date. The report, *The Covid-19 Pandemic, Transport and Land Use in the UK: Key Strategic Issues for Policy Makers* is publicly available and provided guidance for policy makers on emerging impacts and considerations.
- 1.2.3** Today, two years since most public health measures were lifted in the UK, it is possible to reassess the longer-term impacts of the pandemic on behaviours and travel patterns. The ITC has therefore commissioned this report to provide an overview of these impacts and the implications for policy making in Britain. We have consulted a wide range of available evidence from statistical bodies, research units and academic reports, to compile a picture of the legacy of the pandemic.

1.3 Key aims of the Report

- 1.3.1** This report examines the legacy of the Covid-19 pandemic on transport and land use in the UK. It is important to note that, to keep the parameters of this study manageable, and due to our focus on UK policy making, the paper principally focuses on land-based domestic and passenger travel, although we also give some attention to freight and aviation where evidence is available. The report is not an encyclopaedic attempt to cover every detail of transport and land use but we aim to cover the most significant trends. We also acknowledge that the quality of data is more robust in some areas than in others due to the nature of the variables as well as variation in data collection: for example, data on walking trends is limited. Where possible, we use the latest figures publicly available at the end of the 2023 calendar year to explore trends and behavioural change and base our analysis of policy implications on these. Discussions have also been held with a range of experts and where their views have contributed to the findings these are referenced.
- 1.3.2** The report examines impacts of the pandemic on transport demand and behaviour as well as on cities, land use and placemaking. We review the potential implications of these changes on infrastructure planning, urban design and strategic policy making. The recommendations reflect the strategic objectives that have been outlined by the Government in recent years. It is anticipated that the findings will be of interest to all those with an interest in transport and land use policy.

1.4 Structure of the Report

- 1.4.1** To investigate the longer-term impacts of the pandemic on transport and land use, this report is structured into several chapters. First, we examine in **Chapter 2** the wider impacts of the pandemic on the UK economy, education, employment, demographics, retail and lifestyles. This chapter provides the background context on those social, economic and behavioural issues that have directly or indirectly affected transport and land use. In **Chapter 3** the report explores a range of impacts upon land use and planning in the UK. The various spatial impacts on cities, towns and rural areas are considered, as well as the implications of changing working patterns on commercial property and office space. Residential factors are also important, and the chapter considers how demand for housing has changed. Finally, we investigate how policy relating to planning and urbanism has been affected.
- 1.4.2** **Chapter 4** examines how these impacts have affected travel behaviour and demand, considering both the general demand for travel, as well as passenger trends by mode. We also reference impacts upon transport network capacity and the supply of services. The chapter principally focuses on personal travel, but we also consider some of the wider impacts on freight and the movement of goods. In **Chapter 5** we consider the funding and investment implications arising from the legacy of the pandemic. This chapter examines the impacts upon transport revenue and operating costs as well as infrastructure investment. In addition, the longer-term impacts of changed travel behaviours on transport infrastructure are considered.



1.4.3

The final section of the report, in **Chapter 6**, reviews the implications for policy making and how these relate to the wider strategic policy objectives held by the UK Government. A number of conclusions and recommendations based on the preceding analysis are provided for policy makers. The table below provides an outline of the main phases of the pandemic, together with relevant Government guidance and the impacts upon transport and land use.

Covid-19 Timeline and major impacts on Transport and Land Use in the UK (2020-2023)

Time Period	Government Guidance and Restrictions	Transport and Land Use Impacts
Jan - Mar 2020	<p>31 Dec 2019: Initial reports of virus in China</p> <p>24 January 2020: first coronavirus guidance published on GOV.UK website.</p> <p>11 March 2020: WHO declares novel coronavirus as global pandemic.</p> <p>23 March 2020: National lockdown: social distancing and home-lockdowns became mandatory. This applied in England and Scotland Wales and Northern Ireland all applied the same restrictions. Stay at home instruction apart from specific purposes such as essential shopping, to provide care or daily outdoor exercise in outdoor spaces near to home.</p>	<p>Reports in Jan of possible disruption to supply chains from China.</p> <p>FCDO advise against travel to mainland China in late Jan.</p> <p>Travellers returning to UK from holidays in Italy in Feb identified with coronavirus infection.</p> <p>Many offices and entertainment venues close from mid-March onwards in advance of national lockdown.</p>
Apr-Jun 2020	<p>Covid-19 cases and deaths increasing so restrictions continue to apply.</p> <p>Increased Covid-19 testing available.</p> <p>Various financial support measures for businesses announced by government.</p> <p>10 May: plan for phased re-opening announced.</p> <p>Face mask requirement where social distancing not possible, including on public transport.</p> <p>13 June social 'bubble' scheme was announced; single-person households allowed to meet and stay overnight with another household</p>	<p>10 May: Workers who cannot work from home encouraged to return to their workplace but avoid public transport.</p> <p>22 May: quarantine travel measures announced including self-isolation for 14 days for incoming international travellers.</p> <p>Limited school re-openings from June onwards</p> <p>Non-essential shops reopen from mid-June – this includes garden centres</p> <p>Over-crowding during fine weather at places including Bournemouth and Eryri (Snowdonia) National Park</p>
Jul - Sep 2020	<p>Local lockdowns imposed in Leicestershire, Greater Manchester and some other areas where infection levels are high.</p> <p>17 June: Further easing of restrictions announced.</p> <p>Aug: Eat out to Help out scheme operates.</p> <p>Most schools in England Wales and N Ireland re-open at the start of school year.</p> <p>14 Sept: Outdoor social gatherings banned in England</p>	<p>Quarantine rules relaxed for some international travel.</p> <p>Use of public transport for non-essential journeys allowed.</p> <p>Travel within the UK permitted including hotels and holiday accommodation. Tourism venues re-open.</p> <p>Government messaging to encourage the return to the office.</p>

<p>Oct - Dec 2020</p>	<p>Restrictions re-imposed in Wales, Scotland and then England. Local variations with different 'tiers' of restrictions from 14 Oct in England</p> <p>Second Lockdown from 5 Nov but schools colleges and universities remain open.</p> <p>2 Dec: lockdown replaced by a revised tier system.²</p> <p>8 Dec: first global Covid-19 vaccination takes place in UK.</p> <p>New Covid-19 variation identified in UK.</p> <p>16 Dec: Covid-19 restrictions announced to be relaxed for 5 days over Christmas.</p> <p>19 Dec: London and SE England in Tier 3 restrictions</p> <p>26 Dec: Tier 4 or lockdown equivalent restrictions apply to many parts of the UK</p>	<p>Restrictions on visitors into Wales from other parts of the UK with high COVID-19 rate.</p> <p>People in high and very high tiers not permitted to travel from their local area.</p> <p>Students permitted to travel home from early Dec.</p> <p>20 Dec: European countries temporarily ban flights and ferries from UK due to new variant.</p> <p>Many family Christmas and New Year travel plans within UK are cancelled.</p>
<p>Jan - Mar 2021</p>	<p>4 January 2021: third national lockdown due to a spread of a new variant known as Alpha.</p> <p>15 February: Hotel quarantine for travellers from high-risk countries into England</p> <p>22 February 2021: Roadmap out of Lockdown was published with four-step plan to lift restrictions by 21 June at the earliest.</p>	<p>Non-essential shops and facilities closed. Restaurants open for takeaway in England and Wales, but not in Scotland, and domestic travel not allowed.³</p> <p>Outdoor parks and countryside venues remain open for local visitors.</p> <p>Hotel quarantine for travellers arriving from outside the UK.</p> <p>Schools fully reopen on 8 March 2021 in England.</p> <p>Some easing of gatherings restrictions. Outdoor activities and gatherings are resumed to some degree.</p>
<p>Apr - Jun 2021</p>	<p>Summer 2021: 14 June 2021: delay in final easing of restrictions by a month due to the Delta strain</p>	<p>Summer 2021 marked the start of the "easing restrictions" phase in the UK.</p> <p>Non-essential retail and facilities reopen.</p> <p>Domestic travel restrictions partially eased</p>
<p>Jul - Sep 2021</p>	<p>Most remaining restrictions are lifted.</p> <p>14 September 2021: Two health plans outlined for winter 2021/22: Plan A with very limited restrictions and to be used if hospitalisations remained low. Plan B to be used if infections rise sharply involves more restrictive measures such as compulsory masking and advice to work remotely</p>	<p>UK travel, leisure, accommodation, and hospitality restrictions are mostly lifted. Capacity challenges as many people 'staycation' for their summer holiday.</p> <p>In Europe and elsewhere abroad restrictions remain in place and are subject to short notices changes given local conditions.</p>

2 In October 2020, a tiered system of regulations was introduced, allowing different legal restrictions to be used by public authority depending upon the health threat. See: https://en.wikipedia.org/wiki/First_COVID-19_tier_regulations_in_England

3 Visit Britain, *Great Britain Tourism Survey* (2023), <https://www.visitbritain.org/media/2486/download?attachment#:~:text=From%20April%20to%20December%202021%2C%20there%20were%2073.3%20million%20overnight,%2C%20and%20value%20by%2036%25.>



<p>Oct - Dec 2021</p>	<p>8 December 2021: England moved to Plan B measures amid the spread of Omicron variant</p> <p>10 December 2021: Face masks become mandatory in most public spaces</p>	<p>Testing as of September 2021 required for people to go to and from certain overseas countries.</p>
<p>2022</p>	<p>20 January 2022: Government advice to work remotely is ended.</p> <p>24 February 2022: Lifting of domestic Covid-19 restrictions in England including requirement to self-isolate under Living with Covid-19 Plan</p> <p>1 April 2022: Free Covid-19 testing is ended.</p>	<p>Businesses encourage workers back to the office after ending of remote working guidance.</p> <p>International travel restrictions including Covid-19 vaccination certificates and testing are gradually lifted depending on country-specific status.</p>
<p>2023</p>		<p>Remaining international travel restrictions lifted: USA and Japan in May 2023. China lifts restrictions on outbound travel in Jan 2023 and inbound travel in Aug 2023</p>

2. Macro trends and impacts

2.1 Overview

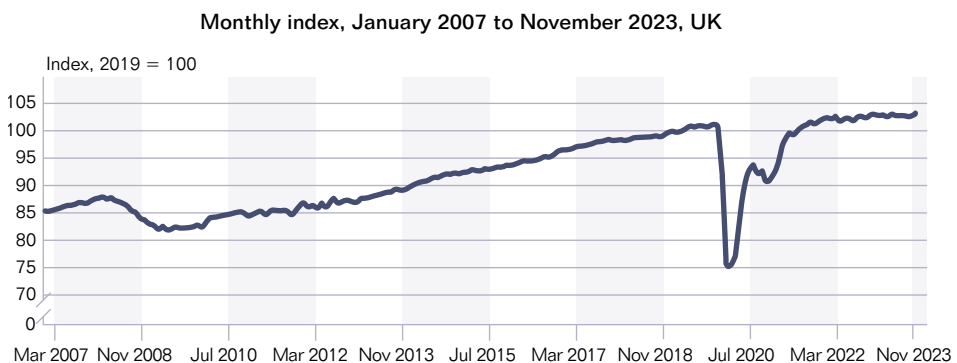
2.1.1 The global pandemic caused by the SARS-CoV-2 virus impacted almost every aspect of everyday life in Britain. The public health measures necessary to control the virus during 2020 and 2021 forced major changes to how we live, work and travel and, even after these measures were lifted, many impacts continued to linger and are still being felt today. In this chapter, we will examine the wider, 'macro' impacts of the pandemic on Britain by examining its legacy on a range of policy areas, including the economy, employment, health, education, and digitalisation. A clearer understanding of these wider impacts will enable us to interpret and explain better the more specific effects the pandemic has wrought on transport, travel and land use.

2.2 Economic impacts and employment structure

2.2.1 The economic impacts of the Covid-19 pandemic can be divided into two main phases: the first covering the period of lockdowns and public health measures in place from March 2020 to Summer 2021, and the second running from late 2021 to the present day reflecting the progressive reopening of the UK and global economies following the successful vaccination programmes.

2.2.2 The first phase was marked by the economic shock caused by the rapid global spread of the SARS-CoV-2 virus. This took UK policy makers by surprise, and the measures necessary to control infections included lockdowns and restrictions on movement. The fallout resulting from shutting down the economy included an immediate 20% fall in GDP, although this had partially recovered over the remainder of 2020. Further lockdowns in early 2021 stalled this recovery, but following the removal of public health measures the economy had overtaken its pre-pandemic size by the end of 2021 (**Figure 1**). Wider economic issues generated during this first phase included supply chain blockages and a collapse in international tourism due to restrictions on the movement of goods and people.

Figure 1: UK Gross Domestic Product (GDP) indexed to 2019⁴



Source: GDP monthly estimate from the Office for National Statistics

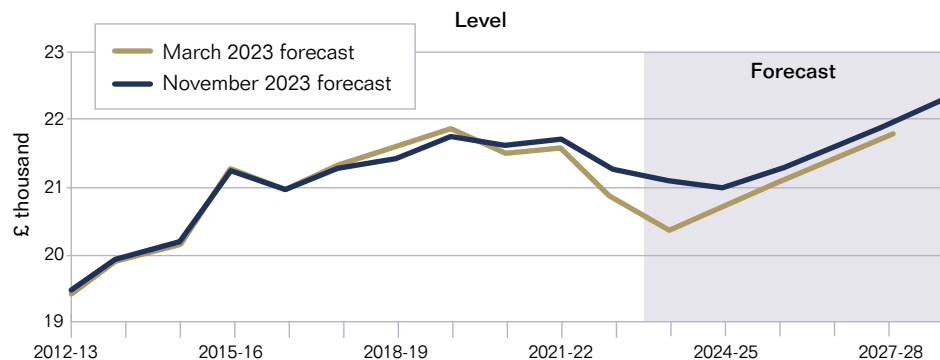
⁴ Office for National Statistics, *GDP monthly estimate, UK: November 2023 (2024)*, <https://www.ons.gov.uk/economy/grossdomesticproductgdp/bulletins/gdpmonthlyestimateuk/november2023>



2.2.3

To address the anticipated economic problems the UK Government rapidly introduced a number of interventions to support the economy throughout 2020 and 2021. These included the Job Retention Scheme (JRS) which allowed employed workers to be paid on furlough during 2020 and early 2021, while the Self-Employed Income Support Scheme (SEISS) provided financial support for the self-employed over the same period. Businesses were supported through sick pay relief and business recovery loans were also made available, although it was later revealed that significant proportion of these were lost to fraud. Grants were also provided to affected businesses in the retail, hospitality and leisure sectors. The Office for Budget Responsibility (OBR) estimates that these measures cost the UK Government £169 billion. However, they have also been credited with reducing the negative impacts of the pandemic on the economy and employment. In addition, the Bank of England cut interest rates to near zero. These measures led to a significant rise in household savings and in asset prices (including stocks and housing) during the course of 2020 and 2021. With incomes supported and expenditure reduced, real disposable income increased slightly during this initial period (**Figure 2**).

Figure 2: Real household disposable income per person⁵



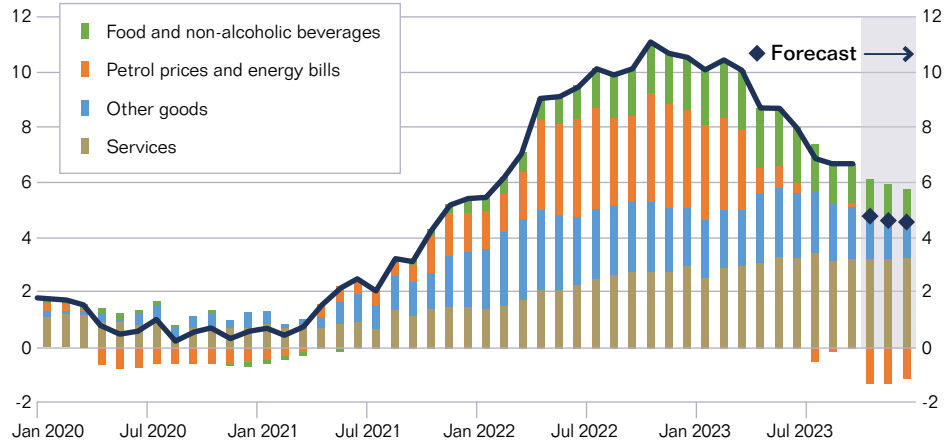
2.2.4

Following the removal of public health measures in July 2021, most Government support schemes were scaled back or removed. New economic problems emerged as the economy opened up, including high inflation caused by global supply chain problems, people drawing down the savings they had accumulated during the acute phase of the pandemic, and rising oil and gas prices. The latter was exacerbated by the Russian invasion of Ukraine in early 2022, the fallout from which caused natural gas prices to rise to unprecedented levels, impacting many areas of the economy, from household heating to food prices (since gas is used to produce fertilisers). By 2023 inflation had reached 10%, a level not seen for over 30 years (**Figure 3**). The impacts of these problems caused a cost-of-living crisis, to which the Government responded by capping rapidly rising household energy bills and providing further payments to the most vulnerable. The Bank of England also started to increase interest rates, which by summer 2023 had reached over 5%, the highest level in more than 15 years. As a consequence, a wide range of asset prices began to fall over the course of 2022 and early 2023. In real terms, UK households are now poorer than before the pandemic and the OBR forecasts that living standards will not rise above

5 Office for Budget Responsibility, *Economic and Fiscal Outlook November 2023* (2023), https://obr.uk/docs/dlm_uploads/E03004355_November-Economic-and-Fiscal-Outlook_Web-Accessible.pdf

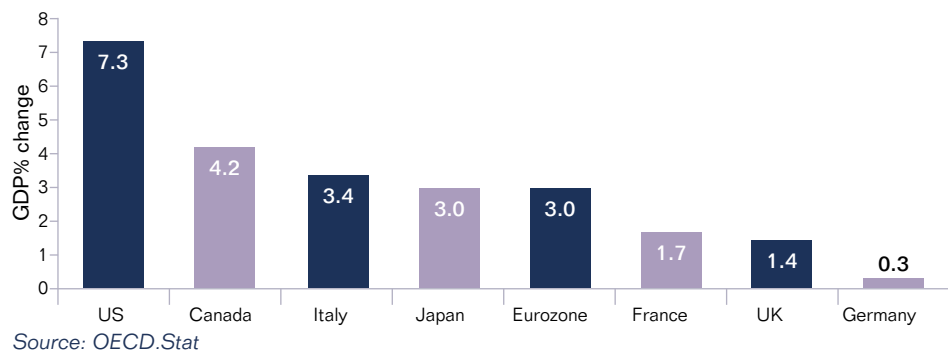
pre-pandemic levels until 2027-28 (Figure 2). This is the worst contraction in living standards since the Second World War and will have major implications for household and personal spending for years to come.

Figure 3: Annual Inflation rate (% change) in the UK and contributing categories⁶



2.2.5 By Summer 2023 the UK economy was about 1.5% larger than in the last quarter of 2019. Amongst G7 countries, the economic recovery in the UK has been a little stronger than Germany, but much weaker than in Japan, Italy and the United States (Figure 4). The UK has suffered higher inflation levels than other major economies, while employment amongst the lowest skilled has been falling. Meanwhile, living standards have sunk below pre-pandemic levels and are not forecast to recover for several years. These economic problems have attracted a range of comment and investigation, with reasons suggested including the compounding effect of Brexit on disrupting supply chains and the labour force, the vulnerability of the UK to shocks in the energy market, and the possibility that the Bank of England waited too long before it started to raise interest rates. The OECD forecasts (November 2023) that the UK growth in 2024 and 2025 will be one of the weakest in the G7 and substantially weaker than OECD average.⁷

Figure 4: G7 real GDP % change compared to pre-pandemic level (Q3 2023 compared with Q4 2019)⁸



6 Bank of England, *Monetary Policy Report November 2023* (2023), <https://www.bankofengland.co.uk/monetary-policy-report/2023/november-2023>

7 OECD, *Economic Outlook Interim Report September 2023* (2023), <https://www.oecd.org/economic-outlook/september-2023/>

8 UK Parliament, *GDP – International Comparisons: Key Economic Indicators* (2023), <https://commonslibrary.parliament.uk/research-briefings/sn02784/>



2.2.6 The pandemic has not affected all sectors of the UK economy equally. The manufacturing sector (around 9% of national income) has recovered to its pre-Covid-19 level, but some areas within manufacturing, such as pharmaceutical production, have performed much better than others, while car manufacturing has contracted. The retail sector has been particularly hard hit, owing not only to the disruption of the pandemic but also to the cost-of-living crisis that followed. Transport has suffered due to changes in commuting habits and the impact of rail strikes and staff shortages such as HGV drivers. On the other hand, some economic sectors such as information and communication have grown strongly, reflecting the acceleration in the digitalisation of the economy. As a result, the shape of the UK economy today differs from that before the pandemic.

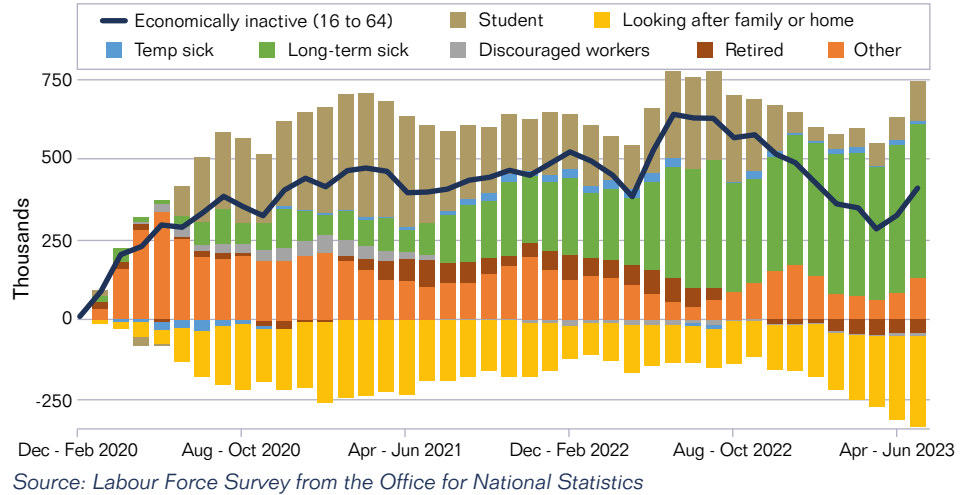
2.3 Working patterns

2.3.1 The impact of the pandemic upon employment and working patterns has been profound. Although unemployment initially increased at the start of the pandemic, this was mitigated by the supporting measures taken by the UK Government. Since public health measures were lifted, the UK labour market has remained tight with low unemployment and a shortage of labour compared with other G7 countries, especially amongst lower skilled workers. This problem has also been exacerbated by the Brexit implemented by the UK Government in early 2021 which resulted in an exodus of working EU citizens, many of whom have not returned. There are also high illness rates particularly amongst lower skilled (leading to workforce dropout), and job precariousness among the large numbers employed on zero hours contracts.

2.3.2 The key legacy of the pandemic on the workforce has been higher economic inactivity rather than high unemployment. In the first phase of the pandemic during 2020-21 this was driven by younger people leaving the workforce for study and training at higher education institutions, due to ongoing economic uncertainties. This trend has reversed since 2021 with younger people returning to the workforce. Now **the largest contribution to economic inactivity since the start of the pandemic is from middle-aged workers suffering long-term illness**. It is not yet clear the extent to which these illnesses include Long Covid or other underlying conditions made worse by SARS-CoV-2 infection. However, in March 2023 1.9 million people were still reporting that they were suffering from the effects of Long Covid. Moreover, there has been a huge increase in the number of people awaiting NHS hospital treatment, a figure that stood at nearly 7.8 million in September 2023.⁹ This health crisis is one of the most serious legacies of the pandemic in terms of impacting the economy. At the same time there has been a small increase in economic activity by family carers, possibly due to taking advantage of more flexible working practices, but this has not been enough to offset the impact of rising long-term illness (**Figure 5**).

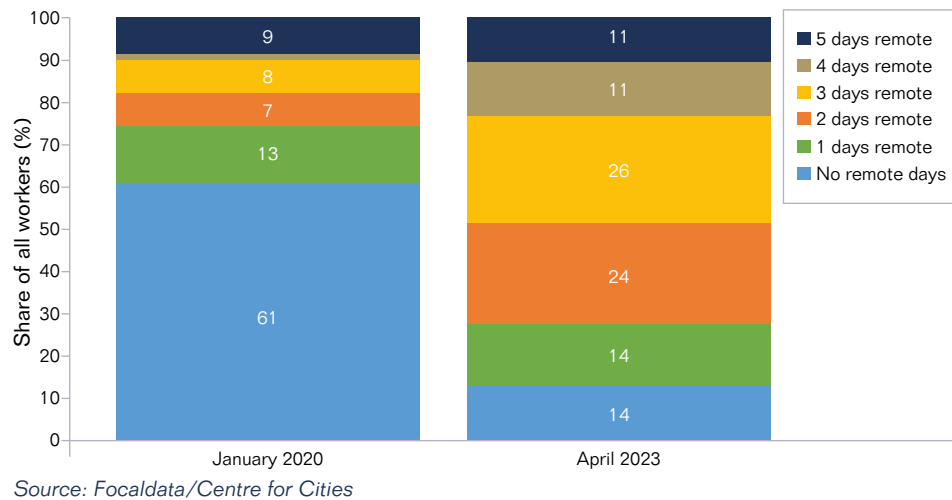
9 UK Parliament, *NHS key statistics: England* (2023), <https://commonslibrary.parliament.uk/research-briefings/cbp-7281/>

Figure 5: UK economic inactivity, by reason, people aged 16 to 64 years, seasonally adjusted, cumulative change from December 2019 to February 2020, for each period up to May to July 2023¹⁰



2.3.3 One of the most notable impacts of the pandemic has been a widespread shift towards improved flexible working patterns. The lockdowns in the first phase of the pandemic demonstrated that many jobs could be undertaken remotely using digital technologies, and there has been some evidence that productivity per house improved as a result. Although there has since been a significant recovery in commuting and office-based work, this is still significantly lower than before the pandemic, and increasingly a hybrid model has been adopted by employers with workers spending part of the week in the office and part working remotely. By January 2023, the ONS reported that 44% of working adults either were remote workers or were using a hybrid remote/office schedule. This pattern is significantly different to the pre-pandemic situation (Figure 6).

Figure 6: Popularity by number of days of work from home, percentage share of all workers¹¹



10 Office for National Statistics, *Employment in the UK: September 2023* (2023), <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/employmentintheuk/september2023>

11 Centre for Cities, *The Rise of Hybrid Working* (2023), <https://www.centreforcities.org/blog/just-how-many-days-are-people-working-from-the-office/>



2.3.4 Due to the tight labour market, workers and employees have been able to demand continuation of these practices, in spite of attempts by some employers, particularly in the financial services industry, to force employees to return to full office presenteeism. Flexible working practices have been beneficial for those with caring responsibilities, but it should be noted that remote working is particularly applicable for those working in knowledge-based industries, whereas the nature of work in various key sectors such as emergency services, health, hospitality and cleaning mean these are much less likely to be able to take advantage. Younger people are most likely to favour hybrid working, with three-quarters of Millennials and Gen Z workers reporting that they would look for a new job if they were forced to return to office commuting full-time.¹² In Government spheres, the “Flexible Working Bill” has reached Royal assent, meaning that millions of British workers will have the right to request flexible working, and employers will be required to consider requests and provide adequate justification before rejecting any requests.¹³

2.3.5 An unexpected impact of the pandemic during its first phase was that incomes increased in real terms, due to falling inflation and various financial support measures. However, the cost-of-living crisis that developed later in 2021 as a result of high inflation has resulted in household incomes falling in real terms. In order to compensate for high inflation many sectors have seen increased pressure for wage rises to compensate for the loss of spending power. In the public sector this has led to widespread strike action after pay offers from the Government fell below the inflation rate.

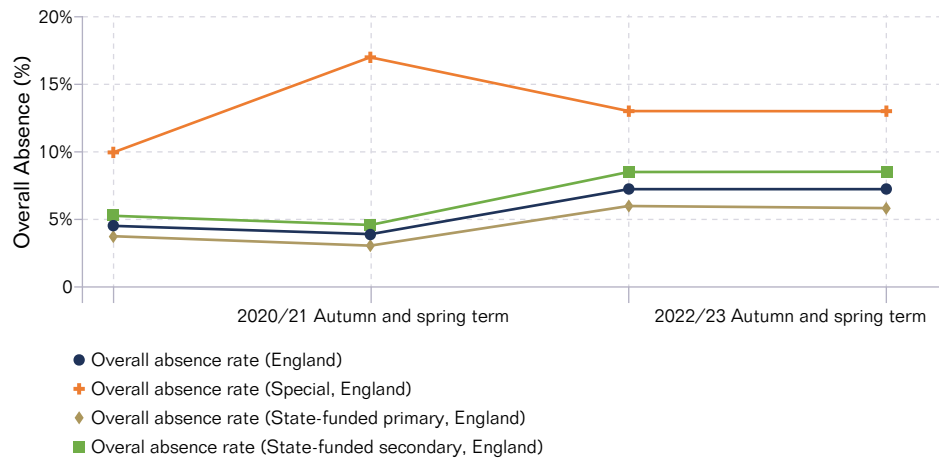
2.4 Education

2.4.1 Due to the public health measures enacted during the first phase of the pandemic, when travel was restricted, most educational activities had to take place at home. Schools and Universities moved their teaching online, and schoolchildren relied on parents’ home schooling. Schools reopened for physical teaching at the start of the 2020-21 academic year, but this was disrupted by further school closures during winter and spring 2021. For the 2021-22 academic year schools returned to teaching in person, with facemask recommendations used when a virus variant was rampant. Reports by Ofsted indicated that the educational impacts of these measures varied depending on the needs of the child, although most parents agreed that teaching their children at home had been positive and left them more knowledgeable and better equipped to help with schoolwork. However, after the return to in-person teaching in 2021-22 unauthorised absences and trancies have remained higher than pre-pandemic levels (**Figure 7**).

12 Deloitte Insights, *Two thirds of younger workers opt for remote and hybrid working* (2023), <https://www2.deloitte.com/uk/en/pages/press-releases/articles/two-thirds-of-uk-gen-zs-and-millennials-opt-for-remote-and-hybrid-working.html>

13 UK Government, *Millions to benefit from new flexible working measures* (2023), <https://www.gov.uk/government/news/millions-to-benefit-from-new-flexible-working-measures>

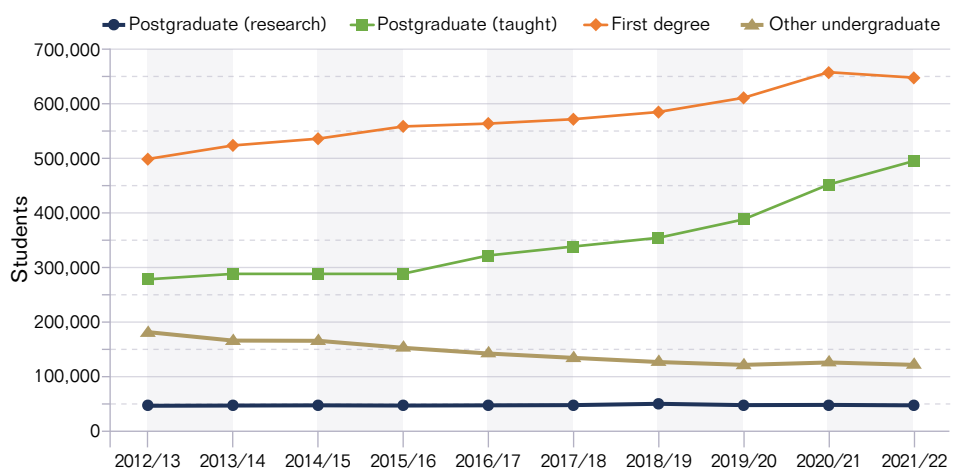
Figure 7: Overall absence rates between 2018/19 Autumn and Spring term and 2022/23 Autumn and Spring term¹⁴



Source: School Census

2.4.2 For Higher Education, Universities and Colleges responded in a variety of ways to the public health measures. Some, such as Cambridge University moved fully to online teaching during the lockdowns, while others adopted a blended approach depending on student needs and the subject taught. Many examinations were also conducted online. Universities adopted a staggered approach to returning to campus for in-person teaching during the course of 2021, but the option of online teaching and participation in classes remained for many courses. The Student Futures Commission survey in 2021 found that 66% of students preferred a blend of in-person and online teaching.

Figure 8: First year higher education (HE) student enrolments by level of study between 2012/13 and 2021/22¹⁵



Source: Higher Education Statistics Agency – UK, 2021/22

14 UK Government, *Pupil absence in schools in England* (2023), <https://explore-education-statistics.service.gov.uk/find-statistics/pupil-absence-in-schools-in-england>

15 Higher Education Statistics Agency, *Higher Education Student Statistics: UK, 2021/2022* (2023), <https://www.hesa.ac.uk/news/19-01-2023/sb265-higher-education-student-statistics>



2.4.3 The disruption of the pandemic caused an increase in young people choosing to enrol in degree courses. The impact was initially seen in first degree enrolments, but since the economy reopened in 2021, this has levelled off but enrolments in taught postgraduate courses has continued to increase (**Figure 8**). The cost-of-living crisis has also contributed towards an increasing number of students living with parents rather than independently, given the lower costs to the student of living in the parental home. This has accelerated a longer-term trend in the UK of rising numbers of people in their twenties living with their parents. The 2021 Census data shows that the share of people living with parents has now passed 50% for the 20-24 year-old cohort, and 25% of those aged 25-29 years. The figures are highest in London, presumably due to the very high cost of accommodation in the city-region.¹⁶ Other impacts from these educational measures included a fall in educational travel demand and an increase in the availability of digital student services. Long-term health issues have also become more important for students since the start of the pandemic, with an increase in those reporting mental-health related stress, anxiety, fatigue and depression. Many students have also reported that the rising cost-of-living has also negatively impacted their wellbeing and prospects for the future.¹⁷

2.5 Demographics and residential choices

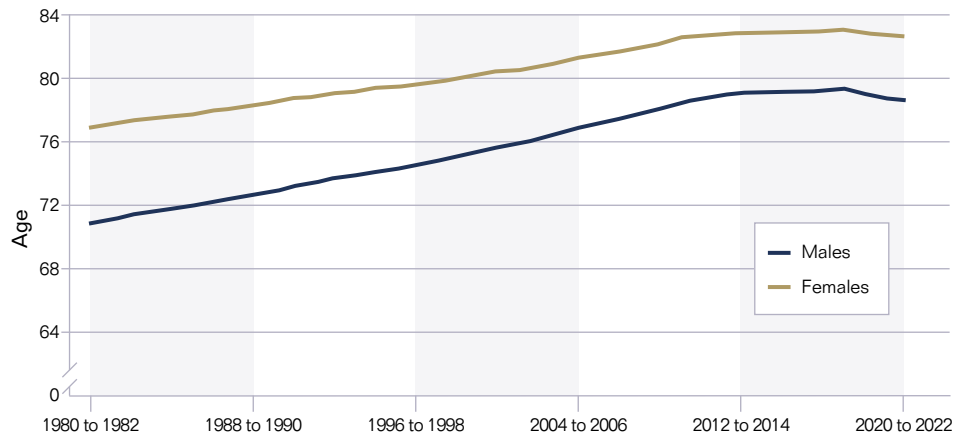
2.5.1 Unsurprisingly, the pandemic has had significant impact on demographic trends in Britain. During the first acute phase of the pandemic during 2020-21 the death rate increased significantly, as did long-term sickness due to Long Covid and other disease. At the start of 2023 the ONS estimated that England and Wales saw 170,000 excess deaths since the pandemic began. The increase in the UK death rate was worse than other major European countries, but not as bad as in the United States. During 2022 and 2023 the death rate remained elevated in the UK compared to pre-pandemic levels with about 7-8% additional deaths reported than expected. Various causes have been proposed including the after-effects of endemic Covid-19 infections and the additional strain placed on the NHS.¹⁸ At the same time, birth rates also fell significantly during the first year of the pandemic, the rate being some 14% lower in 2020-21 than the long-term trend. There has been some recovery in birth rates more recently, particularly amongst women in their 30s and 40s. **The result of the pandemic has been to depress life expectancy in the UK, although this was already stagnant in the years before the pandemic.** Across the whole population, life expectancy in 2022 was no better than in 2011 (**Figure 9**). Indicators suggest that the life expectancy gap between the poorest and richest groups has increased over that timeframe.

16 Office for National Statistics, *More Adults living with Parents* (2023), <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/moreadultslivingwiththeirparents/2023-05-10>

17 See <https://researchbriefings.files.parliament.uk/documents/CBP-8593/CBP-8593.pdf>. The ITC's 2024 Annual Lecture will be exploring the wider question of intergenerational inequalities.

18 The Lancet, *Excess mortality in England post COVID-19 pandemic* (2023), [https://www.thelancet.com/journals/lanepi/article/PIIS2666-7762\(23\)00221-1/fulltext](https://www.thelancet.com/journals/lanepi/article/PIIS2666-7762(23)00221-1/fulltext)

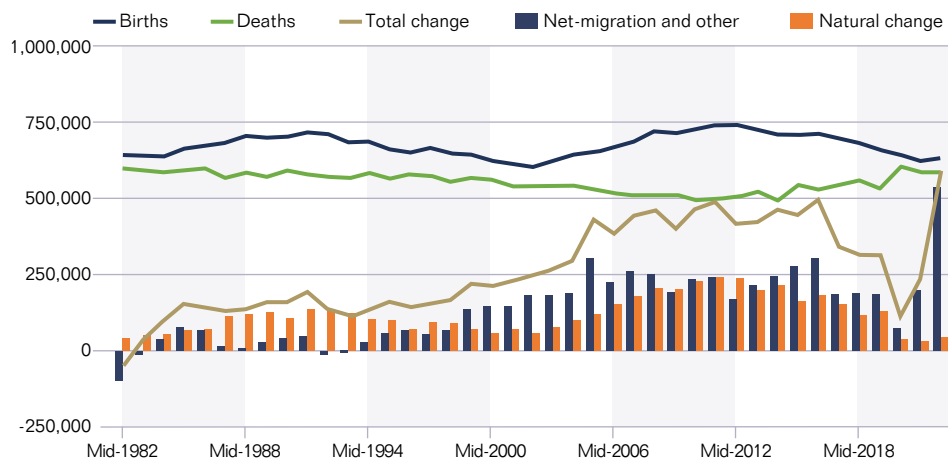
Figure 9: Life expectancy at birth in the UK for males and females (2004 to 2022)¹⁹



Source: ONS National Life Expectancy Tables to 2022 (2024)

2.5.2 As a result of changes in the death and birth rates, the natural growth rate of the UK population has been stagnant since the start of the pandemic. Population growth since then has been almost entirely driven by immigration (Figure 10). During the first phase of the pandemic immigration to the UK slowed substantially, due to international travel restrictions. However, following the re-opening of the economy, immigration has surged to record levels, with a record 1.1 million long-term visas issued during the year to June 2022. The surge in immigration since the start of the pandemic has been driven by non-EU nationals, including those fleeing Russia's invasion of Ukraine and China's crackdown on democracy in Hong Kong. By contrast there has been a net emigration of EU nationals since the start of the pandemic, though this period also overlaps with the imposition of Brexit which made conditions in the UK much less attractive for EU citizens.

Figure 10: Drivers of England and Wales population growth, mid-1982 to mid-2022²⁰



Source: Population estimates from the Office for National Statistics

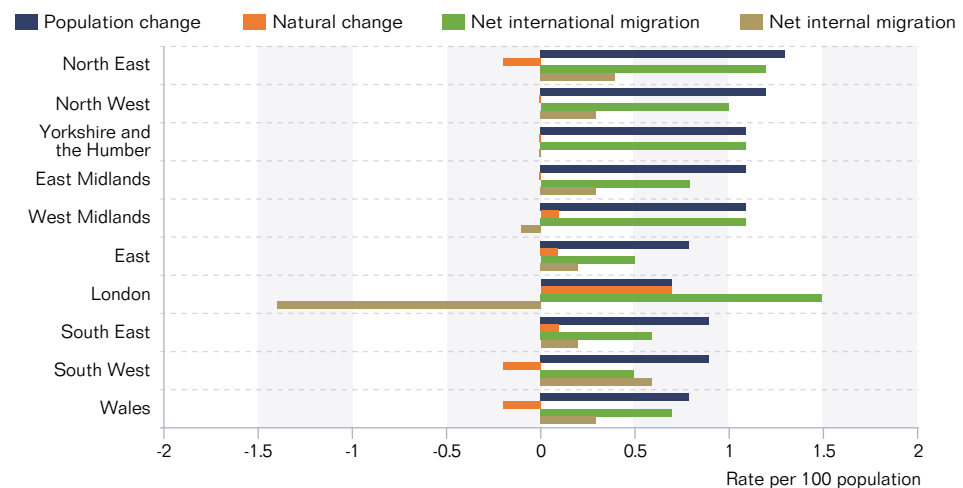
19 ONS, National Life Expectancy Tables to 2022 (2024) <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexpectancies/bulletins/nationallifetablesunitedkingdom/2020to2022>

2.5.3

In terms of internal migration patterns, the initial impact of pandemic saw a shift in residency out of London and major cities, towards smaller towns and rural areas. Census data in 2021 indicates that this was mainly driven by younger people abandoning accommodation in urban areas, and returning temporarily to live with family, as well as a rise in people looking to move permanently to rural and sub-rural areas due to the rise of flexible working. There is some indication that since public health measures were removed in 2021 this phenomenon has seen a partial reversal. In part, this has been driven by young people returning to cities to work and study. In addition, the resurgence of demand for accommodation in cities is partly driven by immigration, since migrants tend to live in urban areas when they first arrive in the UK, while there has been a longstanding trend for older people in their 30s and 40s to migrate from urban areas to rural and suburban locations.

While there has been a net population growth across different regions in the year to mid-2022, that growth has been largely driven by international migration. London, although the region having the slowest population growth (0.7%), also experienced the highest rates of international migration, but this was largely offset by high rates of internal migration out of the city. In highly urbanised areas such as London and the West Midlands, outward internal migration trends continue to be significant, implying that people who moved out of the largest cities during the pandemic have not been returning in large numbers, and any post-pandemic growth in these cities has primarily been generated by net international migration (**Figure 11**).

Figure 11: Population change rate by component, regions of England and Wales, mid-2022 ²⁰



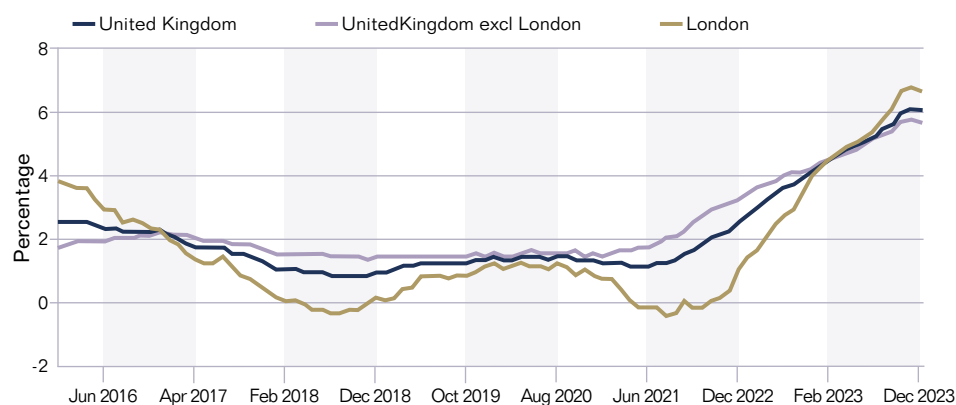
Source: Population estimates from the Office for National Statistics

Notes:

1. Rates are expressed as negatives where their impact is to reduce the population.
2. Natural change is births minus deaths, and negative natural changes means more deaths than births.

2.5.4 Changes in residential location since the start of the pandemic have also been influenced by changing accommodation costs. Due to near-zero interest rates and tax breaks, there was a surge in UK house prices during the two years since the start of the pandemic, with demand for larger, detached houses outpacing that for flats. This has reversed since interest rates started to rise in 2022 and mortgages became less affordable. In contrast, rental prices were stagnant during the early part of the pandemic due to economic uncertainties, but more recently have rocketed to record levels (**Figure 12**). The effect of the rising cost of accommodation has been to increase pressure on personal and household finances, especially of younger and lower-income cohorts who are more likely to have to pay rent or have large mortgages. This is linked to the rise in younger people living with family explained above in **Section 2.4.3**.

Figure 12: Private Housing Rental Prices percentage change over 12 months, UK and London, January 2016 to December 2023 ²¹



Source: Index of Private Housing Rental Prices from the Office for National Statistics

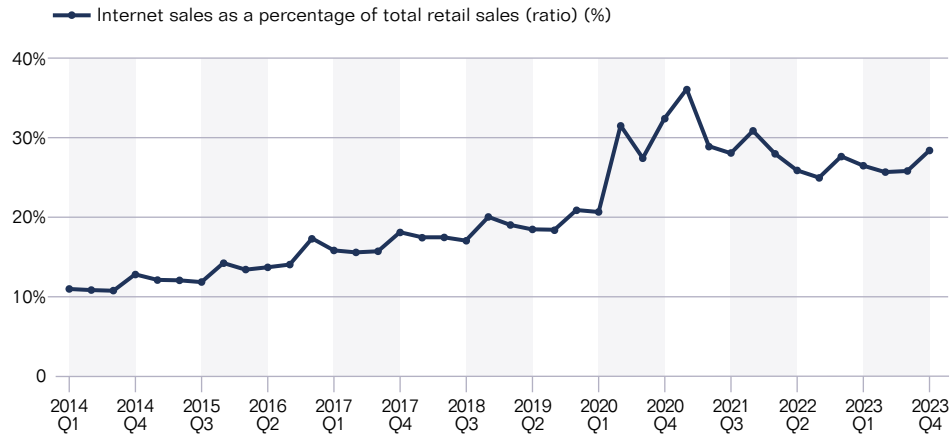
2.6 Shopping and deliveries

2.6.1 The public health measures and lockdowns imposed during the first phase of the pandemic caused a substantial and immediate rise in online shopping and home deliveries. **This accelerated a pre-existing trend towards online retail, and extended to services previously consumed outside the home:** for instance, a rise in take-aways and home food deliveries rather than eating in restaurants. After public health measures were removed, there has since been a partial reversal in online retail back to the long-term trend line that existed pre-2020 (**Figure 13**).

²¹ Office for National Statistics, *Index of Private Housing Rental Prices, UK: December 2023* (2023), <https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/indexofprivatehousingrentalprices/december2023>

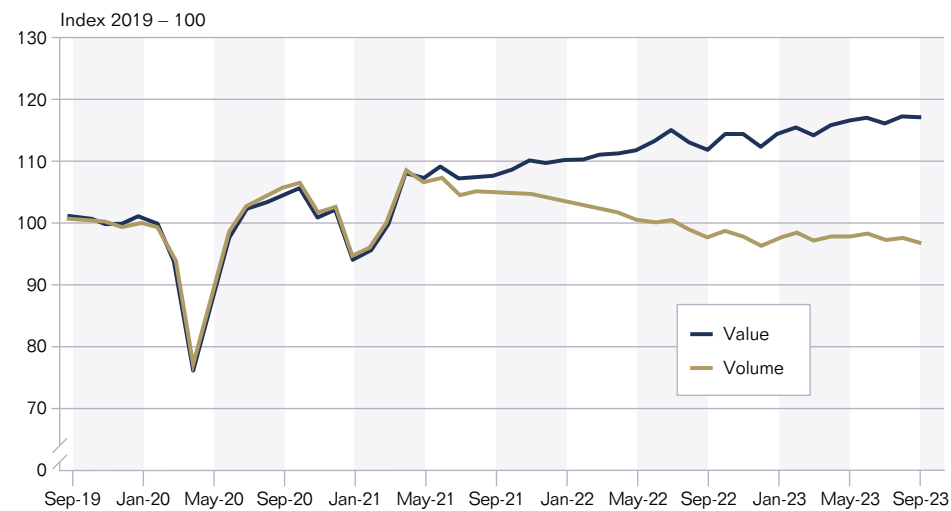


Figure 13: Internet sales as a percentage of total retail sales (ratio), 2014 Q1 to 2023 Q4 (%)²²



2.6.2 Certain retail sectors, such as garden centres and DIY stores, benefited from the restrictions seen during the first phase of the pandemic as people chose to make home/garden improvements. Other sectors were affected by supply chain problems, such as the automobile market, where a lack of new car availability caused a surge in second-hand car prices, which has not since fully reversed. Since inflation began to rise significantly at the end of 2021, there has been a major divergence between retail sales volumes (falling) and retail sales values (rising). (Figure 14). This is particularly notable in food retail where inflation has been particularly high. After a boost in sales in Spring 2021 following the relaxation of pandemic restrictions, retail volumes have since stagnated. Overall retail sales volumes remain 3% below pre-pandemic levels (Q4, 2019) and 11% below April 2021.²³

Figure 14: Volume and value sales, seasonally adjusted, Great Britain, September 2019 to September 2023²⁴



Source: Monthly Business Survey, Retail Sales Inquiry from the Office for National Statistics

22 Office for National Statistics, *Internet sales as a percentage of total retail sales (ratio) (%)* (2023), <https://www.ons.gov.uk/businessindustryandtrade/retailindustry/timeseries/j4mc/drsi>

23 Office for National Statistics, *Retail sales, Great Britain: November 2023* (2023), <https://www.ons.gov.uk/businessindustryandtrade/retailindustry/bulletins/retailsales/november2023>

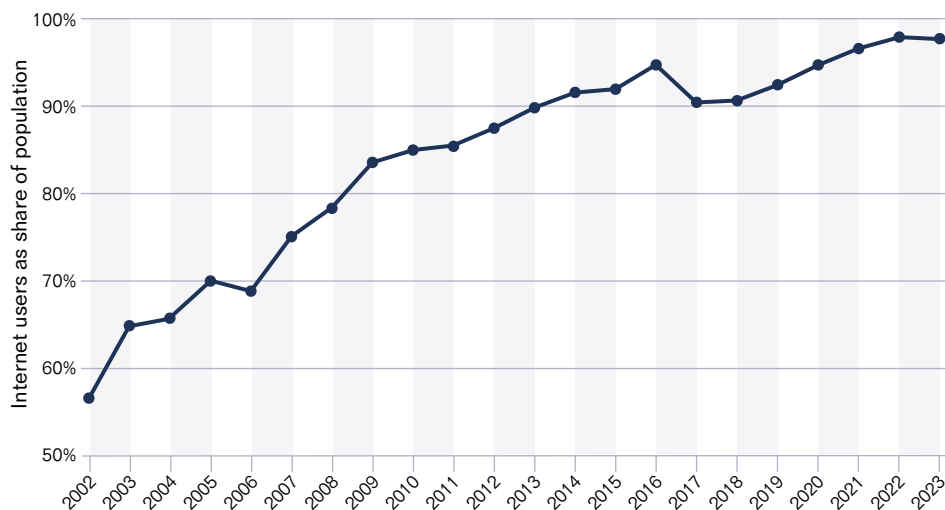
24 Office for National Statistics, *Retail sales, Great Britain: September 2023* (2023), <https://www.ons.gov.uk/businessindustryandtrade/retailindustry/bulletins/retailsales/september2023>

2.6.3 In terms of how people shop, since the start of the pandemic there has been a significant rise in people choosing online supermarket deliveries rather than travelling to stores. Urban footfall is still lower than before the pandemic, particularly due to a fall in shopping during weekdays; by contrast weekend shopping visits to urban high streets has increased. Increasingly, visits to city centres are being made by people living in the adjacent suburbs rather than from further afield.²⁵ However, footfall in shopping centres in March 2022 was still more than 10% down on the pre-pandemic level.

2.7 Digital lifestyles

2.7.1 One of the most significant impacts of the pandemic has been the way in which it has increased digitalisation of our lifestyles. An increase in online activity and digitalisation was of course already underway long before pandemic. By 2016, 95% of the population were regularly using the internet and the rise of online services, from retail to entertainment, had been steadily increasing for two decades before this. However, lockdowns and public health measures forced an acceleration of these trends and demonstrated the potential for most services and activities to take place online. Over 98% of the UK population were regular users of the internet in 2022, and the scale of digital exclusion has significantly diminished (the proportion of households without internet access halved during the pandemic) (**Figure 15**). Policy makers still need to take account of the small minority of the population without online access which is overwhelmingly concentrated among low-income pensioners (especially the over-75s).²⁶

Figure 15: Share of individuals using the internet in the United Kingdom (2002 to 2023)²⁷



25 Centre for Cities, *High streets recovery tracker* (2022), <https://www.centreforcities.org/data/high-streets-recovery-tracker/>

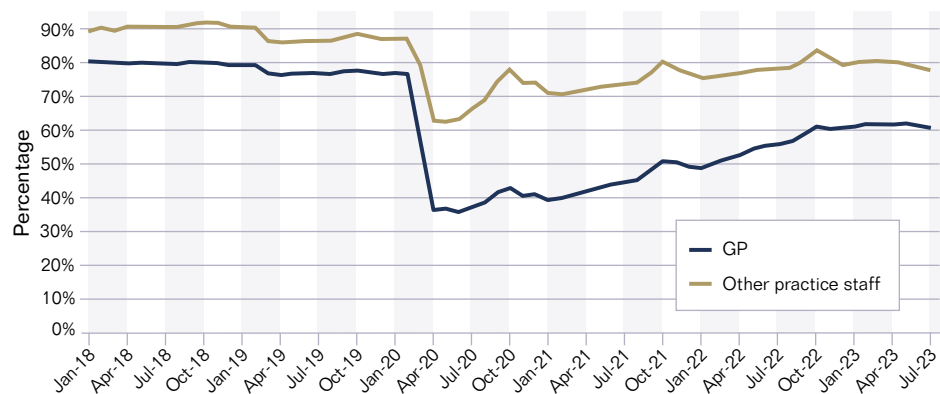
26 See https://www.ofcom.org.uk/data/assets/pdf_file/0022/234364/digital-exclusion-review-2022.pdf

27 Statista, *Share of individuals using the internet in the United Kingdom (UK) from 2002 to 2023* (2023), <https://www.statista.com/statistics/1124328/internet-penetration-uk/>

2.7.2 The acceleration of digitisation has been widespread throughout the private sector since the start of the pandemic. This has been notable in a commercial context, where business meetings using Zoom and Teams videoconferencing have become standard due to convenience of not being tied to a single location. Financial services have also become increasingly digitalised, and have been accompanied by the closure of local physical bank branches. The use of cash has also declined further in favour of digital payments, with the volume of UK payments not involving cash rising from 45 to 85 per cent in the decade to 2021.²⁸ In the field of entertainment there was an immediate rise in the online consumption of films, concerts and theatrical productions, and although this has reversed somewhat since 2021, levels are still much higher than before the pandemic. Cinema attendance, for instance, in 2022 was still only two-thirds of its pre-pandemic level, while Netflix subscriptions rapidly increased during the first phase of the pandemic. Retail, as seen in **Section 2.6**, has also seen a permanent shift towards online shopping.

2.7.3 In the public sector, the pandemic accelerated a programme of digitalisation of services which was already underway before 2020. As a policy measure, this was already seen as advantageous for helping to meet net-zero carbon targets, reducing costs and increasing convenience. During the pandemic many Government services had to be rapidly provided digitally: online consultations were used for social security purposes such as benefit claiming, the Covid-19 pass for travel was administered online, and many signed up to the Government’s notify service and Test and Trace alert service. Many GP consultations and services also were provided remotely, via the phone or the internet, and the percentage of face-to-face consultations remains significantly below pre-pandemic levels. **(Figure 16)**. The longer-term legacy is that most engagements with public sector organisations can now happen remotely. For example, local authorities are now increasingly reliant on the ‘Fix my Street’ online system rather than the telephone to receive reports of faults and issues such as fly-tipping, and the police now have a higher take-up for their online speed awareness courses than for physical sessions.

Figure 16: Percentage of all appointments with GPs and other practice staff that were face to face per month (January 2018 till July 2023)²⁹



Source: Health Foundation analysis of NHS Digital, *Appointments in General Practice*

28 Prospect Magazine, *The End of Money* (2024), <https://www.prospectmagazine.co.uk/ideas/economics/64492/the-end-of-money-cashless-society>

29 The Health Foundation, *General practice tracker* (2023), <https://www.health.org.uk/news-and-comment/charts-and-infographics/general-practice-tracker>

3. Land Use and Planning

3.1 Impacts on Cities, Towns and Rural Locations

The wide-ranging impacts of the pandemic identified in **Chapter 2** have inevitably affected places and land use in the UK. These impacts have varied across cities of different sizes, towns, and rural locations. Due to the gradual nature of land use and planning changes, and the complexity of measuring these impacts, data and evidence is often limited or indirect. This is to be expected due to the fact that land use changes are complex, often lag wider changes in society, and can be more difficult to measure and quantify. Nonetheless, in this chapter we have attempted to provide insights through the use of relevant indicators, whilst also acknowledging the limitations of existing data and the qualitative nature of much of the analysis.

3.1.1 Footfall Indicators

Footfall recovery with the easing of lockdowns varied by city size, but also within cities by urban cores and suburbs. Footfall refers to the number of people walking past a given point in a given time period and is considered a key indicator of the vitality of a given area.

3.1.1.1 The pandemic severely affected footfall levels across cities and towns, especially during the strict lockdown and public health measures period (till mid-2021). The High Street Task Force collected footfall data in 453 counter locations in 179 English towns and cities for 2019 and 2022.³⁰ They note that while high street decline was already underway prior to the pandemic, the pandemic seems to have enormously accelerated this drop. The task force had predicted a 2.4 % drop in annual footfall for 2022 on 2019 levels, based on projections from 2015. The measured drop was much larger, at 17% below pre pandemic levels. Yet and while volumes were down, the distribution of footfall across the different months of the year remained the same suggesting less frequent visits to towns and cities but similar patterns of visit distributions across the year.

3.1.1.2 City centres of small-size cities showed faster footfall recovery with the easing of restrictions as compared to those of larger-size cities. This is shown by the analysis of footfall recovery in UK city centres in Spring 2022 as compared to pre-lockdown (**Table below**). According to the Centre for Cities, by March 2022, some city centres had recovered to levels of footfall higher than pre-lockdown, while others remained at below-pandemic levels. The top faring cities recorded levels as high as 165% as compared to pre-pandemic levels and were predominantly smaller in size. Meanwhile, larger cities such as London, Birmingham, and Manchester were amongst the most negatively hit; London recorded levels of 59% recovery, while Birmingham recorded 77% and Manchester 87% recovery.



Footfall Recovery in UK cities (March 2022 as a % of pre-lockdown February 2020)²⁵

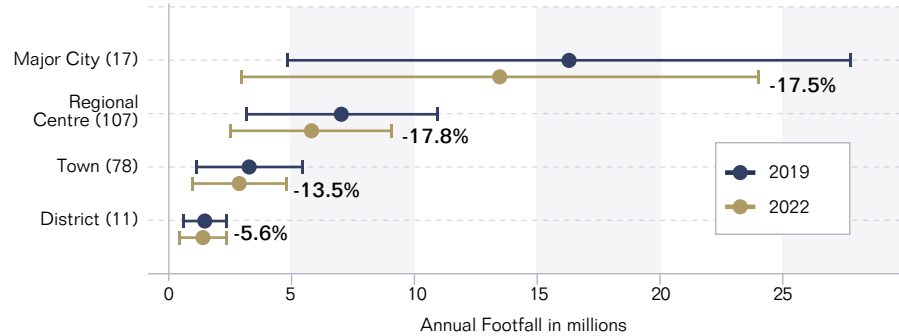
FOOTFALL RECOVERY IN CITY CENTRES	
Top-Faring Cities	Worst-Faring Cities
Plymouth (165%)	Huddersfield (89%)
Blackpool (160%)	Milton Keynes (89%)
Southend (143%)	Manchester (87%)
Dundee (140%)	Reading (84%)
Burnley (138%)	Bradford (83%)
Barnsley (134%)	Luton (81%)
Swansea (132%)	Coventry (79%)
York (130%)	Slough (78%)
Sunderland (126%)	Birmingham (77%)
Mansfield (122%)	London (59%)

Percentage recovery shown in parentheses.
Data retrieved from Centre for Cities²⁵

The High Street Task Force analysed footfall levels in cities and towns of different sizes in 2022 as compared to 2019. They grouped cities and towns across the UK into four categories based on an activity hierarchy. Their findings suggest that smaller size activity centres, such as districts and towns, showed less reduction in footfall volumes as compared to regional centres and major cities (**Figure 17**). Mobile phone data analysis by Analysts Placemake.io and Visitor Insights similarly appears to indicate better recovery of high streets in suburban, small-town, and seaside towns as compared to major city centres between 2019 and 2022.³¹ Town centres with high increases in footfall levels include Marlow (33%), Glossop (33%), Matlock (32%), Buxton (26%), and Melton Mowbray (23%), and seaside towns such as Morecambe (70%), Budleigh Salterton (59%), Porthcawl (55%).

31 BBC, *Tuesday to Thursday is the new office working week, data suggests* (2023), <https://www.bbc.co.uk/news/uk-64118190>

Figure 17: Annual Footfall (millions) in urban areas in the UK, 2019 and 2022 based on Springboard, showing means (circles), and standard deviation ranges (error bars) for a reduced retail hierarchy, and the number of places in each category.³⁰



3.1.1.3 The changing role of suburbs has also been documented in various UK cities. Research by the Centre for Cities has investigated the origins of trips to most major city centres. In the largest cities (London, Birmingham and Manchester), visits to city centres are increasingly being made by people living in the surrounding suburbs rather than venturing in from outside the city. This suggests that people living outside an urban catchment area are now less likely to visit city centres compared to the pre-pandemic situation.²⁵

3.1.2 Spending Analysis

3.1.2.1 The pandemic has led to a spike in online shopping. ONS data reveals strong spikes in internet sales during the first phase of the pandemic (**Figure 13**). By December 2022, online shopping had risen across different cities as compared to pre-pandemic, but long-term trends show that the current increase was already happening prior to the pandemic.³²

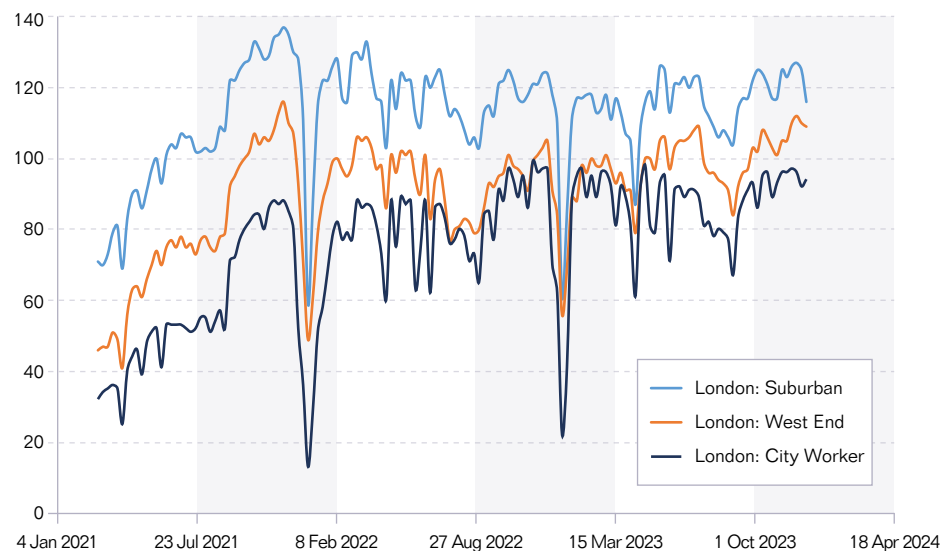
3.1.2.2 This trend towards online shopping varied by city location and shopping category. Geographically, a higher number of cities witnessed growth in online shopping in the south (Cambridge, London, Brighton), while Scottish cities witnessed the least growth. In terms of items being bought online, the greatest increase has been in online shopping of food and drinks and groceries between December 2019 and 2022.³²

3.1.2.3 City centres of small-size cities showed faster in-person spending recovery with the easing of restrictions as compared to those of larger-size cities. Offline-credit spending was analysed in city centres across the UK between pre-lockdown February 2020, and March 2022. While all cities saw recovery of in-person spending to pre-pandemic levels, the fastest recovery of in-person spending was found in smaller, more peripheral towns and cities such as Blackpool, Telford, Middlesbrough and Hull, while it was slowest in large cities such as London, Edinburgh and Birmingham.²⁵



3.1.2.4 In London, the growing role of the suburbs has persisted since the pandemic. The Pret Index, which reflects average till transactions, indexed to pre-pandemic levels (first four weeks of January 2020) shows that London City Worker sales were impacted the most as compared to pre-pandemic, with levels of recovery remaining below 100% in December 2023 (**Figure 18**). Meanwhile, Suburban areas of London showed the highest level of spending relative to pre-pandemic levels, exceeding 100% as early as mid-July 2021.³³ This suggests a diminishing role of in-person spending in working areas of London, and the growing role of the suburbs.³⁴

Figure 18: Pret Index, areas of London % of the average weekly till transactions in the first four weeks of 2020, March 2021 to December 2023



3.1.3 Rural areas

3.1.3.1 Economic hardships in rural areas were accentuated due to the pandemic. These include lower median earnings for individuals working, less housing affordability, and a diminishing availability of workforce in these areas.³⁵ The Levelling Up in the UK White Paper, published by the UK government in February 2022, marks a policy focus on spreading opportunities more equally across different parts of the UK and resolving the unique challenges posed by the pandemic on disadvantaged areas. Support dedicated to levelling up rural areas includes the Rural England Prosperity fund, providing £110 million between April 2023 and March 2023 to fund capital projects which strengthen rural economies. Other ways to revitalise rural economies include support for the farming industry, which had to respond quickly to supply chain disruptions during

33 Office for National Statistics, *Transactions at Pret A Manger* (2023), <https://www.ons.gov.uk/economy/economicoutputandproductivity/output/datasets/transactionsatpretamanger>

34 While the Pret Index is typically considered a proxy for footfall levels, it is based on volume of sales done at Pret branches, and thus would work best had demand for sales volumes been price inelastic or had prices been stable which may not be the case. See Financial Times, *The price problem with Pret* (2023), <https://ftalphaville.ft.com/content/8357c42c-5adc-4a0b-af1a-140d9e853589>

35 UK Government, *Levelling Up in the United Kingdom* (2022), <https://www.gov.uk/government/publications/levelling-up-the-united-kingdom>



the pandemic. One initiative supporting rural farming is the Food Strategy and the Agricultural Transition Plan, enhancing collaboration between farming and industry, and supporting local produce in domestic markets.

3.1.3.2 Rural areas witnessed exacerbated transport challenges due to the pandemic combined with existing disadvantages. These areas struggle with poorer connectivity, longer distances, and weaker public transport links, which create heavier dependencies on private transport,³⁶ see **Section 4.2.3**. The equity impacts of policies aimed at the decarbonisation of road vehicles, including on those areas where there is a high dependency on private car use, is being investigated as part of a new ITC project with the Rees Jeffreys Road Fund.

3.1.3.3 Although the pandemic has increased digitisation and internet access across the UK, the level of internet coverage remains lower in rural areas.³⁷ This has meant that while digitalisation of services led to increasing access to some in rural areas, these became even less accessible to those without access to broadband.³⁸ These groups were particularly disadvantaged by the closure of public spaces during the pandemic, which might have provided broadband access, such as cafes and libraries. Efforts to improve digital infrastructure in these areas include Project Gigabit, and the Shared Rural Network initiatives which aim to decrease digital poverty in these areas. Initiatives to improve connectivity are targeting spatial coverage, as well as quality of services including the provision of 5G for the majority of the population by 2027.³⁹ This tallies with increased digital dependency and access outlined in **Section 2.7**.

3.1.4 Outdoor and park spaces

3.1.4.1 Under the impact of the pandemic, restrictions on in-door social gatherings nudged a shift towards outdoor spaces. **Figure 19** shows the usage of parks and outdoor spaces in the UK, benchmarked against pre-pandemic levels. While these have varied across the pandemic timeline, they remain higher than pre-pandemic levels, indicating a permanent rise in parks and outdoors space usage. In the summers of 2020 and 2021 relatively few people travelled abroad for their main summer holiday. However in 2022 when restrictions were lifted internationally many people took their first foreign trips since before the pandemic, which explains the drop in 2022. On October 15, 2022, the usage of outdoor and park spaces in the UK remained at levels 24% higher than pre-pandemic. More recent data on this issue is very limited.

36 DEFRA, *Delivering for Rural England – the second report on rural proofing* (2022), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1102250/Delivering_for_rural_England_-_the_second_rural_proofing_report.pdf

37 Ofcom, *Connected Nations Update* (2023), https://www.ofcom.org.uk/_data/assets/pdf_file/0026/261548/spring-2023-connected-nations-update.pdf

38 Rural Lives, *Covid-19 and financial hardship in rural areas* (2023), https://www.rurallives.co.uk/uploads/1/2/7/3/127324359/rural_lives_-_covid-19_and_financial_hardship_final_05.05.21.pdf

39 UK Parliament, *Rural mobile coverage in the UK: Not-spots and partial notspots* (2022), <https://researchbriefings.files.parliament.uk/documents/SN07069/SN07069.pdf>



Figure 19: Parks and Outdoor Space Usage changes relative to pre-pandemic, UK, including places like local parks, national parks, public beaches, marinas, dog parks, plazas and public gardens⁴⁰



Source: Google COVID-19 Community Mobility Trends - Last updated 24 July 2023

3.1.4.2 The pattern of demand for outdoor spaces and parks developed differently in urban and rural areas. Tourism is a major economic and employment driver in rural and coastal areas.³⁵ Research by Visit Britain⁴¹ shows that country parks witnessed the least fluctuation in visits during the periods between 2019 and 2022. Meanwhile, gardens, workplaces, farms, and steam and heritage railways all witnessed a plummet in visits during the pandemic. Country Parks, such as National Trust land, were open with restrictions for much of the period of the pandemic, but rural attractions such as working farms often remained closed, and people were not able to stay for part of the time in rural hotels and other accommodation. Furthermore, during the acute phase of the pandemic, rural areas struggled with issues around sustainable tourism and threats to the local ecosystem, which has encouraged the Government to release a Sustainable Tourism Plan in 2024.⁴² In urban areas, the increased demand for outdoor spaces has nudged an increased interest in urban gardens, green and blue (near-water) spaces, and improved urban public spaces, discussed further in **Section 3.4**.

40 Google COVID-19 Community Mobility Trends – processed by Our World in Data, *Parks and outdoor spaces: How did the number of visitors change relative to before the pandemic?* (2023), <https://ourworldindata.org/grapher/change-visitors-parks-covid?tab=chart&country=~GBR>

41 Visit Britain, *Annual Attractions Survey* (2023), <https://www.visitbritain.org/media/2607/download?attachment>

42 Department for Culture, Media & Sport, *Tourism Recovery Plan Update on Delivery* (2023), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1152936/Select_Committee_TRP_update.pdf

3.2 Impacts of changing working patterns on land use

3.2.1 Changes in Working Patterns

3.2.1.1 The pandemic has led to permanent increases in hybrid and home-based working in the UK as seen in **Section 2.3**. However, this remains **restricted within specific income groups, demographic profiles, and professions**. Evidence shows that workers from the highest income band are the most likely to report home-based and hybrid working. 53% of those earning £50,000 or more reported hybrid working with 10% not being able to homework. Meanwhile, in the lowest income group, only 5% reported hybrid working with 65% not being able to homework. In terms of household makeup, parents with a dependent child reported higher levels of hybrid or home-working.⁴³

3.2.1.2 Shifts to hybrid or flexible work patterns including homeworking also varied by profession. In November 2020, the largest shift to permanent home-working as part of their business model was seen in information and communication, professional, scientific and technical activities. These 'knowledge' based industries were also some of the fastest growing sectors of the economy before the pandemic. By April 2022, the education sector, as well as real estate, administrative and support services had also witnessed significant increases in the consideration of permanent home-working. In fact, most industries saw an increase between November 2020 and April 2022 in the percentage of businesses using or planning to use flexible work patterings homeworking as part of their forward model.⁴⁴

3.2.1.3 In terms of jobs adverts with flexible working in 2022, the highest percentages were noted in social services (44%), human resources (37%), medical and health services (36%). High levels were also recorded in marketing and public relations (33%), hospitality and services (33%), and finance and accounting (32%)⁴⁵.

3.2.1.4 **Figure 20** shows the percentage of jobs advertised as flexible work over the past few years, in reference to part-time work, hybrid work, time-based flexibility (flexible hours or shifts). A vast increase can be seen between 2020 (pre-pandemic) and 2021 (lockdown periods) with a 7% increase in one year. After that, and up until 2022, that percentage had risen to 30%. Notably, this percentage continued to increase even after the first phase of the pandemic ended, which suggests that flexible

43 Office for National Statistics, *Characteristics of homeworkers, Great Britain: September 2022 to January 2023* (2023), <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/characteristicsofhomeworkersgreatbritain/september2022tojanuary2023>

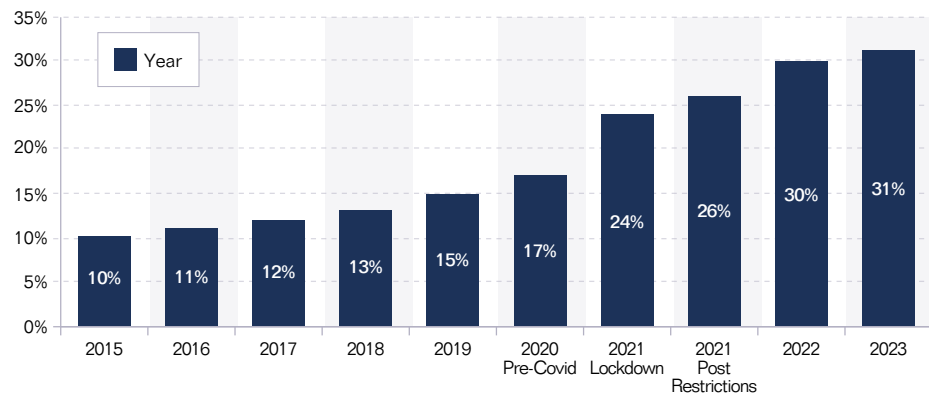
44 Office for National Statistics, *Is hybrid working here to stay?* (2022), <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/ishybridworkingheretostay/2022-05-23>

45 The Timewise, *Flexible Jobs Index 2023* (2023), <https://timewise.co.uk/wp-content/uploads/2023/11/Timewise-Flex-Jobs-Index-2023.pdf>



working has become a part of the post-pandemic norm. Nevertheless, there remains a wide gap between preference for flexible working and job supply for it. While 9 in 10 people want flexible working, only 6 in 10 actually work in flexible work conditions, and only 3 in 10 job offers advertised have a mention of flexible work⁴⁵.

Figure 20: Percentage of Jobs Advertised with Flexible Working, UK, 2015 to 2023 ⁴⁵



3.2.2 Implications on Commercial Office Use

3.2.2.1 This shift to hybrid working has led to changing office-space needs. It has led to a greater need for offices equipped with telecommunications, meeting rooms, screens and audio systems to meet digital needs. Hybrid or flexible working practices have also led to an increase in the need for offices equipped with hot desks and flexible spaces which accommodate flexible work habits.⁴⁶

3.2.2.2 The pandemic has affected office space usage across the UK. Globally, London's commercial office land use was amongst the most impacted, with office space vacancies rising from 5% in 2019 to 15% in 2022.⁴⁷ On a national scale, UK averages for office space vacancies seem to have plateaued at around 35% occupancy, compared to estimates of 60-80% pre-pandemic⁴⁸ (**Figure 21**). Meanwhile, demand for older, and larger office spaces has dropped, as they prove less adaptable to hybrid work needs, which was reflected in a decline in office floorspace especially following the first lockdown.⁴⁹ Meanwhile, the demand for prime office space has risen, with grade A office vacancies down in 2023 compared to 2022 across six major UK cities.⁵⁰

46 The National News, *London's Canary Wharf struggles amid shift to hybrid work and changing tastes* (2023), <https://www.thenationalnews.com/opinion/uk/2023/06/13/londons-canary-wharf-struggles-amid-shift-to-hybrid-work-and-changing-tastes/>

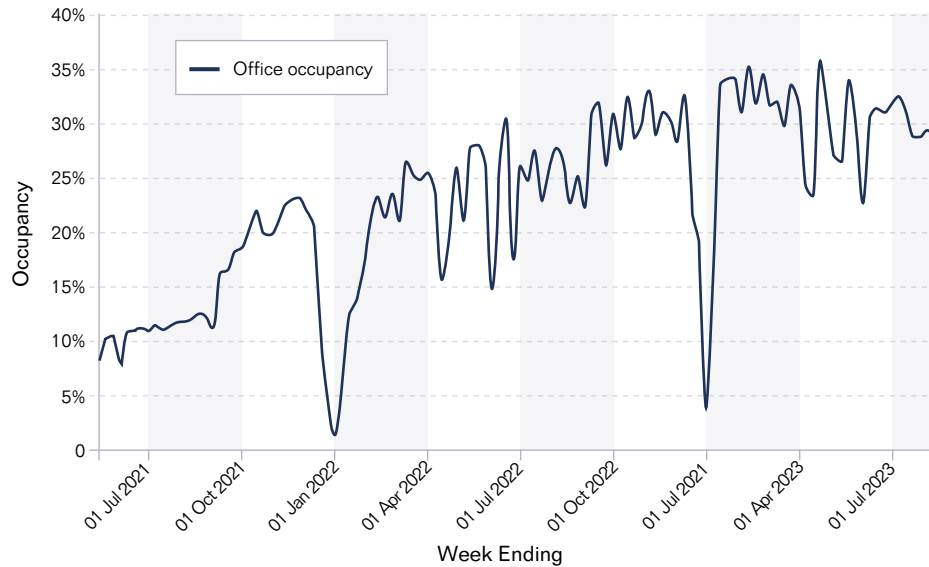
47 McKinsey, *Empty Spaces and Hybrid Places* (2023), <https://www.mckinsey.com/mgi/our-research/empty-spaces-and-hybrid-places-chapter-2>

48 CoStar based on Remit Consulting, *UK Office Occupancy Holding Up Despite Summer Challenges* (2023), <https://www.costar.com/article/1336525308/uk-office-occupancy-holding-up-despite-summer-challenges>

49 UK Government, *Non-domestic rating: stock of properties including business floorspace statistical commentary* (2023), <https://www.gov.uk/government/statistics/non-domestic-rating-stock-of-properties-including-business-floorspace-2023/non-domestic-rating-stock-of-properties-including-business-floorspace-statistical-commentary#time-series-of-business-floorspace-in-england-and-wales>

50 Centrick, *The Future Of Commercial Office Space In The UK* (2023), <https://centrick.co.uk/news/the-future-of-commercial-office-space-in-the-uk/>

Figure 21: Office occupancy rates in the UK , 2021 to 2023 ⁴⁸



Source: Remit, August 2023

3.2.2.3 The pandemic has had its most pronounced impacts in areas of purely-commercial use. In the case of Canary Wharf, major companies which held offices in the area are considering to relocate or have already done so. These corporations are moving to smaller offices in more central areas which are a better fit for hybrid working needs and have more facilities in the locality. Firms include HSBC and Clifford Chance international law firm which have announced plans to leave Canary Wharf.⁵¹ Meanwhile, areas of central London are witnessing increased demand. Questions around how major commercial centres can be adapted and repurposed into more mixed-use diverse areas are now being posed in policy and planning spheres alike. The City of London, for example is looking to speed up conversion of 'stranded assets' including empty commercial office space to hotels and other public amenities. In addition, Canary Wharf, which had been a 128 acre financial hub, is now adding more residential areas, creating a hub for life science research groups, hosting cultural shows, as well as having an outdoor cinema, swimming pools, and startups and governmental health agencies to diversify its user base and sources of occupants.⁵²

51 BBC, *City of London office space demand continues to rise* (2023), <https://www.bbc.com/news/uk-england-london-67279840>

52 Financial Times, *The reimagining of Canary Wharf* (2022), <https://www.ft.com/content/54faa76a-a61d-4d3c-b9a9-76eb6f92a79a>



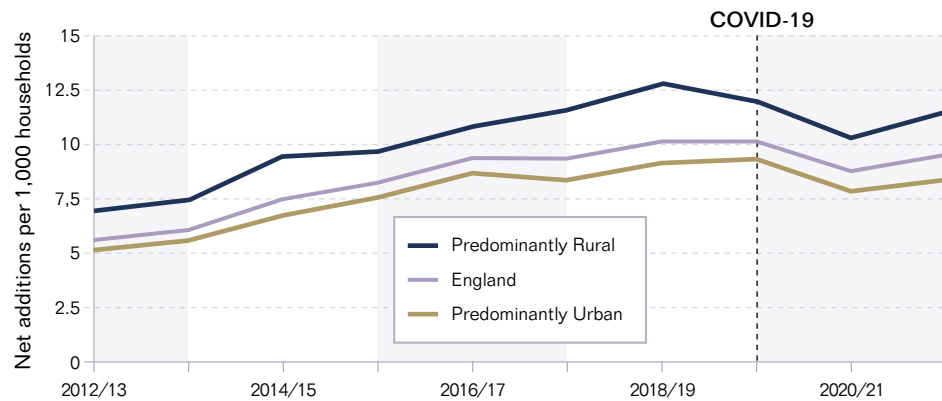
3.3 Impacts upon residential use

3.3.1 The pandemic has led to strong pressures on housing across different parts of the UK. Generally, demand was higher than supply leading to housing affordability issues, an issue particularly felt in rural areas due to a spike in demands for second homes and short-term lets early in the pandemic. Changing housing preferences were also observed with the rise in home-based working. This section discusses some of these impacts by supply, demand, and rural areas.

3.3.2 Residential Supply

3.3.2.1 On the supply side, a decline in net additions to housing stock began in rural areas in 2018/2019, and in urban areas with the onset of the pandemic in 2020 (Figure 22). This downward trend intensified for all areas during the Covid-19 pandemic, under the impact of lockdown measures and supply chain disruptions. A recovery is underway since April 2021, which coincides with the reopening period since the pandemic.

Figure 22: Overall net additions to housing stock per 1,000 households, by rural-urban classification, 2012/2013 to 2021/2022 ⁵³



3.3.2.2 In terms of housing need, for the year 2023, Savills looked at key indicators to compare housing need, delivery in the short-term, and delivery in the medium term. These indicators include housing need as represented by the standard method 1.1,⁵⁴ energy performance certificates (typically issued at the completion of construction and thus acting as an indicator of completed houses in 2023), and full planning consents (as indicators of houses granted planning consent for development and to be completed in the medium term). Their analysis demonstrates that housing need exceeds housing delivery in 2023 (EPCs) in five of the nine regions. But they also show a lower rate of planned housing delivery in the medium term as compared to houses issued energy performance certificates. This reflects a risk of shortage in housing delivery in the future term.⁵⁵

53 DEFRA, *Statistical Digest of Rural England: 2- Housing* (2023), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1178198/15_08_2023_-_2_-_Housing.pdf

54 Savills, *Housing Need and Delivery* (2021), https://www.savills.co.uk/research_articles/229130/312926-0

55 Savills, *English Housing Supply Update Q3 2023* (2023), https://www.savills.co.uk/research_articles/229130/354181-0

3.3.3 Residential Demand

3.3.3.1 In comparing housing demand and supply between March 2019 and March 2023, findings showed that housing demand is up by 16% as compared to 2019, while the stock of homes for sale is down by 16% as compared to 2019.⁵⁶ In the renting market, the private rent sector has adapted to meet some of the increase in demand. Meanwhile, social and affordable housing supply remains limited and is witnessing increasing pressures (**Section 2.5**). This has led to the adoption of the 2021-2026 Affordable Homes Program, with £11.5 billion grant funding to support homes at discounted rent rates, and affordable home ownership schemes, with social rent being a main priority of the scheme.⁵⁷ Here distinguishing between homeowners and renters is crucial, especially since private renters face not only the problem of limited supply and high costs, but also a lack of security of tenure.

3.3.3.2 Lockdown restrictions led to a rise in demand for houses which are better equipped to permit hybrid and home-based working. Three-bedroom homes outside of London were the most sought-after property in December 2021.⁵⁸ **Figure 23** shows that the search for “garden office” peaked between 2020 and 2021 during the peak of the pandemic, reaching 726,000 average monthly searches around mid-2020. Levels began to stabilise around mid-2021, following the loosening of restrictions, but remained at levels higher than pre-pandemic. The pandemic thus nudged a shift towards adaptable and flexible homes, where adaptable refers to houses which allow for alterations, and flexible to those which allow flexible use without alterations.⁵⁹ Modifications to homes include the incorporation of a garden room, multiple entrances, balcony space, and ways to divide apartments and give more privacy⁵⁹. This has affected housing adverts, with adverts listing garden offices increasing by 11-fold over the past 10 years.⁶⁰ Looking at price changes by housing type, detached houses grew in price by the largest percentage between January 2020 and Dec 2022 (25.9%), followed by semi-detached houses (23.1%), then terraced homes (21.1%), and finally flats (13.3%).⁶¹

56 Zoopla Indicators, *House Price Index: Housing market defies expectations in early 2023* (2023), <https://www.zoopla.co.uk/discover/property-news/zoopla-house-price-index-march-2023/>

57 UK Government, *What is affordable housing?* (2023), <https://commonslibrary.parliament.uk/research-briefings/cbp-7747/>

58 Zoopla, *New Year demand for property hits record levels, up 50%* (2022), <https://www.zoopla.co.uk/discover/property-news/house-price-index-december-2021/>

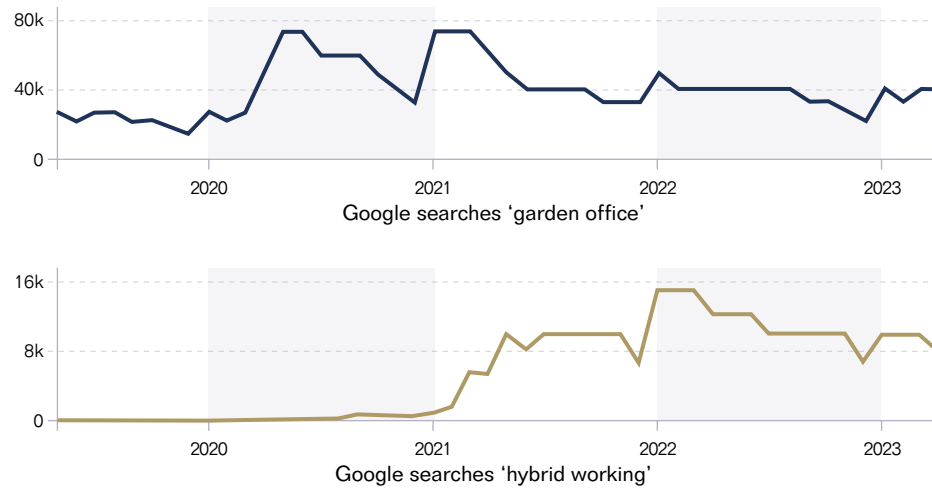
59 Hollis, F., *Key lessons for adaptable housing* (2023), <https://www.buildingsandcities.org/insights/commentaries/lessons-adaptable-housing.html>

60 Rightmove, *Dining rooms decline and orangeries on the rise* (2022), <https://www.rightmove.co.uk/press-centre/dining-rooms-decline-and-orangeries-on-the-rise/>

61 Lloyds bank, *Three Years On: How The Pandemic Reshaped The UK Housing Market* (2023), <https://www.lloydsbankinggroup.com/assets/pdfs/media/press-releases/2023-press-releases/halifax/20230228-three-years-on-how-the-pandemic-reshaped-the-uk-housing-market.pdf>



Figure 23: Average monthly Google Searches for the terms 'garden office' (top) and 'hybrid working' (bottom), 2019 to 2023⁶²



3.3.4 Rural Area Housing Issues

3.3.4.1 The demand on housing in rural areas spiked during the first phase of the pandemic, leading to immense housing challenges in these areas. Short-term holiday-let home numbers in 2022 were up by 40% since 2019.⁶³ The issue is particularly a concern in tourist areas such as Cornwall, Devon, South Lakeland, and Northumberland, creating affordability issues for locals.⁶⁴ As a result, the number of rural households on local authority social-home waiting lists has increased by 31% between 2019 and 2022, as compared to a 3% in urban areas.⁶⁵ Analysis done by the University of Kent and University of Southampton (2023) has confirmed this, finding 24% increase in rural rough sleeping in 2022 as compared to 2021.⁶⁶

3.3.4.2 Policy responses to limit short-term letting of houses in rural areas varied by area, with legislation and regulation over short-term lettings lagging behind in England as compared to other parts of the UK. In Scotland, new hosts are required to apply for a short-term let license before accepting bookings or receiving guests. This license includes holiday cottages, Bed and Breakfasts, guest houses, rooms within a home, and unconventional accommodations.⁶⁷

⁶² Legal and General Group, *Garden offices here to stay: Google searches for garden offices 22% higher than pre pandemic* (2023), <https://group.legalandgeneral.com/media/iopopqa/garden-offices-release-final.pdf>

⁶³ BBC, *Number of holiday-let homes in England up 40% in three years* (2022), <https://www.bbc.co.uk/news/uk-politics-61966359>

⁶⁴ CPRE, *New research: a huge rise in holiday lets is strangling rural communities* (2022), <https://www.cpre.org.uk/news/new-research-a-huge-rise-in-holiday-lets-is-strangling-rural-communities/>

⁶⁵ National Housing Federation, *Demand for social homes in rural areas is growing at over 10 times the rate of that in towns and cities* (2023), <https://www.housing.org.uk/news-and-blogs/news/demand-for-social-homes-in-rural-areas-is-growing-at-over-10-times-the-rate-of-that-in-towns-and-cities/>

⁶⁶ Kent University, *Homelessness in the countryside: a hidden crisis* (2023), https://research.kent.ac.uk/rural-homelessness/wp-content/uploads/sites/2523/2023/03/0323-Kent-Countryside-Homelessness-Report_V1.pdf

⁶⁷ Scottish Government, *Short-term lets: regulation information* (2023), <https://www.gov.scot/publications/short-term-lets/>

In Wales, second homes have been identified as an issue threatening housing affordability and community sustainability, causing disintegration of communities in Welsh-speaking areas which leads to the decline of the Welsh language.⁶⁸ The Welsh government, as of 1 April 2023, has raised the maximum allowable level of council tax premiums to 300%, but has left it at the discretion of local authorities whether to charge on empty homes, second homes, or both.⁶⁹ Meanwhile, England currently has fewer regulations on empty homes and the second homes market. The government ran a consultation between April and June 2023, on introducing a use class for short-term letting and the associated permitted development rights. The aim of the scheme is to give local authorities greater control over the increase in short-term lettings and over the retention of existing rent and own properties.⁷⁰

3.4 Policy and Planning Responses

The pandemic has led to a changing role of cities, including urban cores, suburbs, and small towns. It has also nudged changes in in-person shopping behaviours, working habits, and residential needs. In terms of implications on policy and planning, this has led to a changing role of high streets, city centres, and local neighbourhoods. This section traces the land use policy and planning responses to these changing needs.

3.4.1 Revitalising the High Street

3.4.1.1 Changes in shopping habits and the increasing role of online shopping posed concerns around the role of in-person shopping areas. High streets were particularly impacted by the pandemic, especially in larger cities, as discussed in Section 3.1. **Figure 24**, shown below, traces footfall in the UK in high streets, retail parks, and shopping centres. A distinction is made between retail parks and shopping centres where retail parks are larger in size and typically at edge-of-town locations with free parking. All forms of retail areas seem to have been impacted by the pandemic. Notably, retail parks recovered the fastest, arriving at levels close to pre-pandemic in the first half of 2021. By January 2023, retail park footfall levels seem to have returned to pre-pandemic levels, while shopping centres and high street footfall levels seem to have stabilised at levels lower than pre-pandemic.

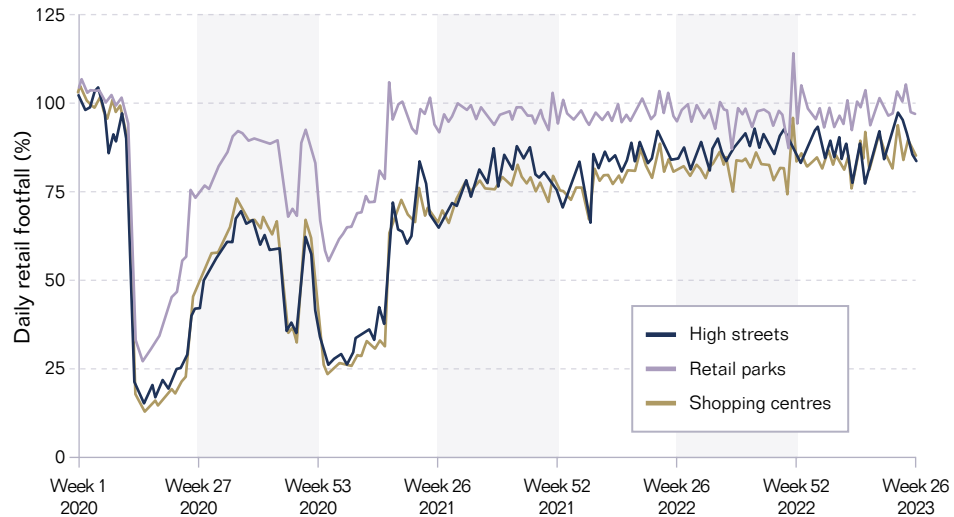
68 Senedd Research, *Second homes: what's happening in Wales?* (2022), <https://research.senedd.wales/research-articles/second-homes-what-s-happening-in-wales/>

69 Welsh Government, *Council tax on empty and second homes* (2023), <https://www.gov.wales/council-tax-empty-and-second-homes.html>

70 UK Government, *Introduction of a use class for short term lets and associated permitted development rights* (2023), <https://www.gov.uk/government/consultations/introduction-of-a-use-class-for-short-term-lets-and-associated-permitted-development-rights>



Figure 24: Volume of daily retail footfall, percentage compared with the equivalent week of 2019, 1 January 2020 to 2 July 2023, UK⁷¹



Source: Springboard

3.4.1.2 Digitisation of work and shopping has changed the purpose of the high streets. High streets now play a greater role in meeting discretionary purposes rather than essential trips. This understanding drives efforts aimed at revitalising high streets following the pandemic. Arup Group's report on the future of Central Activity Zones (CAZs) in cities has recommended that authorities develop a revitalisation plan for their centres, including attracting investment and working with neighbouring cities to attract this.⁷² The Local Government Association explains how high street revitalisation needs to address this changing nature, by providing experiences which go beyond purely retail and functional needs to provide experiential and cultural activities, flexible and multipurpose uses, and green spaces according to community needs.⁷³ Wider movements aimed at street improvements include the Healthy Streets guidelines, which details ten components of healthy streets that can enhance placemaking, inclusivity, and vitality. Amongst these ten components, streets should offer clean air, a relaxing and safe environment, places to stop and rest, and things to see and do. This shift to understanding streets as part of wider place-making, and shaping them to meet needs which go beyond the basic needs is now at the forefront of street revitalisation.⁷⁴

71 Office for National Statistics, *Economic activity and social change in the UK, real-time indicators* (2023), <https://www.ons.gov.uk/economy/economicoutputandproductivity/output/bulletins/economicactivityandsocialchangeintheukrealttimeindicators/6july2023>

72 Arup Group, *The Economic Future of the Central Activity Zone* (2021), https://www.london.gov.uk/sites/default/files/caz_economic_future_phase_2_report.pdf

73 Local Government Association, *Creating resilient and revitalised high streets in the 'new normal'* (2022), <https://www.local.gov.uk/publications/creating-resilient-and-revitalised-high-streets-new-normal>

74 Saunders, *Healthy Streets*, (2023), <https://www.healthystreets.com/>

3.4.2 Revitalising City Centres

3.4.2.1 Section 3.1 has traced unique challenges in the recovery of city centres post-pandemic. Efforts to revitalise city centres have been made in multiple local authorities. In Scotland, the City Centre Recovery Task Force was established with a five-year outcome for city centre recovery.⁷⁵ Plans for Scottish city centres are focused on diversifying city centre uses to include residential capacities, cultural offerings, and shift away from retail oversupply. The task force also reported an aim towards creating lower carbon-footprint city centres and “faster and more agile planning decisions”. Similarly, Cardiff has implemented plans to revitalise its city centre which are focused on enhancing place-making, green and blue space, cultural offerings, and urban vibrancy, focusing on the quality of experience offered as a key to revitalisation.⁷⁶ These initiatives, shown in more detail below, are grounded in an awareness that city revitalisation is a long-term plan and thus have long timelines.

Cardif City Council (2022) states a vibrant city centre should have a:

- Fully curated (managed) city centre which is clean, safe, green and attractive to all.
- Dynamic business and employment hub delivering more job opportunities.
- Centre lying at the heart of a fully-integrated transport network.
- Green and bio-diverse city centre.
- Centre which contains excellent urban design and public realm.
- ‘blue city centre’ which makes use of its rivers and canals.
- Vibrant centre to live, work and play in.
- Centre focussed on great cultural offerings.
- Centre which offers a quality experience to visitors.

3.4.3 Localisation

3.4.3.1 The pandemic accelerated trends towards localisation through adapting land use to allow various needs to be met within close proximity of residents’ homes. The concept gained momentum during the pandemic due to lockdown measures and home-based working,⁷⁷ and continues to be a part of local authority agendas. The advantages of localisation lie in its ability to encourage local economies, enhance accessibility to residents, and encourage sustainable modes of transport by bringing destinations closer. The Box overleaf shows an explanation of localisation from the Town and Country Planning Association.⁷⁸

75 Scottish City Alliance and Scottish Government, *At the Heart of Economic Transformation* (2022), <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2022/03/report-city-centre-recovery-task-force/documents/heart-economic-transformation-report-city-centre-recovery-task-force-2021-22/heart-economic-transformation-report-city-centre-recovery-task-force-2021-22/govscot%3Adocument/heart-economic-transformation-report-city-centre-recovery-task-force-2021-22.pdf>

76 Cardiff, *Cardiff City Centre Recovery Action Plan*, (2022), <https://cardiff.moderngov.co.uk/documents/s55366/Cabinet%2020%20jan%202022%20city%20centre%20recovery%20App.pdf>

77 Boyer, *Is the 15 minute city concept still relevant post Covid?* (2023), <https://www.boyerplanning.co.uk/news/15-minute-city-concept-still-relevant-post-covid>

78 The Town and Country Planning Association, *20-minute Neighbourhoods* (2021), https://tcpa.org.uk/wp-content/uploads/2021/11/final_20mnguide-compressed.pdf



The Localisation Idea

Localisation has been discussed as “The idea has, to date, been taken up by diverse places around the world. Each community describes it in its own way. In Paris, it is the ‘15-minute city’; in Perth, Australia, it is ‘liveable neighbourhoods’; in Melbourne, Australia, it is the ‘20-minute neighbourhood’. This is a holistic and transformational approach to place-making, with significant potential to improve **people’s health and wellbeing**. The 20-minute neighbourhood is about creating attractive, interesting, safe, walkable environments in which people of all ages and levels of fitness are happy to travel actively for short distances from home to the destinations that they visit and the services they need to use day to day – shopping, school, community and healthcare facilities, places of work, green spaces, and more. These places need to be easily accessible on foot, by cycle or by public transport – and accessible to everyone, whatever their budget or physical ability, without having to use a car. The 20-minute neighbourhood idea is also about **strengthening local economies** by keeping jobs and money local and **facilitating local food production** to create jobs and supply affordable healthy food for all; about **empowering communities to have a direct say in how their neighbourhoods change**; and about doing all this in ways that **create places that meet the needs of the least healthy and the least well-off**”.

-Excerpt from the Town and Country Planning Association (2021).

3.4.3.2 Localisation measures are underway in several UK cities. Measures to improve localisation include encouragement of mixed land uses, improving active travel infrastructure and integration with public transport, densifying land use, and tailoring land uses in accordance with community needs.⁷⁹ In Scotland, the government is undertaking consultations on the local living and 20-minute neighbourhoods initiative to establish planning guidance across different contexts.⁸⁰ Similar measures are underway in Bristol under the 15-minute city consultations,⁸¹ and in Leeds 20-minute neighbourhoods.⁸² These schemes have led to some controversy, especially on the side of motorists, and in October 2023 the government suggested that it will halt 15-minute schemes.⁸³

3.4.4 Traffic Regulation and Liveable (Low-Traffic) Neighbourhoods

3.4.4.1 The period from 2019 to 2023 has also seen a number of traffic regulation measures introduced in line with national government policy towards prioritising sustainable travel modes, such as public transport and active travel over private modes to meet environmental and public health aims. These policies include measures such as clean air zones, traffic speed restrictions, and low traffic neighbourhoods.

79 Local Government Association, *Decarbonising transport* (2020), https://www.local.gov.uk/sites/default/files/documents/5.94%20Land%20use_02.pdf

80 Scottish Government, *Local living and 20-minute neighbourhoods – planning guidance: consultation* (2023), <https://www.gov.scot/publications/local-living-20-minute-neighbourhoods-planning-guidance/pages/6/>

81 Bristol City Council, *Bristol Local Plan Review* (2022), <https://www.bristol.gov.uk/files/documents/5446-bristol-local-plan-review-nov-22-further-consultation/file>

82 Leeds City Council, *Leeds 20-Minute Neighbourhoods Technical Note* (2022), <https://www.leeds.gov.uk/docs/Local%20Plan%20Update/Local%20Plan%20Update%20-%20%20Minute%20Neighbourhoods%20Report.pdf>

83 The Guardian, *‘This is political expediency’: how the Tories turned on 15-minute cities* (2023), <https://www.theguardian.com/cities/2023/oct/07/15-minute-cities-rishi-sunak-tories-conspiracy-theory>

3.4.4.2 Many of these were measures planned and developed prior to the pandemic but some have been accelerated after the onset of the pandemic due to their public health, environmental, economic recovery, and social equity benefits.⁸⁴ For instance, the pandemic led to the emergence of pop-up bike lanes and pavement widening interventions in multiple cities across the UK. These have challenged the perception of road space allocation and ownership, with movements challenging the claim to road space by private motorised transport and calling for equitable road space distribution across different modes.

3.4.4.3 Many changes have been controversial, with safety-related projects often more positively received locally such as the 20mph speed limits. The implementation of environmental and public health measures such as clean air or low emissions zones has sometimes been regarded as financially punitive for the owners of generally older, more polluting vehicles. This has led to the halting of such schemes in areas such as in the case of Greater Manchester.⁸⁵ However, environmentally-focussed schemes have typically provided grants towards vehicle replacement or exempted all private cars or done both, as in Bath, the first clean air zone (CAZ) outside London launched in March 2021. The Bath schemes emphasises health and environmental benefits with average 2022 annual nitrogen dioxide concentrations within the CAZ_boundary 27% lower than in 2019.⁸⁶

3.4.4.4 Speed Limits on Restricted Roads have also seen wider implementation since the pandemic. In September 2023, the Welsh Government introduced default speed limits of 20mph on restricted roads in Wales,⁸⁷ in reference to roads located in residential and built-up areas where there are lots of people. The policy is aimed at reducing collisions, severity of collisions, encouraging active travel (cycling and walking) in communities, improving street safety, and safeguarding the environment (ibid). This policy has seen resistance, but the First Minister of Wales insisted it would stay primarily as a safety measure.⁸⁸ While Wales is the first UK nation to impose this blanket speed limit, Scotland has also committed to a national strategy to reduce speed limits to 20mph by 2025.⁸⁹ In England, and while the 20mph limit has been imposed by specific areas, including Portsmouth and rural Oxfordshire the policy

84 Kamargianni, M., Georgouli, C. Tronca, L. P. and Chaniotakis, M, (2022), Changing transport planning objectives during the Covid-19 lockdowns: Actions taken and lessons learned for enhancing sustainable urban mobility planning. *Cities* (131), pp. 103873. Doi: <https://doi.org/10.1016/j.cities.2022.103873>

85 The Guardian, *Andy Burnham rejects clean air zone that would charge drivers in Greater Manchester* (2023), <https://www.theguardian.com/uk-news/2023/dec/13/andy-burnham-rejects-clean-air-zone-that-would-charge-drivers-in-greater-manchester>

86 Bath and North East Somerset Council, *Air quality in Bath continues to improve* (2023), <https://newsroom.bathnes.gov.uk/news/air-quality-bath-continues-improve>

87 Welsh Government, *Introducing default 20mph speed limits* (2023), <https://www.gov.wales/introducing-default-20mph-speed-limits>

88 The Standard, *Where are 20mph speed limits in place across England and Wales?* (2023), <https://www.standard.co.uk/news/uk/20mph-speed-limits-where-why-roads-locations-b1107784.html>

89 Scottish Borders Council, *Permanent 20mph speed limits to come into effect from 16 January 2023* (2023), https://www.scotborders.gov.uk/news/article/4382/permanent_20mph_speed_limits_to_come_into_effect_from_16_january_2023

remains contested.⁹⁰ It has been implemented at a local scale in areas including London's congestion zone, as well as 11 of 33 local boroughs including Camden, City of London, Hackney, Islington, Kensington and Chelsea, and Westminster.⁹¹ Other forms of traffic restrictions include road pricing schemes, clean air zones and congestion charging. While these policies have existed prior to the pandemic, the latter has led to an acceleration in their implementation especially as it shifted priorities towards enhanced health and public realm.

3.4.4.5 Low Traffic neighbourhood initiatives have seen wider implementation since the pandemic, with significant local backlash in some schemes. These schemes aim to decrease traffic flow in residential areas in order to reduce through-traffic (traffic getting through the area to access other destinations) and improve the experience of active travel.⁹² Low-traffic neighbourhoods operate through the use of traffic control measures and modal-filters (i.e. barriers placed to decrease the flow of traffic within neighbourhoods and discourage car-use across neighbourhoods). There are significant benefits to low-traffic neighbourhoods, including: increased road safety, physical activity, boosts to local businesses due to higher footfall levels, improvement of air quality, enhanced public-realm and space, and strengthened community interaction.⁹² These have been shown to increase active travel levels.⁹³

Figure 25: A low-traffic neighbourhood in Cowley, Oxford



90 BBC. *Rishi Sunak could limit 20mph zones to target driver vote*, (2023), <https://www.bbc.com/news/uk-politics-66957733>

91 Evening Standard, *Where are 20mph speed limits in place across England and Wales?* (2023), <https://www.standard.co.uk/news/uk/20mph-speed-limits-where-why-roads-locations-b1107784.html>

92 Sustrans, *What is a low traffic neighbourhood?* (2020), <https://www.sustrans.org.uk/our-blog/get-active/2020/in-your-community/what-is-a-low-traffic-neighbourhood>

93 Transport for London, *The impacts of low-traffic neighbourhoods in London* (2023), <https://content.tfl.gov.uk/impacts-of-ltns-in-london.pdf>



The implementation of low traffic (also called Liveable) Neighbourhoods is under-way in different parts of the UK. In Glasgow, the Liveable Neighbourhoods Toolkit details four principles to achieving liveable neighbourhoods.⁹⁴ These include creating local town centres which meet every-day needs, through improving access to these centres and diversifying their utility. The second principle focuses on encouraging sustainable modes of transport for everyday journeys including to school, childcare, shops, family, and friends. The third principle, improved active travel, focuses on providing active travel infrastructure and integrating it with public transport and local delivery networks. Finally, the streets for people principle, focuses on achieving greater balance between vehicles and people, working with communities, and sharing best practice guidance to create more inclusive and diverse streets. Other local authorities implementing these schemes include North Somerset⁹⁵ and Islington Borough in London.⁹⁶ While these initiatives can provide wide benefits, poor implementation has been seen to give rise to strong public opposition.

3.4.4.6 A key aspect of the success of low traffic neighbourhoods is their coupling with appropriate localisation measures. While this chapter traces localisation and traffic regulation measures as distinct policy and planning responses, their integration is crucial in order to avoid unintended negative consequences including exacerbated inequalities in accessing essential services.

94 Glasgow City Council, *Glasgow Liveable Neighbourhoods Toolkit* (2021), <https://www.glasgow.gov.uk/CHttpHandler.ashx?id=53409&p=0>

95 North Somerset Council, *Liveable Neighbourhoods Action Plan* (2023), <https://www.n-somerset.gov.uk/sites/default/files/2023-03/31418%20ATAP%20-%20Liveable%20Neighbourhoods%20ACC.pdf>

96 Islington Council, *Islington outlines bold vision for cleaner, greener, healthier streets* (2023), <https://www.islington.media/news/islington-outlines-bold-vision-for-cleaner-greener-healthier-streets>



4

Changes in Travel Patterns

This chapter considers the ongoing impacts of the pandemic on travel patterns and changes in demand and supply, building on the changes in land use seen in **Chapter 3**. It considers the movement of people, divided by the main mode of travel, and also the movement of goods. Note that this report does not cover trams and guided busways due to the limited information available on these modes. It also includes a consideration of cost impacts on consumers and travellers, but the issues of revenue, operating costs and capital investments will be explored in **Chapter 5**. Although travel patterns are considered by mode, it is important to note that many journeys involve more than one mode of travel and may combine different journey purposes when trip chaining.

4.1 Changes in Demand and Capacity Supplied

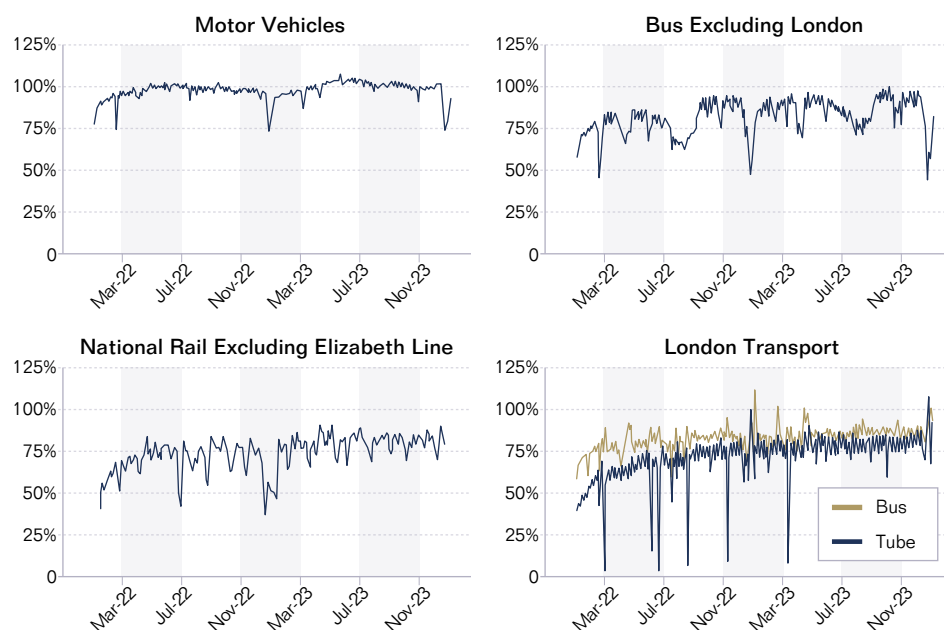
4.1.1 Demand for passenger and freight transport

4.1.1.1 The movement of people was severely limited in advance of and during the initial lockdown restrictions in March 2020. Under a 'stay at home' instruction, travel demand was limited to those people whose work involved 'essential' travel purposes and within a few days travel fell to less than 10% of previous levels.⁹⁷ From that cliff edge fall, demand progressively but slowly built again, impacted by varying restrictions and guidance not to use public transport in particular through 2020 and the winter of 2020-21. Restrictions on entertainment, hospitality and international travel (inbound and outbound) continued during 2021 and many places of work and study continued online arrangements in full or as hybrid arrangements. These measures were relaxed in late 2021 although international travel restrictions continued well into 2022. Although there is a continuing evolution, the passenger demand levels seen in 2023 can be regarded as a 'new normal' for the purposes of this report, being nearly two years beyond the period of 'Living with Covid' without public health restrictions which has occurred from February 2022 onwards.

Figure 26 on the next page shows changes in demand across key modes relative to a pre-Covid-19 baseline.

97 ITC, *The Covid-19 pandemic, transport and land use in Britain* (2023), http://www.theitc.org.uk/wp-content/uploads/2015/03/ITC-Impacts-of-the-Pandemic-on-Transport_Sept-21-final.pdf

Figure 26: Transport Usage as a proportion of pre-Covid-19 (January 2022 to January 2024)⁹⁸



Note: Usage (% of pre-Covid baseline)

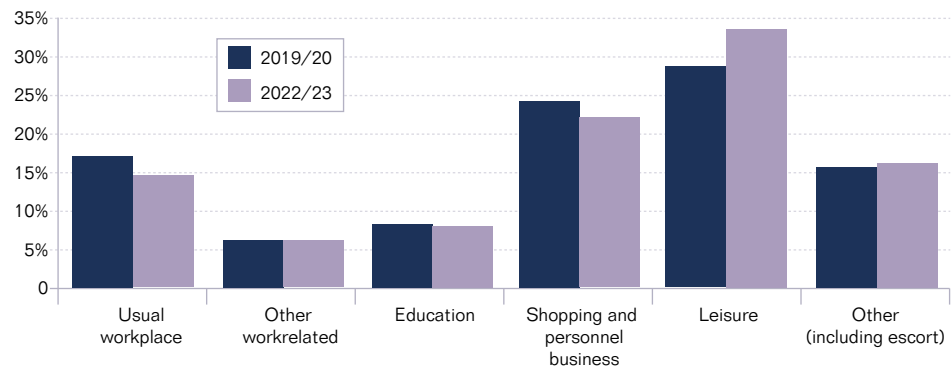
4.1.1.2 In general, passenger travel volumes have gradually returned close to pre-pandemic levels although, as discussed below, some modes of public transport, particularly bus, remain at notably lower levels of demand. Rail volumes are also below pre-pandemic levels, but if one adds journeys made on the new Elizabeth Line across London which opened in 2022, rail usage is now close to pre-Covid levels.

4.1.1.3 There has been a significant change in journey purpose compared with pre-pandemic (**Figure 27**). **Travel for work related purposes remains suppressed and travel for leisure purposes has increased**, both as a percentage of the total and in absolute numbers. People appear very keen to visit friends and family, enjoy entertainment and hospitality, and travel to locations away from their homes, particularly following a period when these things were restricted that may have prompted a re-evaluation of personal priorities. The implementation of remote working 'of necessity' during the pandemic has provided evidence that many job roles can be delivered in whole or in part through digital means. Many who pre-pandemic would consistently attend a workplace five days a week now continue to work remotely for at least part of the week and so save the expense of both time and money in travelling to work. However, the reduced travel to work has primarily benefitted the better off and car driving commuters were least likely to work from home, train commuters were most likely to work from home (**Section 2.3**).

98 Department for Transport, *Domestic Transport Usage by Mode* (2024), <https://www.gov.uk/government/statistics/transport-use-during-the-coronavirus-covid-19-pandemic/domestic-transport-usage-by-mode>



Figure 27: Proportion of trips by journey purpose, London Travel Demand Survey 2019/20 versus 2022/23 ⁹⁹



4.1.1.4 Freight demand across all sectors and modes dipped initially when restrictions were first imposed in March 2020 but built back rapidly as government interventions encouraged key parts of the economy to remain active, such as construction and food and fuel supplies.

4.1.2 General supply of transport capacity

4.1.2.1 Public transport services were briefly limited during the initial period of the pandemic in Spring 2020 and then, with ongoing government operating subsidies and financial support for employment, most public transport operated at 40-70% of previous service levels including during periods of pandemic restrictions in late 2020 and 2021. This provided adequate capacity for the reduced numbers travelling, even with social distancing guidelines in place on services and in rail and bus stations.

4.1.2.2 Through 2021 and 2022 as travellers returned, public transport services have been steadily reinstated. Levels of rail capacity in late 2023 are close to or slightly below pre-pandemic levels. Bus services have seen capacity reduced as lower passenger numbers render individual commercial services uneconomic. This has typically affected weekend and evening services, or reduced daytime frequencies.

4.1.2.3 Airlines, without the same ongoing operating subsidies as ground public transport, removed significant capacity initially with planes grounded and stored and staff furloughed. Restoration of capacity has been done progressively as global regional restrictions have been eased and tactically managed to maximise profitable services. Summer 2023 and winter 2023-4 service levels still remain below the pre-pandemic capacity.

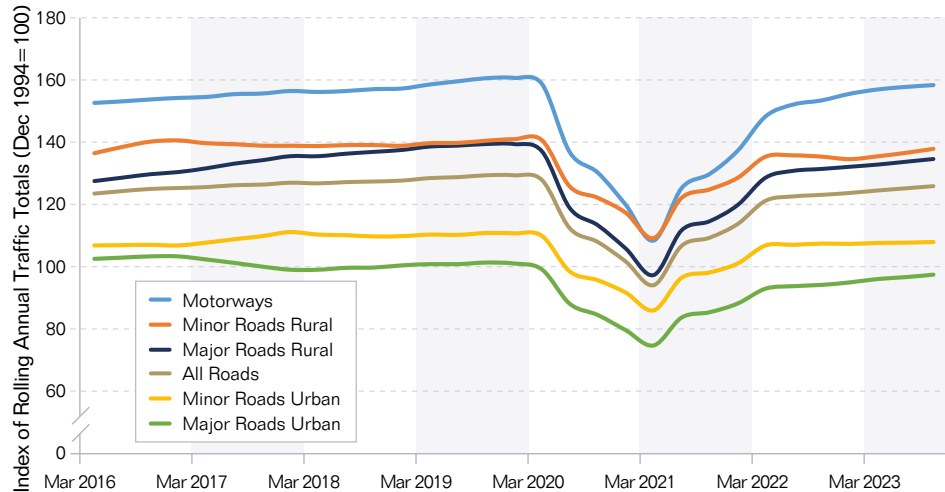
The overall picture on demand and capacity is considered in more detail in the sections by transport mode that follow.

99 Transport for London, *Travel in London 2023* (2023), <https://content.tfl.gov.uk/travel-in-london-2023-the-travel-behaviour-of-london-residents-based-on-the-ltds-acc.pdf>

4.2 Consideration of passenger demand by mode

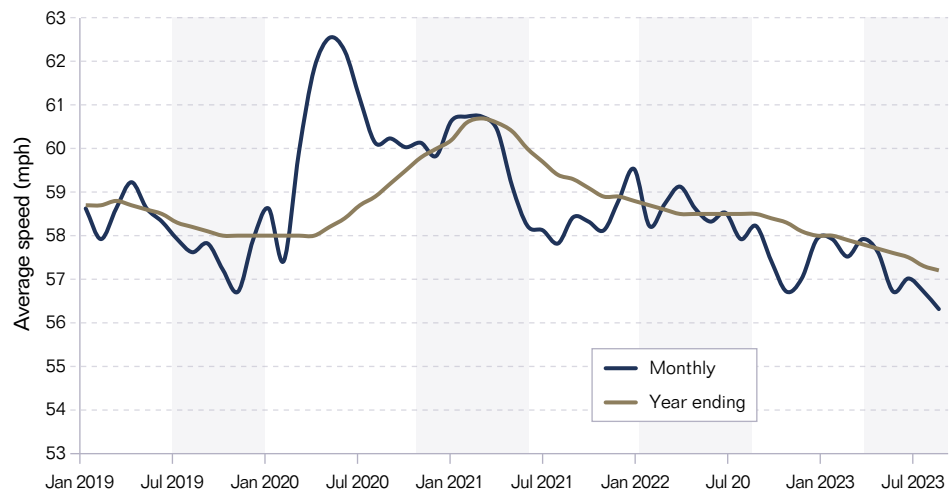
4.2.1 Cars

Figure 28: Rolling annual index of road traffic in Great Britain by road type, March 2016 to September 2023 shown, indexed to 1994 (TRA2511b)¹⁰⁰



4.2.1.1 **Figure 28** shows the immediate impact of pandemic restrictions on road traffic volumes, followed by a recovery period by type of road. With limited numbers of cars travelling during Covid-19 restrictions, delays initially dropped and can now be seen to have ‘recovered’ to pre-pandemic levels and be on a trajectory of slowly reducing average speeds. See **Figure 29** to September 2023 showing average speeds on the strategic road network.

Figure 29: Average speed on the strategic road network Mile per hour (mph), January 2019 to September 2023 (CGN0404a)¹⁰¹



100 Department for Transport, *Quarterly Traffic Estimates* (2023), <https://www.gov.uk/government/statistical-data-sets/tra25-quarterly-estimates>

101 Department for Transport, *Travel time measures for the Strategic Road Network and local ‘A’ roads: October 2022 to September 2023* (2023), <https://assets.publishing.service.gov.uk/media/6573347c33b7f2000db7211f/travel-time-measures-srn-local-a-roads-oct-22-sep-23.zip>



4.2.1.2 Specific research to consider impacts of the pandemic was commissioned by the DfT, with *Our Changing Travel*¹⁰² published in July 2023. This found the proportions who travelled by car as driver (71%) and by car as a passenger (77%) in November 2022 were similar to those in the three months before the pandemic (71% and 80%). Of note is that 21% used informal car-pooling (where individuals who know each other share a journey together via a similar route) in November 2022, an increase from 15% pre-pandemic. Informal car-pooling was more prevalent among those most impacted by the increase in the cost of living and in-depth interviews found that cost-saving was an important motivation for use.

4.2.1.3 The costs of private car motoring have increased since before the pandemic. There have been significant changes in wholesale and retail prices for oil since the start of the pandemic. Initially severely limited demand for petrol led to pump prices below £1 per litre before stabilising as private car use returned. The war in Ukraine (from Feb 2022) has led to significantly higher fuel prices, affecting freight and passenger transport alike with prices briefly close to £2 per litre before dropping to pre-pandemic levels. (Note that EV numbers have steadily increased but remain a small percentage of private cars). Inflationary pressures through 2022 and 2023 have also increased other motoring costs such as car insurance premiums that at summer 2023 were at 48% above the previous year and at the highest levels since early 2018.¹⁰³ There also have been significant changes in the availability and cost of second-hand cars that are materially more expensive than pre-pandemic. This position is complicated by the developing market for new and second-hand electric, hybrid and low emission vehicles.

4.2.1.4 It is noteworthy that researchers have calculated that if everyone who previously commuted by car and who worked from home during the Covid-19 pandemic, continued in the future to work at home twice a week, almost 14% of morning car trips would be cut.¹⁰⁴ This would lead to similar levels of traffic reduction as seen during school half term holidays.

4.2.1.5 It appears that the lasting impacts of the pandemic on car traffic are small but have, if anything, depressed per capita car travel. Factors such as fuel prices 'at the pump', the cost-of-living challenges and local and regional measures such as clean air zones are likely to have had a more substantive impact in the short and medium term on car traffic than those attributable to the pandemic. However, the pandemic period offers an insight as to what commuter traffic reductions could look like.

102 Department for Transport, *Our changing travel: how people's travel choices are changing* (2023), <https://www.gov.uk/government/publications/our-changing-travel-how-peoples-travel-choices-are-changing>

103 The Independent, *The great car insurance con: Premiums soar to record high as prices hiked 50% in a year* (2023), <https://www.independent.co.uk/money/why-has-car-insurance-risen-so-much-b2391334.html>

104 Marsden, G., Anable, J., Docherty, I. and Brown, L. (2021) *At a crossroads: Travel adaptations during Covid-19 restrictions and where next?* Centre for Research into Energy Demand Solutions. Oxford, UK

4.2.2 Taxis and Private Hire Vehicles

- 4.2.2.1** There is limited publicly available information about the taxi and private hire sector. This includes taxis ('hackney carriages' are licenced vehicles and drivers and with fares set by the local authority and can be pre-booked or hailed on demand) and private hire (licenced vehicles and drivers, set their own fares and must be pre-booked). Both taxis and private hire companies will typically include contract work for school transport and call off accounts for local businesses. Operators may be an individual with a vehicle, or a group of operators may combine and work together using a centralised work allocation system.
- 4.2.2.2** The sector is important as it can plug gaps in the public transport system or serve as an alternative to the private car. Uber developed as an app-based service to connect customers (demand) and drivers (supply) launched in 2010. Uber and the other private hire companies' apps allow a customer to know prices in advance, and know where the booked vehicle is and the vehicle and driver details. There are options to review both the driver and the customer. Private hire operators include Addison Lee in London and firms such as Uber, Lyft, Veezu and Ola, with a business model that covers multiple towns and cities (and countries). The operator provides a centralised booking and allocation system with drivers providing their own vehicles to a set standard and remaining self-employed. In London, the number of private hire operators has reduced by 85% over the last ten years, this is mostly due to app-based operators becoming more popular. Over the same period the number of private hire drivers and vehicles have increased by about 60%.¹⁰⁵
- 4.2.2.3** Without published data on private hire usage pre and post pandemic it is difficult to assess the impacts of the pandemic on these services. From industry sources, it appears that the growth trend that was established pre-pandemic has continued. Traffic levels, as with private cars, will have reflected Covid-19 restrictions and then gradually recovered. Other ITC research has identified the growth in younger people who do not have driving licences and for this technology savvy cohort, use of private hire vehicles gives a flexibility not available from timetabled and route specific public transport. The growth of the sector appears likely to relate more to demographic and lifestyle changes than to anything specifically related to the pandemic impacts.



4.2.3 Buses

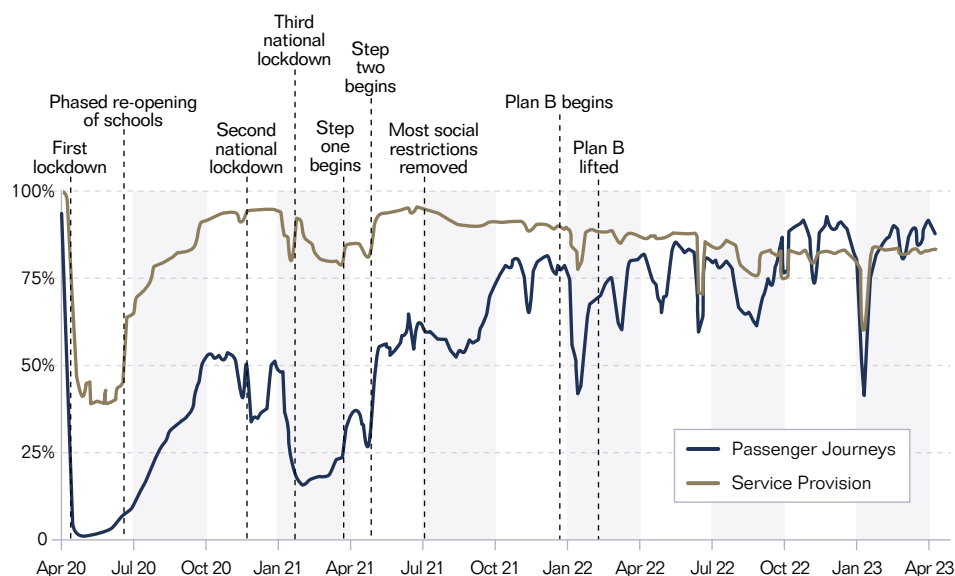
- 4.2.3.1** Bus use outside of London was declining steadily prior to the pandemic, with a relatively stable position in London. Bus journeys remain below pre-pandemic levels both outside London and within London (**Figure 26**). They are also below the level of the historic trajectory, indicating that the pandemic has accelerated the decline in bus use.
- 4.2.3.2** During the pandemic period, bus travel was limited to essential journeys only but demand was stabilised at approximately 35% of pre-pandemic levels due to the number of key workers using bus services. School bus travel was also affected by various restrictions on school opening. Bus users are typically from lower income groups and often work shifts – people such as cleaners or health service workers – so outside the traditional peak periods.
- 4.2.3.3** A specific COVID-19 Bus Service Support Grant (CBSSG Restart) followed by the Bus Recovery Grant was payable to bus operators during the pandemic and beyond to maintain appropriate service levels (although lower than pre-pandemic capacity) despite the significant fall in passenger numbers.¹⁰⁶ Data from Greater Manchester shows in June 2023 that overall patronage was still 16% below equivalent pre-pandemic levels although 4% above the 2022 equivalent.¹⁰⁷
- 4.2.3.4** Data on time-of-day travel show bus passenger boardings by time of day and demonstrate that in May 2020 and January 2021 (both months of significant covid-related travel restrictions) the morning and evening peaks had largely disappeared. During these restrictions, the only permitted travel was by key workers and other essential travel only, with groups such as office workers and higher education students required to work remotely. Outside of these covid - restricted periods, the peak travellers have now returned with the pattern of hourly demand broadly as it was pre-pandemic, although with lower levels of patronage.¹⁰⁸
- 4.2.3.5** However, **it is noteworthy that the pattern of travel appears to have shifted, with the traditional weekday peak periods particularly impacted.** In London the weekday morning peak is at well below 80% of pre-pandemic levels, and at just over 70% of pre-pandemic levels on a Friday. Volumes over the whole day are stronger – at just above 80% of pre-pandemic levels during the week and Saturdays and Sundays with the strongest demand, at close to 90% of previous.⁹⁹
- 4.2.3.6** This spread of the peak can bring benefits in terms of customer experience and operational resourcing. However, the loss of revenue due to reduced demand is significant. Figure 30 maps boardings and service provision. It indicates a significant overall loss of bus services compared with the January 2020 position.

106 Department for Transport, *Claiming the Bus Recovery Grant* (2023), <https://www.gov.uk/guidance/claiming-the-bus-recovery-grant>

107 Transport for Greater Manchester correspondence with the ITC

108 Department for Transport, *Annual bus statistics: year ending March 2023* (2023), <https://www.gov.uk/government/statistics/annual-bus-statistics-year-ending-march-2023>

Figure 30: Seven-day average of bus passenger boardings and service provision in England – excluding London, compared to the same day in the third week of January 2020¹⁰⁸



4.2.3.7 Meanwhile, and while the pandemic has affected bus operations across the UK, government spending on bus improvements is predominantly dedicated to urban areas¹⁰⁹ with more than one in every four bus services in country areas lost between 2010 and 2021/2022¹¹⁰. County Council Network (CCN) areas have witnessed the largest decrease in bus mileage since 2010 in addition to a significant reduction in total passenger journeys.¹¹⁰

4.2.3.8 At least 1,500 bus routes were cut in the last two years in England. The July 2023 report from the Traffic Commissioners for Great Britain showed that the number of local bus route registrations fell from just over 12,000 in 2021 to fewer than 9,000 in 2023.¹¹¹ Some of these will be routes that have ended, although others will have been reclassified – for example where a direct service has been replaced by two connecting services.

109 County Councils Network, *Rural bus services at a 'historic low', as new report reveals urban locations received two-thirds of flagship government funding* (2023), <https://www.countycouncilsnetwork.org.uk/rural-bus-services-at-a-historic-low-as-new-report-reveals-urban-locations-received-two-thirds-of-flagship-government-funding/>

110 County Councils Network, *Economic Inactivity Post-Pandemic Trends in Counties* (2023), <http://www.countycouncilsnetwork.org.uk/download/4756/>

111 UK Government, *Traffic Commissioners for Great Britain Annual report 2022-23* (2023), <https://www.gov.uk/government/publications/traffic-commissioners-annual-report-2022-to-2023/traffic-commissioners-for-great-britain-annual-report-2022-23#traffic-commissioners-for-england>

112 Transport Focus, *Bus User Survey* (2023), <https://d3cez36w5wymxj.cloudfront.net/wp-content/uploads/2023/09/08093828/Bus-User-Survey-8-September.pdf>
See also <https://www.transportfocus.org.uk/publication/getting-free-bus-pass-holders-back-on-board/>



- 4.2.3.9** Transport Focus research in their September 2023 bus user survey identified value for money, frequency of buses on the route and information before and during the journey as the key sources of dissatisfaction among bus users.¹¹² Among non-bus users, concerns on frequency and punctuality keep people away, even those who can benefit from free concessionary fares.
- 4.2.3.10** Commercial operators have reduced or ended services on routes that are no longer economic with reduced levels of patronage and the associated revenue. As an example, Stagecoach South West's 18 service between Brixham and Kingswear has been reduced to hourly from June 2023, having previously had the Sunday service reduced in September 2022, with the operator citing 'low demand and high operating costs'.
- 4.2.3.11** In many cases local authorities or the metro mayors have extended their subsidies to maintain specific services or to set up demand responsive transport rather than scheduled services. There have been recent specific grants for bus service improvements.¹¹³ However, these have been criticised for focusing on urban areas rather than rural areas where many bus services are extremely limited.¹¹⁴
- 4.2.3.12** To encourage passengers to return to or begin using bus services there has been a £2 single fare cap on local bus fares that is subsidised by central government. A £2 cap had already existed in Greater Manchester, Liverpool and West Yorkshire, under schemes introduced by metro mayors in those areas.¹¹⁵

This was introduced in England (excluding London) in January 2023 and subsequently extended with the cap increasing to £2.50 from November 2023 to November 2024.¹¹⁶ This has been further amended in December 2023 with the £2 cap maintained for the whole of 2024, with funding apparently provided by the redirection of HS2 monies.¹¹⁷ Other incentives to encourage bus trial and usage are being implemented on a local and regional basis. For example, the 'free bus on your birthday month' scheme launched in July 2023 that is subsidised by the Metro Mayor for the West of England and local and central government.¹¹⁸

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- 113 Department for Transport, *Bus service improvement plans: local transport authority allocations* (2023), <https://www.gov.uk/government/publications/bus-service-improvement-plans-local-transport-authority-allocations>
- 114 The Guardian, *Rural bus services hit new low after losing out on post-Covid funding* (2023), https://www.theguardian.com/uk-news/2023/jul/19/rural-bus-services-hit-new-low-after-losing-out-on-post-covid-funding?CMP=Share_iOSApp_Other
- 115 Department for Transport and The Rt Hon Grant Shapps MP, *Transport update: £2 bus fare cap on a single bus ticket* (2022), <https://www.gov.uk/government/speeches/transport-update-2-bus-fare-cap-on-a-single-bus-ticket>
- 116 Department for Transport, Prime Minister's Office, 10 Downing Street, The Rt Hon Mark Harper MP, and The Rt Hon Rishi Sunak MP (2023) <https://www.gov.uk/government/news/government-extends-2-bus-fare-cap-and-protects-vital-services>
- 117 Department for Transport and The Rt Hon Mark Harper MP, *Significant intervention to cap rail fares comes as government delivers target to halve inflation* (2023), <https://www.gov.uk/government/news/significant-intervention-to-cap-rail-fares-comes-as-government-delivers-target-to-halve-inflation>
- 118 Travelwest, *Free bus travel throughout your birthday month* (2023), <https://travelwest.info/tickets-travelcards/free-bus-travel-on-your-birthday-month/>

4.2.3.13 Transport Focus have identified that even free bus pass users are more reluctant to use buses than previously, citing cuts to routes and less reliable services above the cost-of-living crisis and high street closures as well as lingering fear of Covid.¹¹⁹ Concessionary fare bus travel has only partially recovered from the pandemic, reaching 79% of pre-pandemic levels in London, and 67% elsewhere by March 2023. It should be noted, however, that concessionary fare bus travel has been on a slow but steady decline since 2012.¹²⁰

4.2.3.14 There is an ongoing impact on bus travel post-pandemic. Bus patronage overall is significantly down, despite recent fare-capping incentives and ongoing and increased subsidies. **The long-term decline in bus demand that was observed pre-pandemic has since accelerated.** Service levels are still below pre-pandemic levels and commercial operators will not increase service levels without appropriate passenger numbers or revenue subsidy. Unfortunately, bus users are known to be disproportionately from lower income groups and are less likely to be able to work from home and less likely to have access to a car.¹²¹

4.2.3.15 The bus sector is likely to require ongoing financial support at a higher level than pre-pandemic. This is likely to require a blend of local government and central government funding to generate improvements in service frequency and quality to build patronage rather than simply maintain the current service levels. This is considered further in **Chapter 5**.

4.2.4 National Rail

Pandemic changes

4.2.4.1 During the pandemic there were special measures to protect rail services with the UK government taking revenue and cost risk for all of the previously franchised services in England. The Franchises were replaced with Emergency Measures Agreements, followed by Emergency Recovery Measures Agreements, and then phased onto National Rail Contracts (for up to five years).¹²² Under these agreements, the DfT and Treasury have taken greater control over matters such as service levels, timetable changes and marketing expenditure with the privately owned train operating companies being paid a management fee. Train services were reduced during 2020 and 2021 when passenger numbers had fallen and at summer 2023, service levels are broadly comparable with pre-pandemic levels.

119 Transport Focus, *Getting free pass holders back on buses* (2023), <https://www.transportfocus.org.uk/publication/getting-free-pass-holders-back-on-buses/>

120 UK Government, *Concessionary travel statistics: year ending March 2023* (2023), <https://www.gov.uk/government/statistics/concessionary-travel-statistics-year-ending-march-2023/concessionary-travel-statistics-year-ending-march-2023>

121 Independent Transport Commission, *The shape of changing bus demand in England* (2020), <https://www.theitc.org.uk/wp-content/uploads/2015/03/ITC-Bus-market-in-England-Jan-2020.pdf>

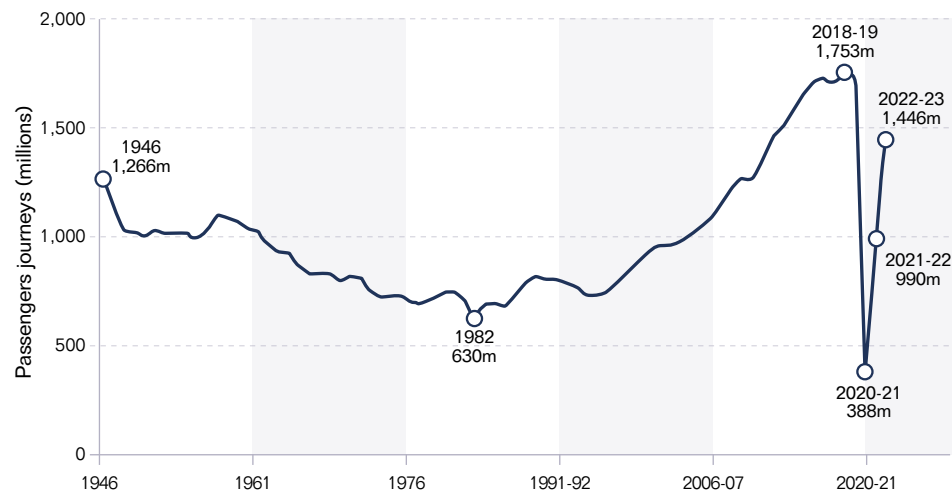
122 Department for Transport, *DfT payments to passenger rail operators under emergency agreements and National Rail contracts* (2023), <https://www.gov.uk/government/publications/dft-payments-to-passenger-rail-operators-under-emergency-agreements>

4.2.4.2 Arrangements in Scotland and Wales are slightly different but these national governments have also taken cost and revenue risk back from the previous private operators and operate services more directly through Transport for Scotland and Transport for Wales.

Rail Passenger Demand

4.2.4.3 Rail passenger journeys in Great Britain have increased significantly since the 1980s and in 2019, pre-pandemic, were at an all-time high. They were some 75% above levels in the 1950s that some might consider to be a ‘golden period’ for rail travel. Previous ITC work¹²³ had identified that many regular rail users are professional workers, travelling to city centre offices. This group had immediate changes to their travel and work patterns from March 2020 with many suddenly working remotely using digital technology. Leisure travel also stopped. However key workers continued to travel on the reduced level of services. Through 2021-2 and 2022-3 the volume of demand was progressively rebuilt **(Figure 31)**. It is noteworthy that if **rail passenger numbers stay at 90% of immediate pre-Covid-19 levels, they will still be very high compared to historic levels and operating on infrastructure that has not significantly grown in the last 60 years.**

Figure 31: Rail passenger journeys, Great Britain, annual data, 1 January 1946 to 31 March 2023 (provisional) (Table 1220)¹²⁴

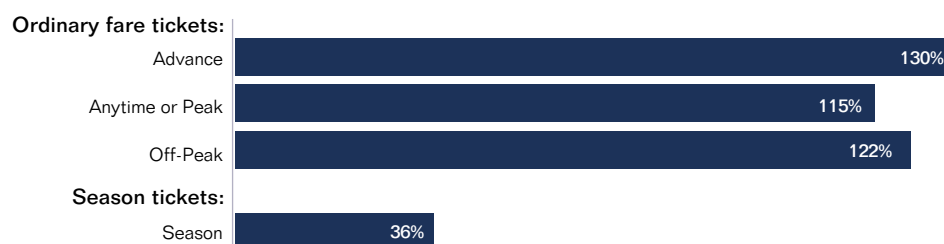


4.2.4.4 Although much is made of the volumes of rail travellers returning to rail, there have been significant changes in journey purpose and times of travel. There is less classic ‘five days per week peak travel to work’, and more flexible timing of journeys to work for less days each week, and much more leisure-related travel. There had been modest reductions in five-day commuting pre-pandemic, and initiatives like the ‘flexi-season ticket’ were tested to appeal to those with flexible working patterns. The pandemic demonstrated that many more people could work remotely and flexibly.

123 Independent Transport Commission, *Wider factors affecting the long-term growth in rail travel* (2018), <https://www.theitc.org.uk/wp-content/uploads/2017/05/ITC-Report-Rail-Passenger-Demand-November-2018.pdf>

124 Office of Rail and Road, *Passenger rail usage* (2023), <https://dataportal.orr.gov.uk/media/2207/passenger-rail-usage-jan-mar-2023.pdf>

Figure 32: Passenger journeys by ticket type, January to March 2023 as a percentage of journeys between January to March 2019 ¹²⁴



4.2.4.5 **Figure 32** compares ticket types in the pre-pandemic period Jan to March 2019 with those post pandemic in the same months in 2023. It can be seen that there is a 30% increase in advance tickets – that commit the passenger to a specific train only but at a lower fare – and a 22% increase in off peak tickets – that are generally not valid on weekdays between 06.00 and 09.30 or 16.00 and 19.00. Season tickets, traditionally used by a passenger making the same journey on multiple weekdays in any given period, are at 36% of pre-pandemic levels.

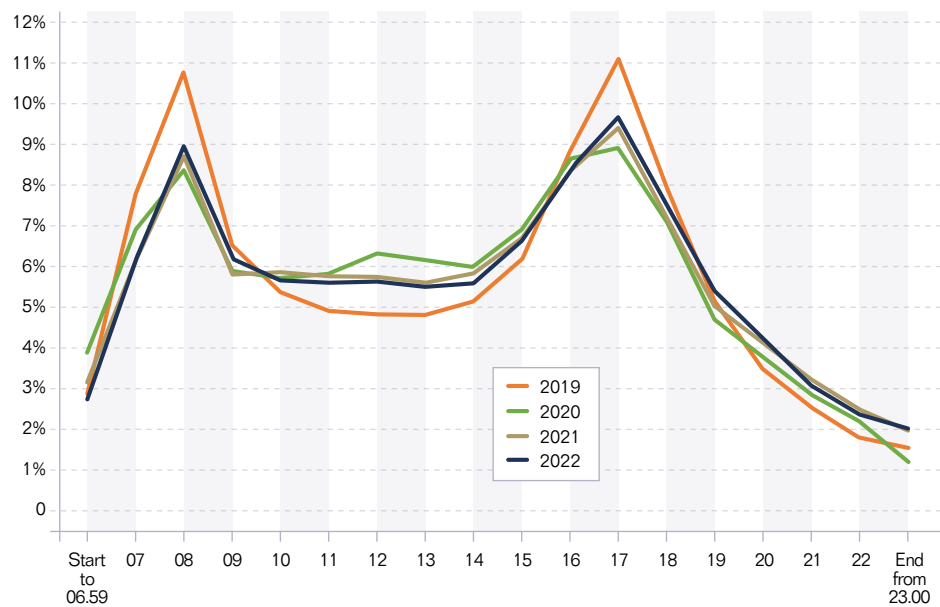
4.2.4.6 This ticket sales information indicates more travel at flexible times on weekdays and at weekends and a massive reduction in regular commuting. Depending on location and journey length a season ticket needs travel on 2-4 days per week (depending on location) to be financially viable for the passenger rather than single day anytime or peak tickets. The increase of 15% on anytime and peak tickets is probably due to passengers buying individual daily tickets rather than a season ticket – a sensible purchasing decision if only travelling out and back in the peak 1-3 times per week.

4.2.4.7 The changes in ticket type purchased evidences a shift in times of travel and a reduction in numbers making a regular peak return journey. This is consistent with a reduction in commuting journeys and an increase in leisure journeys, and potentially linking the two so the essential in person office meeting is possibly combined with social activity into the evening so avoid a peak period return home. The reduction of frequency of travelling to work was noted in the *Our Changing Travel* report with 32% of employed people travelling to a place of work five days a week or more often in November 2022 compared with 47% immediately before the pandemic.¹⁰²

4.2.4.8 As weekday peak rail travel has reduced, so has peak overcrowding and the incentive for some travellers to travel first class in order to get a seat in the peak. Southeastern abolished first-class seating on main line services from December 2022 when it reported that they were carrying only 56% of the pre-pandemic weekday peak passenger numbers and selling only 15% of the pre-pandemic annual season tickets. Southeastern said 'First Class use has been in decline for some time

and is a source of frustration for Standard Class customers when trains are busy and First-Class seats are empty.¹²⁵ There is some evidence of leisure travellers switching to advance purchase train specific first-class tickets that may be good value for customers but do not bring the level of revenue anticipated when train specifications for the more spacious first class seating were set. Decisions about future first class seating provision will be route and train specific and may result in refurbishment changes as the recent and near term new train deliveries relate to orders placed pre-pandemic.

Figure 33: Percentage of Passenger Arrivals and Departures by Hour, Regional Major Cities: Autumn 2019 to 2022 ¹²⁶



4.2.4.9 Figure 33 illustrates the reduction in the size of the morning and evening peaks for regional cities (not London) since before the pandemic, with a less acute peak and with an increase in travel during the middle of the day. This position seems to have stabilised in 2021 and 2022 as a 'new normal'.

4.2.4.10 For those who are able to work from home rather than commute, there are significant financial savings to be made in addition to the savings in time. To give an example, using August 2023 fares, a weekly season ticket between Reading and London Paddington is £133.60, with an anytime (peak) return ticket costing £55.20 so a season ticket is a worthwhile investment for someone commuting 3 or more days per week in the peak. Travelling in the peak for 1-2 days rather than 3 or more days allows savings to be made. Travelling outside the peak gives further financial savings. An off-peak day return is £24 so a person arriving at

125 Metro, *Southeastern trains axes first class carriages as only 28 season ticket holders pay for them* (2022), <https://metro.co.uk/2022/10/03/southeastern-trains-axes-first-class-carriages-due-to-low-usage-17490102/>

126 Department For Transport, *Rail passenger numbers and crowding on weekdays in major cities in England and Wales: 2022 (revised)* (2023), <https://www.gov.uk/government/statistics/rail-passenger-numbers-and-crowding-on-weekdays-in-major-cities-in-england-and-wales-2022/>

Paddington for 10.00 rather than earlier could make significant savings without limiting themselves to train-specific advance tickets. Note that for people with childcare responsibilities, the avoidance of the need to commute regularly has also led to savings in childcare costs (as less time in childcare is needed) in addition to the saved travel costs. It is not yet clear whether increased hybrid working is changing any gender patterns in who commutes and how often.

- 4.2.4.11** Long-distance high-speed rail commuting into London from places such as Bath (80 mins journey time) and Peterborough (50 mins journey time) developed from the 1990s fuelled by professionals who moved out of London for cheaper family house prices even if they were paying several thousand pounds a year for a season ticket. The widespread acceptance of remote and hybrid working means these 'long distance' people now may be only travelling a few days per month, using off peak or advance purchase tickets, maybe with an occasional overnight hotel stay. There is also some anecdotal evidence of younger professionals moving out of London during or post-pandemic to cities such as Bristol and Newcastle, but continuing to do jobs based in London and attending a few days a month and working on their occasional train journeys to the office. This appears to be a combination of a lifestyle and a cost-of-living choice facilitated by a tight labour market and continuing hybrid working. This is an area that is worthy of longer-term study.
- 4.2.4.12** Business travel is one of the main journey purposes generally using full fare peak tickets and often first class, and this is a segment in which travellers are saving time and companies saving money by reducing the frequency of business travel. Reduced business travel is also regarded by companies as a positive contributor to their environmental objectives. Views on the future of business travel vary significantly between those who expect it to return to pre-pandemic levels due to the social value of face-to-face engagement and those who see it staying at a reduced and more targeted level. However, the impact on rail industry revenues from reduced full fare tickets is significant.
- 4.2.4.13** Rail fares are a mix of 'regulated' fares- typically season tickets and full fare tickets that are set by government – and 'unregulated' fares such as train or operator specific advance fares that are commercially determined by the individual operators. The annual rail fare increase for regulated fares due in January 2023 was deferred to March 2023. For the first time in 15 years was below the normal 'Retail Price Index inflation plus' formula level although at 5.9% was still the biggest increase since 2012. The regulated fares increase for 2024 has also been deferred to March 2024 and capped at 4.9% rather than the formulaic 9% RPI figure plus an additional percentage. Note that approximately half of tickets are regulated and half unregulated, although the trend to less peak travel will reduce the percentage of regulated fare tickets.

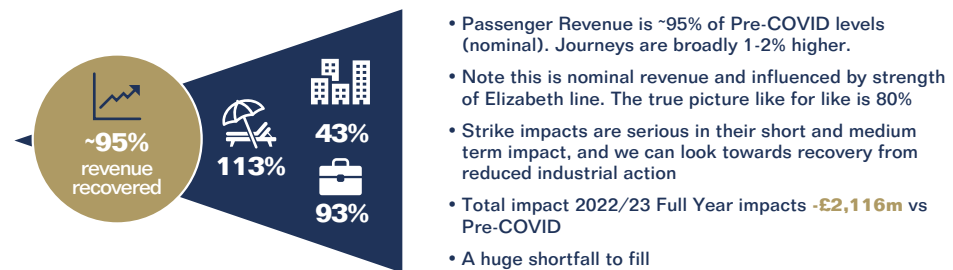
4.2.4.14 There have been other disruptive factors to complicate the position. Strike and work to rule actions by the RMT and ASLEF unions since late spring of 2022 and throughout most of 2023 affected rail services on specific notified days. Notification has meant some travellers have had options to avoid the strike days and work from home or plan leisure activities differently. However there have also been unpredictable punctuality and reliability issues with rail infrastructure, often weather related. New infrastructure and services on the Elizabeth line opened in stages from May 2022 to May 2023 and runs cross-London services between Reading and Heathrow Airport to the west and Shenfield and Abbey Wood to the east. This is a new high frequency service and is very well used and is now included in the National Rail statistics and so leads to an overstatement of the overall rail passenger demand compared with pre-pandemic.

4.2.4.15 This significant change in travel patterns has resulted in a significant loss of revenue across the rail sector – with government now bearing full revenue and cost risk. **Figure 34** from a presentation to the Chartered Institution of Railway Operators by the Great British Railways Transition Team in June 2023 shows the revenue challenge:

Figure 34: Rail Recovery (May 2023) compared to pre-Covid-19 levels¹²⁷

Where is the revenue now May 2023?

The recovery in rail has been relatively robust but there is the longstanding mismatch between costs and revenues remains wide



4.2.4.16 The full year 2022-23 revenue impact is a reduction of over £2,000 million (£2 billion) as compared with the pre-pandemic position but with rail passenger journeys broadly similar to the pre-pandemic demand. This shortfall is significant relative to the pre-pandemic 2019-20 net government support of £7.2 billion.

Box A: Gov FAQs on Rail:¹²⁸

The extent of government support for the railway has fluctuated over time. Despite a sharp fall immediately after privatisation in the early 1990s, public subsidy rose sharply from the turn of the millennium until the 2008 recession. By 2005/06, taxpayers were paying a higher proportion than fare payers. Before the pandemic, consecutive governments had tried to shift the burden of funding the railways from the taxpayer to the passenger. This has contributed to increases in the price of fares. In 2019-20, net government support for rail amounted to just under £7.2 billion. The increase in total government support between 2009-10 and 2019-20 is largely attributed to the allocation of long-term funding for HS2, Crossrail and other rail enhancements.

Public subsidy for the railway, especially subsidies for train operators, increased significantly following the Covid-19 pandemic to make up for the loss of income from fares. Passenger journeys plummeted to historically low levels in response to Government restrictions and official advice to work from home and avoid public transport. In 2020-21, there were just under 400 million passenger journeys on Great Britain's railway compared to over 1.7 billion before the pandemic. In 2020-2021, public subsidy for the day-to-day running of the railway increased to almost £17 billion, an increase of over £10 billion. Most of the increase (£9 billion) was a direct result of emergency contracts introduced during the Covid-19 pandemic, which transferred the cost and revenue risk of running passenger services from franchised train operators to the Government.

Rail key issues

4.2.4.17 The volume of demand has largely returned, but in a significantly different pattern. The peaks are dampened and weekend travel across Friday Saturday and Sunday is higher than previously. GBRTT research identifies that 54% of journeys are now for leisure purposes.¹²⁹

4.2.4.18 **The change in demand and journey purpose has created a fundamental challenge for rail industry funding with the cost base largely unchanged, but the revenue significantly reduced.** Rail passengers can benefit from paying lower fares by travelling at more flexible times. However, this raises a fundamental challenge of the balance between the rail passenger and the taxpayer in funding the rail industry for operating costs as well as capital investment. This is discussed in **Chapter 5**.

4.2.5 Underground and Tram services

4.2.5.1 In general terms, urban rail such as metro tram and underground services have been affected in a manner consistent with the impact on national rail services described above.

128 House of Commons, *Rail FAQs* (2022), <https://researchbriefings.files.parliament.uk/documents/CBP-8731/CBP-8731.pdf>

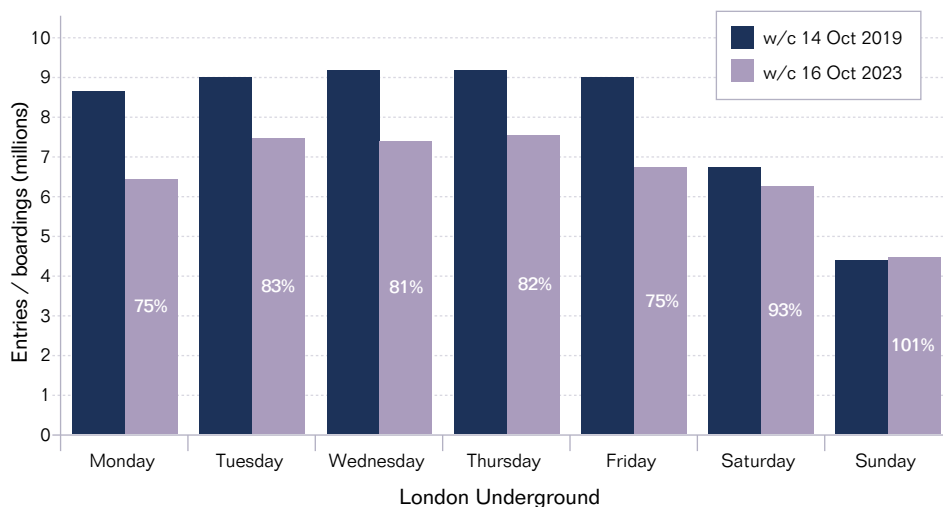
129 Great British Railways Transition Team, *Rest and recreation tops reasons for train trips – new analysis* (2023), <https://media.gbrrt.co.uk/news/rest-and-recreation-tops-reasons-for-train-trips-new-analysis>

Figure 35: Midweek travellers queuing to board a northbound Victoria line service at 09.45 in 2023



4.2.5.2 The impact of changed travel patterns on London Underground loadings is significant (**Figure 36**). In particular, we can see that weekend travel on Saturday and Sunday loadings has recovered much better than weekday loadings. Travel on Mondays and Fridays is also well below the reduced levels on other weekdays. This evidences the new commuting pattern described as T_WoT_s – those who commute to the office on Tuesday Wednesday and Thursday only. As with National Rail, peaks have spread beyond the classic timings and there can be overcrowding during the day, or around ticket restriction changes such as peak to off peak pricing at 09.30.

Figure 36: London Underground demand by day of week, week commencing 16 Oct 2023 versus week commencing 14 Oct 2019.⁹⁹



4.2.5.3 This shows the strength of weekend travel, linked to greater propensity to travel for leisure purposes. Evidence from Greater Manchester follows a similar pattern to London Underground with peak Metrolink tram weekday commuting still below pre-pandemic levels.

4.2.5.4 The issues for Metro and Trams appear to be similar for those affecting national rail, although as they serve a single urban area they are likely to have a greater number of key workers commuting than National Rail services that cover a much wider geography and include more 'knowledge workers'.

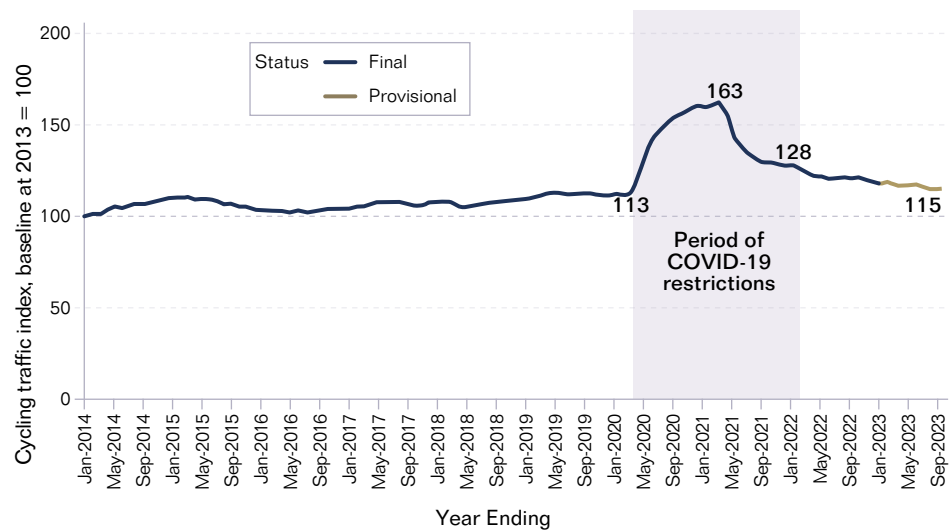
4.2.6 Micro-mobility & Active travel

This section considers active travel modes of cycling, walking and electric scooters. As with other modes, it is important to note that travellers are not exclusively users of a single mode. With micro-mobility in particular, changes that benefit one group can often benefit another, for example shared paths that can accommodate cycling and e-scooters also benefit those walking, including those with mobility needs such as in wheelchairs or pushchairs.

Cycling

4.2.6.1 During the pandemic period, when road traffic was significantly reduced cycling increased, particularly on days when the weather was fine and in periods of lockdown restrictions. Many people took up cycling or resumed cycling after an absence of many years, this included people in groups that are underrepresented among cyclists such as women. Cycling levels now seem to have stabilised at slightly higher levels than previously (**Figure 37**).

Figure 37: Cycling levels in England, January 2014 to September 2023 ¹³⁰



130 Department for Transport, *Cycling traffic index England* (2023), <https://www.gov.uk/government/statistics/cycling-index-england/cycling-index-england#main-points>.



4.2.6.2 Many local authorities have taken measures to improve cycling and walking infrastructure during the pandemic and subsequently. This can be dedicated lanes or paths or improved secure on street storage options such as bike hangars. More cycling brings health and wellbeing benefits to the individual as well as wider community benefits such as environmental benefits, helping to reduce carbon emissions from transport and improving air quality, whilst reducing congestion and noise pollution on roads particularly in local centres. Specific infrastructure and schemes such as School Streets and Low Traffic Neighbourhoods can also make local centres more attractive to visitors and residents and improve citizens' health through greater activity. Infrastructure for cycling can also be used by micro mobility solutions such as e-scooter and cycle and e-cycle short term hire.

4.2.6.3 More details are given in the UK Cycling and Walking investment strategy report to Parliament in 2022.¹³¹ Cycling can be a very low cost travel option, with only an initial purchase or short hire to be paid for. Cycles can be provided through the long-standing government Cycle to Work Scheme.¹³² Some local authorities or businesses will allow trials of e-bikes to encourage purchase. Across the country, there are many charities that will accept donations of unused bicycles and then refurbish them, to either donate to those in need or sell on at reasonable cost. Provision of infrastructure dedicated to cycling, or cycling and walking is known to contribute to increases in cycling, particularly for groups such as women or ethnic minorities that are under-represented among cyclists and for whom personal safety away from other road traffic is a higher priority. A key development has been the growth of the dedicated cycling network in London, with the expansion of the network trying to reach areas of relative economic deprivation.¹³³

Walking

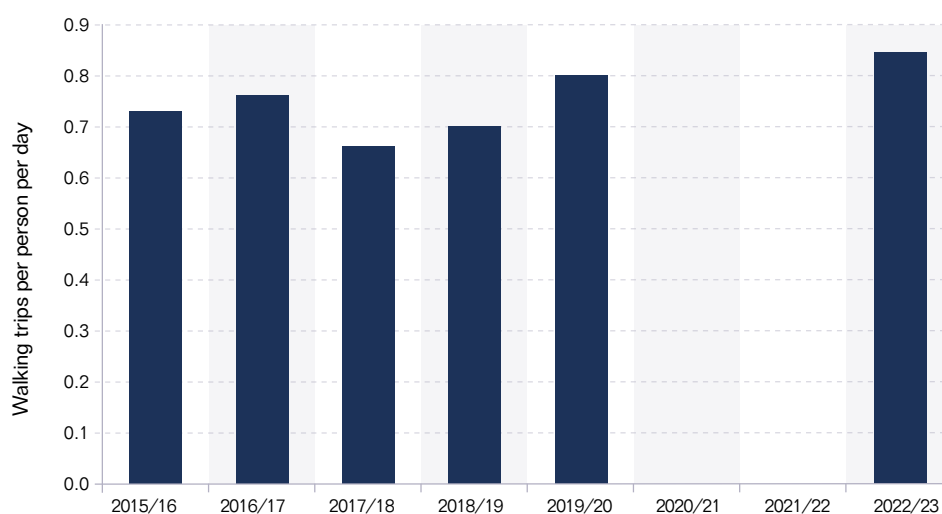
4.2.6.4 Walking information is not always collected by local authorities although many will have information about city centre footfall (**Section 3.1**). Steps taken by local authorities to attract people back into city centres and high streets by making them a more attractive experience such as pavement cafes, more pedestrianisation, planters and art works, or daytime loading restrictions are also likely to encourage more walking. **Figure 38** from London shows increases in walking trips continuing a pre-pandemic trend.

131 Department for Transport, *The second cycling and walking investment strategy (CWIS2)* (2022), <https://www.gov.uk/government/publications/the-second-cycling-and-walking-investment-strategy/the-second-cycling-and-walking-investment-strategy-cwis2>

132 UK Government, *Cycle to work scheme implementation guidance for employers* (2019), <https://www.gov.uk/government/publications/cycle-to-work-scheme-implementation-guidance>.

133 Transport for London, *Cycling Action Plan* (2023), <https://content.tfl.gov.uk/cycling-action-plan.pdf>

Figure 38: Walking trip rates among London residents, LTDS, 2015/16- 2022/23 ⁹⁹



E-scooters

4.2.6.5 In July 2020, the Department for Transport (DfT) made regulations allowing trials of rental e-scooters to take place. The trials took place in 32 different areas including some rural areas such as South Somerset which included smaller settlements such as Chard and Crewkerne. An initial evaluation was published in Dec 2022.¹³⁴ The evaluation report identified that e-scooter users were predominantly male (71%) and under the age of 35 (74%). Users from ethnic minority groups, and users on low incomes, were also more likely to be frequent users. Users who took part in an in-depth interview reported that time and cost savings, convenience and enjoyment were what motivated them to use an e-scooter. A recurring motivation among female participants was that using an e-scooter was seen as safer than walking home at night in the dark.

4.2.6.6 Over the trial period, an average e-scooter trial trip length was 2.2km and took 14 minutes. E-scooters therefore acted as a mode of transport in-between walking and cycling in terms of average distance, and had a slightly shorter average time duration than both. These time savings were a potential factor behind the relatively high mode shift from walking. In December 2021, 42% of users reported that they would have walked if they had not taken an e-scooter on their last trip, 21% of users reported that they would have travelled by private transport (car, van or taxi), 18% would have travelled by public transport (bus, train, tube or tram), ten percent would have cycled, and nine percent would not have made the journey at all. However, fewer e-scooter journeys were replacing walking trips by the end of the study period: mode shift from walking decreased by seven percentage points from March 2021 to December 2021, while mode shift from private vehicles increased by nine percentage points over the same period.



4.2.6.7 Issues with safety of the riders and parking the e-scooters were identified within the report as needing resolution and it was recommended that there be active management processes in place to ensure the success of any e-scooter scheme. Local regulation may be needed in order to manage pavement parking within designated areas. Nevertheless, it appears that e-scooters will continue to be part of the micro-mobility mix, a key enabler for some user groups as a contribution to the '15-minute city'. The ongoing trials are continuing (although for the users there is no information that the existing schemes are part of a trial).

Key issues for micro mobility and active travel

4.2.6.8 Micro-mobility and active travel are areas where the pandemic has accelerated existing or emerging trends and increased mobility options and usage, particularly in urban areas. **Steady increases in active travel since before the pandemic have been experienced.** It appears that positive interventions such as improved infrastructure as well as nudges from measures that limit motorised road traffic may need to be combined to encourage more use of active travel. There is a challenge in that safety, environmental and health related measures that promote walking and cycling can be seen as 'anti-car'. In developing local infrastructure schemes to promote active travel it is important to give due consideration to matters of interchange and information – such as how to get from the park and ride car park to the pedestrianised city-centre – recognising that pedestrians, cyclists and car users are often overlapping groups. The needs and priorities of different age groups are often different and an individual's needs vary as they move through the generations.

4.2.6.9 Active travel initiatives can generally be implemented at a local level within existing powers and requiring limited consultation and relatively short lead-in times. They are often flexible and can be adapted in the light of experience – for example, using temporary planters in an experimental pedestrianised area in advance of a finalised project, or having a third-party company provide e-scooters for a specific period. However, prioritising active travel can mean difficult decisions about the allocation of road and possibly pavement space between cars, parking, cycling and pedestrians.

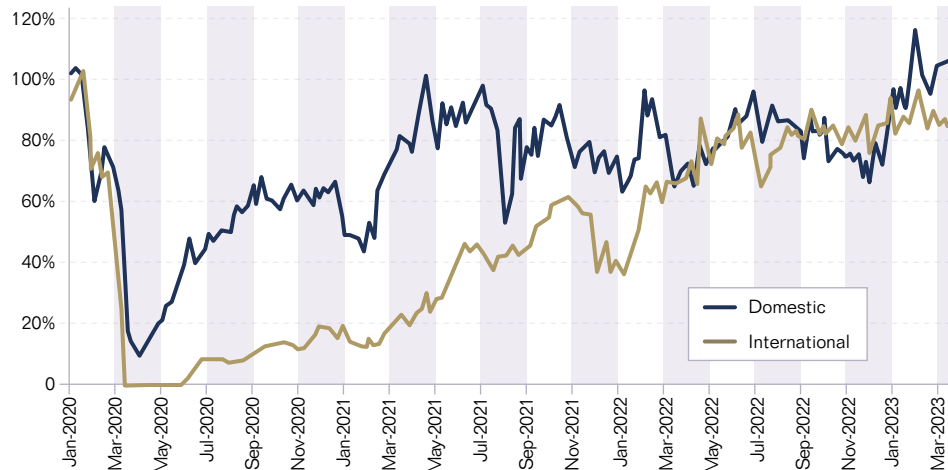
4.2.6.10 Active travel activity levels can be highly weather dependent as was seen during the pandemic where a sunny weekend day led to increases of 300% in cycling. Not every location is suitable for active travel solutions – particularly rural and less populated areas where there may be no pavements or street lighting. Within towns and cities with steep terrain e-cycles and e-scooters may be more popular than conventional cycles. Given the reduction in younger males with driving licences, cycle and e-scooter hire schemes are likely to remain an important part of the travel mix in urban areas.¹³⁵

4.2.6.11 For the person travelling, active travel methods are generally low cost (such as e-scooter hire) or free and available without the need to own a vehicle or hold a licence. Given ongoing cost of living challenges, active travel solutions may become more used. It is possible that walking, cycling and scooting may replace car-based options for some local journeys.

4.2.7 Air Travel

4.2.7.1 The air passenger sector was severely affected by the pandemic and the associated restrictions. Air travel before the pandemic had gone through a sustained period of expansion for leisure and business travel both domestically and internationally. The pandemic halted all air travel for a period and the resumption has been shaped by the nature and timing of different international restrictions being lifted. International travel was affected by Covid-19 restrictions in other parts of the world with some countries such as Australia and New Zealand imposing very strict and long-lasting limits on the arrival of visitors from countries such as Great Britain. Financial support for aviation is provided via methods such as subsidies for fuel and tax benefits rather than direct financial payments. During the pandemic British aviation companies were able to use furlough schemes to support staff retention but did not get other specific subsidies.

Figure 39: Passenger ticket sales, 7-day moving average, % share of the same day in 2019 (June 2020 to March 2023)¹³⁶



4.2.7.2 Post pandemic air passenger numbers have picked up with a focus on leisure travel for holidays or to visit family and friends abroad who could not be visited during 2020 and 2021. The sector has also been affected by fuel price increases and volatility due to the war in Ukraine and challenges with air space, airport and airline capacity in the summers of 2022 and to an extent in 2023 causing problems and delays for passengers. Airlines and ground handling organisations struggled to re-recruit and train staff in advance of the rebuilding of demand in 2022-3, in part because these organisations had been very effective at shedding staff at the beginning of the pandemic and many ex-employees had found alternative employment.



- 4.2.7.3** International Airlines Group (IAG), the owner of British Airways, Aer Lingus, Iberia Airlines and budget airline Vueling has reported in their results for the first half of 2023 that it expects to fly almost the same passenger numbers in 2023 as before the Covid-19 pandemic. It expects capacity this year to be about 97% of 2019 levels, with BA slightly lower because of the slow return of some Asian routes, particularly China. “We are seeing very strong leisure demand this year, across all our airlines and across all our cabins, as customers prioritise holidays and visiting friends and relatives. This is compensating for slower recovery in the corporate market”.¹³⁷
- 4.2.7.4** If the example above is indicative of the airline sector, then this follows the pattern seen in rail that leisure travel for holidays and visiting friends and relatives has bounced back and is at above pre-pandemic demand levels, plugging the gap left by a reduction in business travel. However, as cost of living impacts combine with poor service and punctuality on some routes in the summer of 2023, it remains to be seen whether high pricing for leisure travel can be sustained or whether there has been a one-off spending of the Covid-19 period savings in 2022 and 2023.
- 4.2.7.5** Sustainability issues may be impacting the airline sector for business rather than personal travel. The Our Changing Travel report found that there was a reduction in the proportion of people willing to take some actions to improve sustainability including reducing flights: 37% in November 2022 compared with 42% in November 2021.¹⁰² Many businesses appear to be supporting their own reduction in carbon emissions and making financial savings by limiting business travel compared with the position pre-pandemic as remote working through digital means such as Teams, Zoom and Google Meet has been demonstrated to be effective for many business meetings internationally as well as domestically.
- 4.2.7.6** The consequences of this shift in journey purpose on airline revenue are likely to be limited as air fares are unregulated and there appears to be evidence internationally that leisure fares are significantly above pre-pandemic levels.¹³⁸ There is also evidence that average air fares across Europe were between 20-30 per cent higher over summer 2023 compared with 2019, according to EU data released in October in response to a question in the European parliament with the EU transport commissioner Adina Vălean warning that, since demand was ahead of the capacity supplied, higher prices were likely to continue. IAG refer in their half year results to ‘disciplined capacity restoration’. Constrained capacity in the sector, with demand strong would allow for further price increases for leisure travellers to compensate for weaker business travel revenues.

137 International Airlines Group, *Half year results 2023* (2023), https://pdf.dfcfw.com/pdf/H22_AN202307281592793469_1.pdf

138 The Guardian, *Why Australians are paying 50% more for air fares than pre-pandemic even as jet fuel costs drop* (2023), <https://www.theguardian.com/australia-news/2023/may/30/why-australians-are-paying-50-more-for-air-fares-than-pre-pandemic-even-as-jet-fuel-costs-drop>

- 4.2.7.7** Ryanair announced in May 2023¹³⁹ that they were ordering 150 new Boeing 737-MAX-10 aircraft (with options for a further 150) for delivery between 2027 to 2033. Although half of the order is to replace older planes this was reported as part of a growth strategy 'to facilitate disciplined traffic growth of 80% from 168m in year end March 2023 to 300m p.a. by March 2034' and to deliver unit cost savings.
- 4.2.7.8** The decline of business air travel is illustrated in passenger numbers from London City airport which has a relatively business focussed customer base due to its proximity to the City of London and business districts such as Canary Wharf. About three million passengers used the airport in 2022 but the number remained below the 5.1 million recorded in 2019. It is of note that in December 2022 the airport submitted a planning application for an increase in passenger capacity from 6.5 million to nine million per year by 2031, although this was rejected by the local planning authority.¹⁴⁰
- 4.2.7.9** Ongoing environmental concerns have led to policy and service changes in some jurisdictions – for example France has officially prohibited from May 2023 short haul domestic flights for journeys that will take less than 2.5 hours by train. The law specifies that train services must be frequent, timely and well-connected enough to meet the needs of passengers who would otherwise travel by air – and able to absorb the increase in passenger numbers.¹⁴¹

Air passenger key issues

- 4.2.7.10** The reduction in business travel post pandemic has been observed in air travel as well as other travel sectors. However, market pricing and limited capacity enables yield management in a way that is not possible in the regulated public transport sector. Looking ahead, measures to decarbonise will continue to challenge, whether for an environmentally conscious traveller or for a corporate travel policy. Fuel prices may also continue to be volatile.¹⁴² However, despite environmental concerns, the airline sector continues to offer significantly cheaper fares than the rail sector equivalents in Britain and across Europe according to Greenpeace research in July 2023.¹⁴³

139 Ryanair, *Ryanair orders 300 boeing 737-max-10 aircraft worth \$40bn* (2023), <https://corporate.ryanair.com/news/ryanair-orders-300-boeing-737-max-10-aircraft-worth-40bn/>

140 Centre for Aviation, *London City encounters barriers to modest expansion plans: part two – years of consistent growth* (2023), <https://centreforaviation.com/analysis/reports/london-city-encounters-barriers-to-modest-expansion-plans-part-two-years-of-consistent-growth-655345>

141 Le Monde, *France's short-haul flight ban comes into force* (2023), https://www.lemonde.fr/en/france/article/2023/05/23/france-s-short-haul-flight-ban-comes-into-force_6027699_7.html

142 See ITC, *The sustainability of UK aviation* (2016), <http://www.theitc.org.uk/wp-content/uploads/2016/03/ITC-Aviation-Sustainability-March-2016-complete.pdf>

143 Greenpeace, *Ticket Prices of Planes vs Trains – A Europe-Wide Analysis* (2023), <https://greenpeace.at/uploads/2023/07/report-ticket-prices-of-planes-vs-trains-in-europe.pdf>

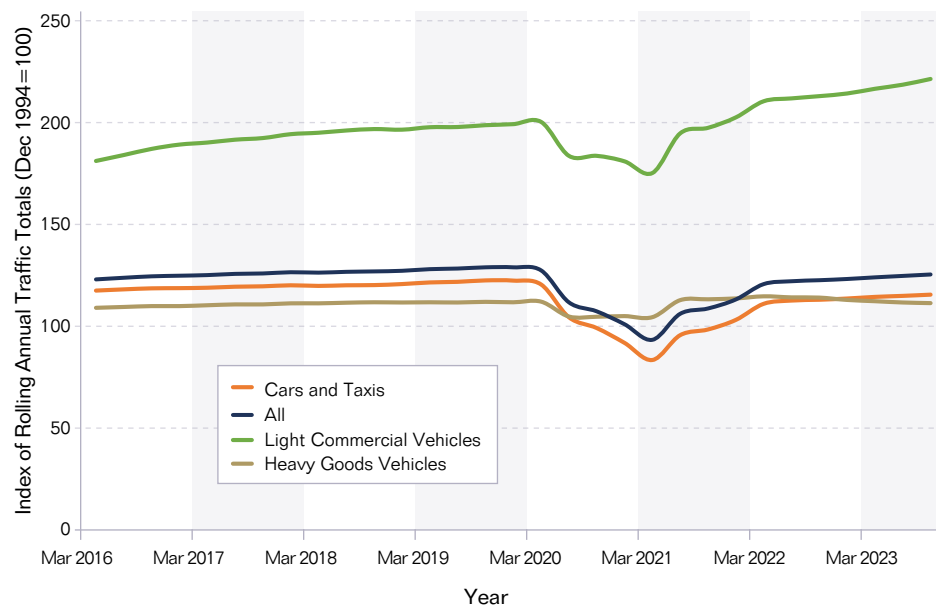
4.3 Movement of Goods

4.3.4 Road Freight

4.3.4.1 **Figure 40** shows the changes in road traffic by vehicle type pre and post pandemic. The decline during the periods of restrictions is clearly shown, with the subsequent recovery. Heavy Goods Vehicles (HGVs) show the smallest change, with a very small reduction followed by modest increases in traffic. This reflects the need for goods to continue to be moved, for example with products moving from factories or farms and onwards to suppliers and retailers such as the supermarkets that remained open throughout the periods of health-related restrictions. Lorry drivers, factory workers, farmers and supermarket staff were all recognised as key workers and essential to keep the economy and businesses and individuals functioning. Shortages of drivers for HGVs were reported periodically during 2020-2022 but the position appears to have stabilised.

4.3.4.2 The increase in van traffic (Light Goods Vehicles or LGVs) had been reported before the pandemic relating to an increase in online retailing and the associated deliveries. The growth began in the 1990s but was largely ignored until Transport for London recognised the importance of van traffic in their planning for the London 2012 Olympics. The pandemic restrictions, and possibly concerns about the health risks of in-person shopping contributed to an increase in online shopping (See **Section 2.6**). Vans are also commonly used by small businesses such as building contractors and independent traders who continued to work throughout the pandemic as many were deemed to be key workers. Van traffic continues to grow post-pandemic.

Figure 40: Rolling annual index of road traffic in Great Britain, indexed to 1994, by vehicle type (2016 onwards shown) (TRA251 1a)¹⁰⁰



Issues for road freight

4.3.4.3 The volume of HGVs is stable with a modest increase but with volume of vans traffic continuing to rise, another example of an existing trend that has been accelerated by the pandemic. The increase in road freight services may pose issues for infrastructure, particularly maintenance as road damage is largely related to vehicle weights and damage to signage and overbridges largely relates to vehicle size.¹⁴⁴ Larger and heavier vehicles allow a greater load to be moved with a single truck and driver so with the potential to reduce unit costs and avoid additional driver recruitment.

4.3.4.4 As Clean Air Zones or other measures to restrict weight, timing and types of traffic are introduced there is an opportunity for micro-mobility in freight particularly in urban areas with the use of cargo-bikes, particularly e-cargo bikes for local deliveries and transport. Transport for London have launched an action plan with the aim to make cargo bikes a leading option for last-mile freight and servicing trips.¹⁴⁵ This notes the increase in online sales during the pandemic and the potential for cargo bikes to replace some van movements in the city. Some London boroughs such as Westminster have recently introduced e-cargo bike hire schemes to try to reduce local van movements. Other changes in road freight are likely to follow technology developments (such as autonomous vehicles) and regulatory changes such as limits on freight vehicles in city areas altering distribution networks rather than being impacts from the pandemic.

4.3.5 Rail Freight

4.3.5.1 Rail freight has not experienced the same significant growth as rail passenger travel and has generally declined over the last decade although it has maintained a degree of stability in the last 5 years (**Figure 41**). The main sectors for commodities transported by rail are:

- Intermodal (containers)
- Construction and aggregates
- Energy generation
- Rail industry (materials for infrastructure projects and renewals) and
- Metals and iron

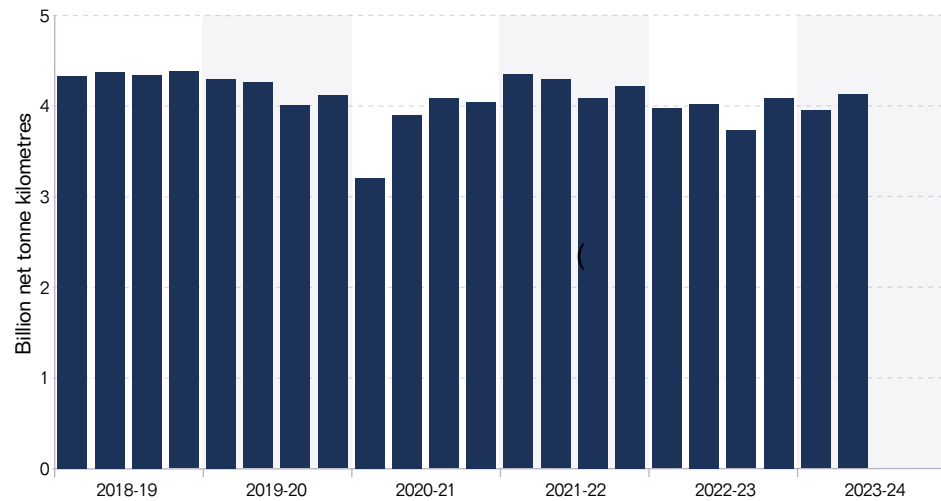
4.3.5.2 During the pandemic, as with road freight, after an initial dip, all of these products continued to be transported. Volumes appear to be driven by wider economic factors such as the volume of house building rather than there being a significant covid-related impact.¹⁴⁶

144 City Monitor, *Heavy goods vehicles are not paying their way on the roads. It's time for distance-based charging* (2018), <https://citymonitor.ai/transport/heavy-goods-vehicles-are-not-paying-their-way-roads-it-s-time-distance-based-charging-3806>

145 Transport for London, *Cargo Bike Action Plan 2023* (2023), <https://content.tfl.gov.uk/tfl-cargo-bike-action-plan-2023-acc.pdf>

146 Deloitte for the Rail Delivery Group, *The role and value of rail freight in the UK* (2021), <https://www.raildeliverygroup.com/media-centre-docman/12807-2021-04-role-and-value-of-rail-freight/file.html>

Figure 41: Rail freight moved (billion net tonne kilometres), Great Britain, quarterly data, April 2018 to September 2023 ¹⁴⁷



4.3.5.3 Rail freight is acknowledged to be a positive contributor towards carbon reduction objectives with aims such as ‘taking lorries off the road’ as part of modal shift. However, the Rail Delivery Group (the industry organisation that brings together passenger train operators, freight train operators, as well as railway infrastructure companies) acknowledges that infrastructure improvements and different prioritisation between passenger and freight use of capacity may be required for rail freight to grow its current sectors and expand into areas such as parcels and light logistics.

Issues for rail freight

4.3.5.4 Rail freight is broadly stable with relatively small and short-term impacts from the pandemic. Broader issues for the sector relate to operating on a capacity constrained rail infrastructure, shared with passenger services. There may be opportunities from measures to encourage traffic from road to rail for environmental reasons, but these may be constrained by infrastructure capacity and decisions on priorities between passenger and freight services and network maintenance.¹⁴⁶ The proposed rail industry structural changes with the creation of Great British Railways include proposals for a Strategic Freight Unit to address industry internal challenges as well as rail freight market development measures.

147 Office of Rail and Road, *Freight rail usage and performance* (2023), <https://dataportal.orr.gov.uk/media/hwucszqa/freight-rail-usage-and-performance-jul-sep-2023.pdf>

5 Funding and Investment impacts

5.0.1 The legacy of the pandemic has left significant impacts on the funding and investment of transport and land use in the UK. A range of factors noted previously in this report are contributing to these impacts. These include the growth of hybrid and flexible working patterns for knowledge workers, and the continuing digitisation of routine activities, such as shopping, administrative activities, and entertainment. Also significant are the changes in journey purpose, timing of passenger travel and revenue impacts identified in **Chapter 4** and the higher priority now given to environmental aspects, including air quality, carbon emissions and access to green and blue spaces. Funding and investment challenges are also impacted by the current relatively high inflation and interest rates, as well as the cost-of-living crisis affecting consumers and businesses as well as local and central government.

5.0.2 The costs of providing transport can be separated into two categories. First, capital expenditure which supports and develops those capital resources such as physical and digital infrastructure that make transport operations possible. Second, there is routine operational expenditure which relate to the provision of particular transport services and maintaining these. The first of these, capital expenditure, involves long-term commitment and an investment in the system for wider public benefit, and as a result is largely supported by taxpayer funding. Operational costs, on the other hand, are shorter-term and directed at particular users, so it is often expected a higher proportion of these costs will be borne by passengers or transport users. Compared to its European neighbours, the UK has relied in recent decades on relatively low public sector subsidies for passenger transport services and a 'user pays' model of funding.

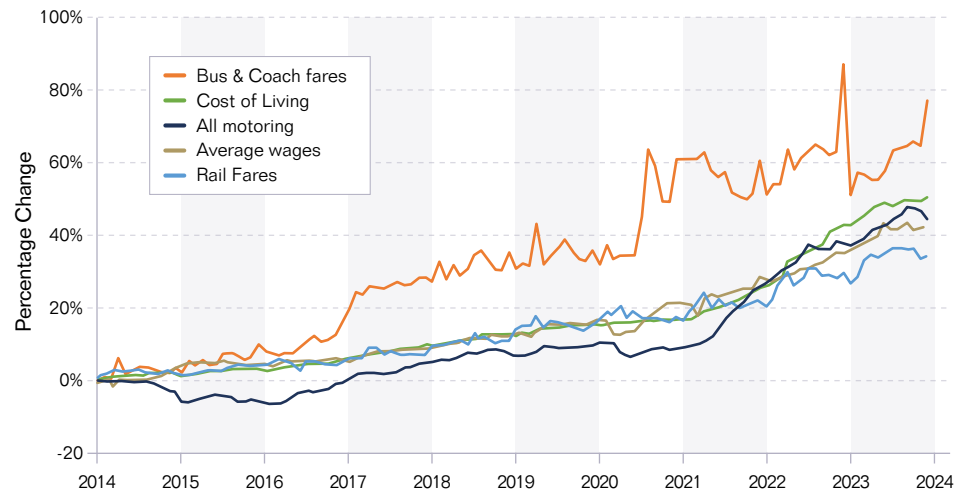
5.0.3 In this chapter we examine these aspects and the prospects for the future, considering first the operating costs and service levels, followed by a consideration of capital costs and infrastructure provision.

5.1 Consumer Costs of Travel

5.1.1 **Figure 42** shows the changes in the consumer cost of travel, with the costs across all modes rising, particularly for bus and coach. Inflationary impacts affect different sectors at different paces, depending on whether costs are regulated or commercially set.



Figure 42: Percent change in cost of travel, 2014 to 2024 ¹⁴⁸



Source: RAC Foundation (ONS)

5.1.2 Car users have been affected by recent increases in fuel and insurance costs in particular, with new and second-hand vehicle purchases also more expensive than pre-pandemic. These cost increases are acting to suppress demand, encouraging some to limit journeys or informally car share with colleagues and friends.¹⁴⁹ There are concerns that the financial impact of environmental measures such as ULEZ, and CAZ are seen as penalising private car owners with older, more polluting vehicles, more likely to be owned by poorer households who are likely to struggle to replace them or travel by alternative modes. Although controversial, standard 20 mph speed limits in urban areas may be financially positive for the car user through reduced fuel consumption. It is notable that car owners will often consider only the direct costs of a journey – such as petrol and parking costs – rather than considering the annual cost of motoring, except when the annual insurance falls due. Options such as car leasing with the associated financing may also have altered how people perceive the cost of ‘owning’ a car. Generational and geographic differences are increasingly stark, with younger people in urban environments driving less, while rural communities, which tend to have older demographics, remain very car dependent and so bear a greater cost impact.¹⁵⁰

5.1.3 Bus users are currently benefitting from fare capping on single fares at £2, with the capping continuing in 2024. This is at a level that is still too high for some passengers, particularly for short journeys or for those changing buses. However, there are bigger passenger benefits from the capping on longer journeys, such as those in rural areas, although services in rural areas may be extremely limited. Initial evaluation of the £2 cap by Transport Focus indicates that one in 10 now say they are already using buses more, and North East and Yorkshire and Humberside have highest increased bus use because of the £2 capped fare. Also that those travelling more due to the £2 fare talked about saving money, replacing the car for journeys and going to new places.¹⁵¹

148 RAC Foundation, *Cost of Transport Index (2023)*, <https://www.racfoundation.org/data/cost-of-transport-index>

149 See <https://assets.publishing.service.gov.uk/media/649ae485b4d6ef000c038f87/our-changing-travel-how-people-s-travel-choices-are-changing.pdf> Sections 2.4-2.5

150 See <https://www.gov.uk/government/calls-for-evidence/future-of-transport-rural-strategy-call-for-evidence/future-of-transport-rural-strategy-call-for-evidence#trends>

151 Transport Focus, *Awareness and effect of the £2 bus fare: March 2023 (2023)*, <https://d3cez36w5wymxj.cloudfront.net/wp-content/uploads/2023/04/04121859/Awareness-and-effect-of-2-bus-fare-March-2023.pdf>

- 5.1.4** Rail users have traditionally had regulated fares (such as season tickets and open returns, approx. 45% of all fares) increase at 'inflation plus'. In the current period of high inflation regulated rail fares have been capped by government at 'inflation minus' for two years, with the increase deferred from January to March in 2023 and 2024. Devolved governments in Scotland and Wales have followed a similar pattern. As noted in **Chapter 4**, more rail passengers are making use of flexible working patterns to use un-regulated tickets such as the cheaper advance tickets that are train specific and are demand-managed by the train operators to fill services that are expected to be less popular. Dynamic pricing, that changes prices with demand is under consideration by Transport for London for the London Underground as a possible option to increase overall revenue. This market-based approach would lead to higher prices at times of high demand and lower prices at times of lower demand and would only be implemented as part of a wider financial and funding package.
- 5.1.5** Dynamic pricing is commonly used in transport sectors that do not have fares regulation. Long-distance coaches and airlines have been able to increase their commercially-set fares as a consequence of consumer demand returning ahead of capacity being reinstated, as customer numbers reflect pent up and ongoing demand to travel to holiday or visit family and friends. The reduced level of higher revenue work-related travel has also contributed to leisure travellers paying more in these sectors.
- 5.1.6** Active travel and micro-mobility solutions are low or no cost. The pandemic period saw a substantial rise in active travel, and the subsequent cost of living challenges have encouraged more local walking and cycling as well as options such as e-scooters in order to avoid paying for car or bus journeys. However, active travel solutions are not available for all users such as those with mobility limitations or for all journeys, such as those who are trip-chaining or with heavy shopping.

5.2 Costs of Service Operations

5.2.1 Road Travel

- 5.2.1.1** Road travel has been affected at a local level by the introduction of environmental measures to reduce pollution and congestion such as ULEZ, and CAZ. These have been introduced to meet national government de-carbonisation and air quality targets and were planned pre-pandemic but many were implemented during the pandemic period or shortly afterwards. Local authorities have ongoing management costs for these schemes, and the revenue raised is generally directed to further local enhancements to meet environmental objectives such as active travel. However, the 'one-off' vehicle scrappage schemes when the clean air and similar projects are first introduced are generally inadequate to cover full replacement vehicle costs. The ITC is exploring some of these issues through its new research study on Vehicle Decarbonisation Policies.¹⁵²



5.2.1.2 Nationally, road fuel duty revenue is continuing to decline, and as it has become politically very difficult to raise this tax, **there is an increasing need to consider alternatives, such as road user charging schemes, particularly as the number of electric vehicles gradually increases.** Such schemes have the advantage of being able to offer a wider suite of options to shape demand, and address congestion as well as emissions and ongoing technological developments would appear to make road user charging solutions simpler to introduce and manage.

5.2.2 Road Freight Services

5.2.2.1 The growth in road freight has continued since the pandemic with van traffic seeing the highest increases. Business costs related to wage inflation, ongoing recruitment and fuel have increased since the start of the pandemic, plus the potential costs of environmental measures such as moves towards lower emission vehicles.

5.2.2.2 There is a trend for HGVs to get longer and heavier in order to reduce the operator's costs per load. Increases in weight are exponentially proportional to the damage caused, and this has negative impacts on the road infrastructure, for example contributing to road surface damage such as potholes and damage to other structures such as bridges. There may be an opportunity to use lorry road charging schemes, potentially targeted by road type, vehicle weight and time of day to address these impacts. Many European countries and cities have such charging and traffic schemes.

5.2.2.3 In addition, it is important to note that vans and freight deliveries may be time-sensitive (with limited access hours to city-centres or the need to maximise number of deliveries as paid per item) in a different way to personal journeys. The costs of congestion measures or road user charging schemes will affect these journeys in special ways and need to be considered.

5.2.2.4 **There has been a significant increase in van traffic and local deliveries.** Pricing for deliveries is often opaque and does not reflect the actual cost of delivery to home rather than store nor the potential environmental and traffic impacts. Last-mile schemes such as local use of e-cargo bikes, or use of convenience stores for the consolidation of parcels from different parcel couriers need to be considered within the mix of solutions. Schemes such as Low Traffic Neighbourhoods, pedestrianisation and vehicle weight and size limits can be used to incentivise particular outcomes.

5.2.3 Bus Services and Operational Costs

5.2.3.1 Operating costs for buses are primarily driving staff, fuel and the provision of the vehicles, with limited scope to reduce these without simply stopping the services operated. The accelerated fall in bus travel demand and revenue, compared to pre-pandemic, has meant many more services are no longer attractive to their commercial operators who consequently reduce service frequency and capacity, particularly in evenings and on Sundays or for longer distance rural services. An increased financial need has therefore fallen on local and regional authorities to subsidise more bus services to maintain service levels – in a challenging financial period with many other demands on local authorities such as social care and housing. The result has been widespread axing of bus services, especially in more rural areas, further increasing car dependency in these places.

5.2.3.2 Revenue measures such as the current £2 capped fare have been introduced to try and stabilise bus demand. In some areas there has been a shift to replace limited rural services with demand responsive transport, for example with trials in the south Bristol area but the new offer needs to be known about, understood and then trialled by the target users.¹⁵³ In the Greater Manchester area, from September 2023 some local buses have been taken back under local government control as the first reversal of bus deregulation that was introduced outside of London nearly 40 years earlier. It is estimated that operating a franchised service, rather than the local authority only operating the unpopular services that are not commercially viable will be around 30% cheaper on a per mile basis.¹⁵⁴

5.2.3.3 There may be options for rethinking the less popular rural and off-peak service provision by taking learning from the development of the private hire business models. Private hire operating models typically have: dynamic pricing; advance planning in response to specific demand; vehicles shared between different users and the drivers and vehicles provided by a range of local small independent and self-employed driver/operators. Companies such as Veezu and Uber have developed technology that gives the user the confidence of knowing they can confirm arrangements in advance and then in real time, know where the vehicle is, the name of the driver and the registration and type of the vehicle. Further consideration should be given to the use of these private hire business models and indeed these services as local and regional authorities consider their forward options. Payment for the services used could be aligned with existing bus pass systems and smart cards to be free to use for some passengers or subsidised for others. Options for advance booking may need to be adjusted to meet customer needs, particularly for those without smart-phones or effective internet access

153 North Somerset Council, *First look at new on-demand buses on their way to North Somerset's communities* (2023), <https://n-somerset.gov.uk/news/first-look-new-demand-buses-their-way-north-somerset-communities>

154 Greater Manchester Combined Authority, *Greater Manchester retakes control of buses with historic Bee Network launch* (2023), <https://www.greatermanchester-ca.gov.uk/news/greater-manchester-becomes-first-place-in-england-to-retake-control-of-buses-after-40-years-of-deregulation-with-historic-bee-network-launch/>

and connectivity. There could be a blend of planned routes and servicing specific requested locations, potentially an extension of the current informal arrangements where some rural buses will stop anywhere safe on their route, not just in designated stops.

Figure 43: Many bus services are requiring additional subsidies to remain viable.



5.2.3.4 There may be some opportunities for combining and sharing bus services with other travel. For example, the Post Bus, shared between postal services and passengers is an effective, albeit limited solution for some rural areas. Services subsidised for school traffic such as taxis and minibuses can potentially be shared with others, possibly on otherwise empty positioning movements. Non-urgent healthcare patient transport could possibly be made available for other users. However, these solutions will be complex as they mix public, private and voluntary sector provision and different objectives. In the meantime, in the post-pandemic era bus services face a particularly ominous future outside the most popular routes without permanently increased subsidies or a dramatic reshaping of how services are provided.

5.2.4 Rail Services and Operational Costs

5.2.4.1 Although overall rail demand has recovered to about 90% of pre-pandemic levels, changes discussed in **Chapter 4** mean there is now less of the higher revenue commuting and business travel. This has resulted in a rail industry revenue shortfall of approximately £2bn pa, which equates to about 30% of pre-pandemic income from ticket sales. As a consequence, there has been a change in train operating contracts (after the emergency measures contracts during the pandemic) with the Government now bearing revenue risk and operators on new management contracts, National Rail Contracts. This means there are no incentives, or indeed capability for the train operators to make changes to grow revenue, actively yield manage or flex capacity to meet changed travel patterns without agreement from government with a de facto re-nationalisation of operators, aligning with public sector-controlled Network Rail since 2014 when it was reclassified.

5.2.4.2 With such a significant loss of revenue, it is noteworthy that the rail industry operating costs are largely unchanged. Many operating costs such as the leases of the separately privately-owned rolling stock, staff costs and track access charges paid to Network Rail cannot easily be reduced without a major structural reshaping of the services offered. Trades unions have generally resisted attempts to change their terms and conditions to allow efficiencies to be made. 2022 and 2023 have experienced disruption due to strikes and other industrial action by Network Rail and train operating company staff. However, the rise of hybrid working has allowed passengers to shift their travel days and these strikes have not therefore had quite the immediate disruptive impact that they might have done in the past. The settlement with Network Rail includes a commitment on efficiency changes with a guarantee of no compulsory redundancies and is expected to give opportunities to automate some operations, inspection and maintenance processes and to increase staff multi-skilling in the face of a changing workforce demographic. Train operator proposals in the summer of 2023 to reduce costs by the closure of booking offices and provision of roving customer-facing staff instead (similar to the changes previously made by London Underground) were met with public criticism and an eventual government decision not to go ahead.

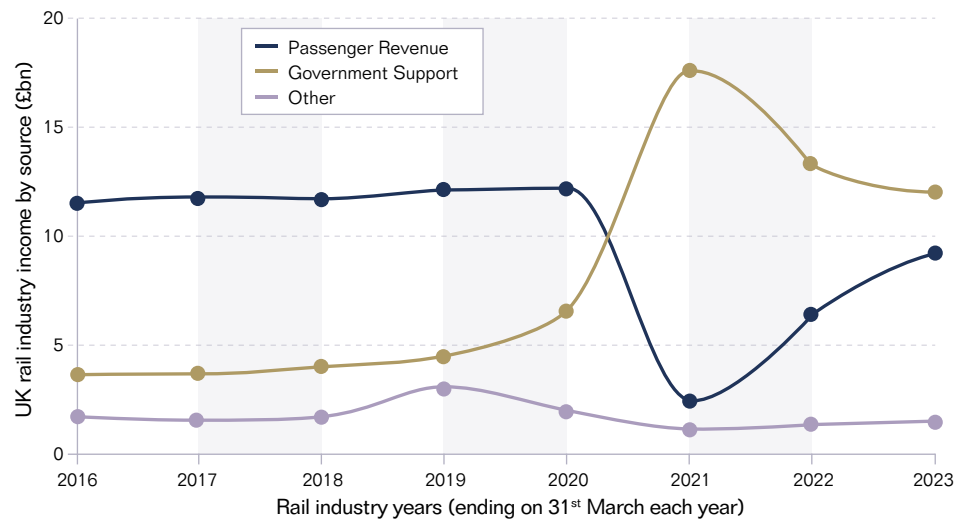
5.2.4.3 However, the urgent need to review and reduce the rail industry cost base remains. The cost reduction opportunities from the increasing digitisation of retailing and business processes seen in other travel and service sectors need to be taken by rail companies. This may require a restructure of some areas – for example, the criticism of the booking office closure proposals was in part due to the complexity and multiplicity of fares. The complex fare structure is a legacy of privatisation and pre-privatisation structures and the Rail Delivery Groups listing 38 different accredited private sector companies involved in providing and developing ticketing and retailing systems. Ticket simplification has been identified as a priority with the Our Changing Travel report finding that a third of people (33%) agreed they found it difficult to choose the most suitable ticket when travelling on public transport. **As ticket revenue all currently accrues to the government, there is now an opportunity for a major restructure of fares** that could facilitate subsequent changes to booking office arrangements to reduce costs.

5.2.4.4 Similarly, structural changes to rolling stock leasing for the coming decades (rolling stock typically has a 20-to-40-year life) to reduce costs and support longer term planning would best be made at a point when government can take a holistic and longer term view of current and future requirements rather than the franchised train operators negotiating to meet requirements on short five to seven year contract specifications. This appears to be an option not currently being explored.

5.2.4.5 Some opportunity exists to change timings for infrastructure maintenance and renewals as passenger demand has shifted. An example is how the East Coast Main Line saw 48-hour closures over a Tuesday and Wednesday in May 2023 rather than the traditional weekend period. This customer-led practice should be transferable to other parts of the network. These maintenance timing changes can bring cost advantages as work can be completed safely and more effectively in daylight as well as any benefits from avoiding night and weekend work premium payments and allow a better spread of when specialist equipment (such as large cranes) or scarce skilled resources (such as signal testers) may be used throughout the week and year. The 2023 settlement between Network Rail and the RMT included elements of restructuring maintenance and inspection activity and increasing automation and digitisation that should lead to cost savings.

5.2.4.6 Ongoing rail industry restructuring following the Williams Shapps Plan for Rail published in May 2021 aims to take into account these cost challenges and the need for changes to working practices and the need to maintain and rebuild the engagement of the private sector across the whole of the rail industry. However, the restructuring to create Great British Railways, led by a Great British Railways Transition Team is currently without a clear parliamentary timetable for the required legislative changes.

Figure 44: Government Support has overtaken passenger revenue as the main income source for railways¹⁵⁵



155 Financial Times, 'Managed decline': the uncertain future for British rail after cuts to HS2 (2023). Data source: ORR figures, <https://dataportal.orr.gov.uk/media/1890/table-7210-uk-rail-industry-finances-since-2015-16-by-country-and-network-rail-region.ods>

5.2.4.7 A reduction in revenue, without a commensurate reduction in costs makes the systematic shift of the rail cost burden onto the traveller rather than the taxpayer since the early 21st century unsustainable. There were signs pre-pandemic that the balance would need to be redressed, before the reduction in passenger revenue. Information from the ORR published for 2022-23 year shows government support at 52% of industry income for 2022/23, compared with 32% in 2019/20, the pre pandemic year. During the pandemic the proportion of industry funding from governments peaked at 82% of industry income.¹⁵⁶ The government press release announcing the 2024 rail fares increase included the following:

*"With changes to working and travel patterns, there are significant challenges facing the railways. From July to September 2023, rail revenues were 78% of pre-pandemic levels once inflation was taken into account. Over the past year (2022 to 2023), the taxpayer has provided £12 billion in support for the railways, which is over £420 per household, as it continues to deal with a persistent revenue shortfall after COVID-19."*¹¹⁷

5.2.4.8 The current ratio of approximately 50% of income from government and 50% from the traveller matches the proportions commonly seen on comparable European country rail networks. **There is a case for sustaining the government support at this 50:50 level rather than returning to a 30:70 government to traveller pre-pandemic ratio** although whether households see the quoted £420 per year to support the railways as good value depends on understanding other alternative options. A significant reduction in government support would likely lead to major reductions in train service levels, with evening and overnight services and those serving areas of low population likely to be affected the most. The rail industry would likely prioritise the servicing and regular connectivity between major urban cities over the 'public service' passenger journeys.

5.2.5 Rail freight services and operational costs

5.2.5.1 There has been a limited impact from the pandemic on rail freight, with costs and revenues largely unaffected. **Chapter 4** identifies the key commodities for rail freight. Rail freight is already a commercially-led activity although industry cost structures mean freight pays for variable (i.e. per train) track access costs and does not pay the fixed track access costs of operating and maintaining the network that are funded by passenger service operations.

5.2.5.2 Rail freight staff are already employed on contracts that allow significant flexibility to meet changes in service demands, for example with freight drivers having much greater flexibility about how and where they start duty and how short-term changes are managed. Freight trains have

156 Office for Rail and Road, *Regulator's report shows rail industry continues recovery from the pandemic with increased fares revenue and reduced government support* (2023), <https://www.orr.gov.uk/search-news/regulators-report-shows-rail-industry-continues-recovery-pandemic-increased-fares>



increased in length and weight, bringing efficiency benefits in the use of locomotives and drivers. Further freight cost reduction measures are likely to come from longer, heavier and slower trains, that would impose an operating challenge on a mixed network shared with faster shorter passenger trains.

5.2.5.3 Freight may benefit from changed passenger demand shifting to weekends, when freight is limited and creating some available capacity for freight on weekdays. The planned Great British Railways structure may support freight measures that consider the economic value and benefits of rail freight to prioritise freight over passenger services on some parts of the network or at certain times of day/ week.

5.2.5.4 Future cost or revenue benefits might arise from net zero carbon measures to proactively support the sector with a tonne of freight moved by rail producing around a quarter of the carbon emissions that it would if it were moved by road. Such measures could be in support of the recent government announcement of a rail freight growth target of at least 75% in freight moved by 2050.¹⁵⁷

5.2.6 Active travel and micro-mobility operational costs

5.2.6.1 Active travel initiatives are usually locally based and require relatively limited funding (local council or metro mayor funded). Some funding comes directly from locally raised sources such as CAZ or income from traffic speed cameras, allowing local benefits to be identified from measures that might otherwise be considered punitive.

5.2.6.2 However, active travel solutions can be well adapted to city centres, specific neighbourhoods and market towns but are often less suitable generally for rural areas where walking and cycling often have to share road space with vehicles. Solutions will need to include interchange and connections to other modes such as car parks and private hire as well as public transport. Local authorities can choose to subsidise the operation of schemes such as providing bikes and e-bikes or e-scooters to make them cheaper for the user and encourage greater usage.

5.2.7 Air services and operational costs

5.2.7.1 Airlines withdrew significant capacity and services during the pandemic as domestic and international travel was restructured. Staff working in the sector were furloughed at government expense during the pandemic, (unlike public transport sectors such as bus and rail that continued to employ close to full staff and services even with reduced customer numbers). Airlines have reintroduced capacity in a targeted way to minimise their operating costs and maximise revenue. Many domestic and international schedules remain reshaped or reduced compared with pre-pandemic.

157 UK Government, *Rail freight growth target (2023)*, <https://www.gov.uk/government/publications/rail-freight-growth-target>



5.2.7.2 Business travel revenues have, in part, been replaced by higher leisure fares but these high leisure fares may not be sustainable as cost-of-living challenges continue and after any personal savings accumulated during the Covid-19 period have been spent. However, airlines have the flexibility to deploy resources as flexibly as airport landing slots allow and their revenue management systems enable them to identify and respond to actual demand and price elasticity.

Alliances between airlines permit codeshare arrangements which can disguise reduced schedules and the associated operational cost reductions.

5.2.7.3 Traditional UK subsidies to the airline sector such as no VAT being charged on aviation fuel (in contrast with road fuel that is taxed), may need to be re-evaluated, especially at a time when aviation is contributing an increasingly significant proportion of transport carbon emissions.

5.2.8 Service and Operational Cost Conclusions

5.2.8.1 **Local and national operating subsidies for public transport solutions have increased since the pandemic. It is highly likely this will need to continue in order to support net zero targets and ensure accessibility and social equity** (buses, in particular, are used disproportionately by low-income people). Cost reductions in public transport are very likely to mean service reductions. Options to increase revenue are limited as constrained by regulation in some cases, and the network and fleet capacity in others. There is also a modal factor in the 'cost to the traveller'. For example, if rail fares are regarded as too high, many will switch to the private car for long distance intercity journeys, impacting the environment and also not fully considering the annualised cost of running the car.

5.2.8.2 Position nudge measures to encourage public transport use such as the fixed price multi-modal monthly transport pass in Germany after the pandemic could have a significant role to play in generating modal shift. Blended solutions are likely to be necessary to solve the funding crisis in public transport. Most people use a range of different modes so issues of connectivity and information and pricing transparency remain important. Opportunities exist for local authorities to provide multi-modal or 'mobility as a service' subscription options for their residents.

5.2.8.3 Commercial transport operators, such as private hire companies and airlines, have been able to shape and reshape services and capacity offered to meet changing demand and customer needs, without any requirement to protect certain user groups or provide minimum service levels and the capability to charge travellers what the market will bear. Any revision to funding of operational costs will need to balance the alternatives across public and private transport, including shared transport options.



5.3 Impact of changed travel patterns on transport infrastructure

5.3.0 This section will examine whether transport infrastructure needs to be rethought in order to adapt to the changing behaviours and patterns of demand seen in **Chapter 4**. It is followed by a discussion in **Section 5.5** on how capital investment to maintain, enhance adapt and develop such infrastructure assets should be made.

5.3.1 Road infrastructure

5.3.1.1 Local roads face a serious problem of maintenance, and it has been suggested that the proliferation of potholes since the pandemic are related to Local Authority financial constraints and cutbacks. Increased damage may be due to the trend for bigger and heavier vehicles for private cars (noting that EVs are heavier than petrol fuelled vehicles) and for HGVs. Moreover, the shift to EVs requires huge investment in a charging infrastructure at both local (homes and places of work) and strategic network (main roads and motorway service stations) levels. For people to switch to an EV they need confidence in both the capability of the charging infrastructure to support their driving plans and their specific vehicle having an adequate range.

5.3.1.2 A key question is whether road infrastructure should broadly stay as now rather than continuing to expand and provide further capacity? The Transport Select Committee has called for National Highways to divert more money to maintenance away from capital projects.¹⁵⁸ Some lobby groups are calling for a 'no new roads assumption'. In February 2023 the Welsh government announced changes to road investment schemes with much tighter criteria for new schemes noting that 'All new roads need to contribute towards achieving modal shift – both to tackle climate change and to reduce congestion on the road network for freight... In developing schemes, the focus should be on minimising carbon emissions, not increasing road capacity, not increasing emissions through higher vehicle speeds and not adversely affecting ecologically valuable sites.'¹⁵⁹

5.3.1.3 At the local level changes to road infrastructure have often been motivated by environmental and health and safety concerns as well as traffic management or traffic reduction goals with the introduction of various congestion charging or clean air zones as well as the reconfiguration of key junctions to improve safety for pedestrians or cyclists or to improve journey times. These schemes affect van and HGV traffic as well as the private car, private hire and buses. Local decisions need to be taken on the allocation of road space - particularly in city centres, but also in some residential areas. There is often a need to balance the requirements of different users at different times of day, for example with pedestrian priority for school access at certain times and parking overnight only. Local authorities will need to engage with their local communities and align with the strategic priorities that they have set.

158 UK Parliament, *Prioritise strategic road maintenance over new enhancements, Transport Committee tells DfT* (2023), <https://committees.parliament.uk/work/7088/strategic-road-investment/news/196794/prioritise-strategic-road-maintenance-over-new-enhancements-transport-committee-tells-dft/>

159 Welsh Government, *Welsh Government response to the Roads Review* (2023), <https://www.gov.wales/welsh-government-response-roads-review-html>

5.3.2 Rail Infrastructure

5.3.2.1 The history of rail infrastructure in Britain over the past century has been one of adaptation. The original Victorian rail network has been adapted and repurposed such as in the Cardiff valleys where rail lines built to take coal and steel products to the port are now used almost exclusively for passenger services. Little new infrastructure has been built since the 1930s, with network reductions in the 1960s (the so-called Beeching cuts), although plans (in the Serpell report) in the early 1980s to turn railways into roads were resisted. There has been a massive growth in rail travel demand since the early 1990s leading to a significant increase in the number of passengers and more longer trains using the network in recent years without any increase in the size of the network.

5.3.2.2 Network Rail has announced that rail infrastructure will become less reliable over next funding period due to funding shortages and the need for greater adaptation to climate change. Many of the rail projects for the next five-year Control Period from April 2024 are relatively small adaptations rather than major projects due to the limited funding available and the need to prioritise resilience and reliability of the existing infrastructure. Infrastructure projects have also become problematic with many major projects having significant cost increases, leading either to a reduction in scope and benefits (such as the Great Western Electrification Project that was delivered late, £2bn over budget and incomplete).

Figure 45: The newly opened Elizabeth Line at Paddington Station



5.3.2.3 The consequence of more services on the same infrastructure is a rail network with capacity limitations. During the periods of pandemic restrictions, rail passenger services were reduced but rail freight services continued at broadly similar levels, benefitting from greater network capacity being available and faster overall journey times and better



punctuality. Reduced weekday peak travel provides some opportunities for improved punctuality as the network is less congested so knock on delays to multiple services can be avoided. **Assuming that current flexible and hybrid working levels persist, there is potential to make better use of current capacity by better spreading passenger demand throughout the day and week**, and using price levers more effectively through the use of retailing technology. However, this demand and capacity-based pricing might run counter to calls for 'fares simplification' and the ongoing requirement to allow 'walk up' customers to board most rail services.

- 5.3.2.4** The success of the Elizabeth Line, with its new infrastructure and service levels has been seen in the rapid rise in usage and substantial demand it has generated with many new journey opportunities created. Of course, the Elizabeth Line benefits from high connectivity between high population areas and major commercial and employment centres, but it also shows the benefits that can arise from new rail infrastructure when designed to maximise the opportunities to link places between which people want to travel – such as linking expanded residential areas with centres of employment or cultural destinations. The project management issues associated with the delays in opening 'Crossrail' (as the project was previously called) seem to have been rapidly forgotten.

HS2: the challenges facing long-term major infrastructure projects

In October 2023, Prime Minister Rishi Sunak announced that his Government would scrap Phase 2 of the High Speed 2 project extending the line north beyond Birmingham. Part of the justification given was that the business case is no longer viable due to lower levels of business travel. This reflects trends seen earlier in this report, but ignores the problem of ongoing limitations and constraints on rail capacity between the Midlands and North, and between the cities of the North of England and onto Scotland. Although more modest infrastructure developments are still planned, the north of England will not have the benefit of new infrastructure and the associated released rail capacity on existing lines.

The cancellation announcement stated that the funds would be spent on transport elsewhere, but it is not yet clear how many of the projects referenced (which include road building and maintenance and the operational subsidy for bus fares as well as rail) were pre-existing commitments that were already assumed to be funded. The post-pandemic financial constraints on the UK Government mean it is less likely that infrastructure mega-projects will be developed and funded in the near future. Issues of project management including project definition and objectives, management of risk and project leadership, as well as the current and projected cost increases also contributed to the curtailment of the HS2 project. The project has also suffered from apparent over-engineering, and extensive mitigation measures leading to increased tunnelling compared with high-speed routes elsewhere in Europe.

A truncated high-speed line between London and Birmingham will not provide the geographic spread of benefits anticipated in the original business case. A major concern is that land currently held for the project will be sold, making it difficult to resurrect a similar project later. There are also concerns that the private financing plan for Euston station is unviable, potentially leaving HS2 terminating at Old Oak Common, 5 miles to the west of London. The UK's reputation for infrastructure and transport development appears to be damaged as a consequence, particularly compared with neighbours and global counterparts who have built and operated significant new high speed rail infrastructure to complement their 'classic' networks and create additional capacity.

5.3.3 Airport infrastructure

5.3.3.1 Reduced aviation demand since the start of the pandemic has delayed airport expansion plans (such as London Heathrow) although the ambitions remain and plans have recently reappeared.¹⁶⁰ Demand for short-haul flights to Europe has recovered strongly, and airlines such as Ryanair are placing aircraft orders based on substantial demand growth assumptions. Stansted Airport has had plans recently approved to increase the size of its terminal, Gatwick has submitted plans for a second runway and a decision is expected shortly on Luton Airport expansion.

5.3.3.2 The current Government has rejected calls to restrict airport expansion on the basis of net zero carbon targets. However, questions have been posed by 'green' lobby groups whether new patterns of demand support the case for airport expansion. The case for a hub airport at Heathrow partly relied on intercontinental business travel which is now much lower than pre-pandemic. Some organisations, such as the New Economics Foundation, have suggested that the business case for airport expansion has shrivelled and capacity should remain as it is now.¹⁶¹ Other concerns surround the ability of airport owners to fund their expansion plans through equity and debt issuance alone. **However, the risk of doing nothing is that the UK falls further behind in the international aviation connectivity rankings, a problem highlighted by past ITC research.**¹⁶²

5.4 Capital Infrastructure

5.4.0 The need to upgrade and further develop our transport infrastructure remains paramount for economic growth and wellbeing. However, in a post-pandemic context, questions need to be asked whether current methods for allocating funds for this capital investment are fit for purpose. This is of particular importance given likely challenges relating to inflation, interest rates and low economic growth that might otherwise encourage the deferral of investment.

5.4.1 Investment in Transport

5.4.1.1 Transport business cases and financial appraisals for road and rail have traditionally focussed on the Green Book requirements including the value of time and the journey time savings that result from the investment. The pandemic has opened fresh questions about whether the 'value of time saved' is still valid to the same extent. In some cases, such as a rail journey with a seat and a table, the journey time can be used in an economically productive way so is not wasted, and the reduction in office presenteeism has reduced the importance of faster travel to work times.

160 Financial Times, *Will Heathrow's third runway finally go ahead?* (2023), <https://www.ft.com/content/a8ca67d4-23e2-4a43-846b-12ea46c7c382>

161 Travel Weekly, *Special Report: Is there a case for airport expansion?* (2023), <https://travelweekly.co.uk/in-depth/special-reports/special-report-is-there-a-case-for-airport-expansion>

162 See <http://www.theitc.org.uk/wp-content/uploads/2015/06/ITC-Economics-airport-inaction-Dr-R-Driver-June-2015.pdf>



5.4.1.2 A reassessment of current financial appraisal methodology might well take into account the following:

- Does conventional agglomeration theory need updating, and should this apply to a blend of social, 'personal business,' education and work interactions and not merely economic ones? Does accessibility to work and jobs rely on proximity to the same extent as pre-pandemic?
- The rise in leisure travel reflects a strong social need for contact with family and friends, demonstrated as being good for wellbeing (see the ITC's *Why Travel?* book). In urban areas, people value access to cultural and social venues as well as the office and related retail. This needs to be taken into account when valuing journeys.
- How should 'trip chaining' be recognised? A trip to the office may start with taking a child to day care and be linked to a social engagement or personal appointment before returning home. A door-to-door journey may well cover different modes and journey purposes requiring effective modal interchange and transitions.
- How can we better measure the quality of the transport service and the overall journey, (such as adequate capacity, good information before and during travel, connections to other modes, physical access to transport services, appropriate waiting areas and services). Has service quality become more important now relative to time savings? Is it different if travel is for leisure purposes, noting that leisure travel is likely to be less frequent on the same familiar route than work-related travel? And what is the best way to measure the economic impact of better service quality?
- How should improved accessibility for certain potential users and new journey opportunities be recognised?
- How can appraisal better consider the 'destination dwell time benefits' i.e. how long a person spends at their destination and what they can do when they are there? Is there now a greater benefit value to be applied to access to facilities such as hospitals, schools and green or blue spaces?
- How should benefits such as additional climate resilience be evaluated for new infrastructure and how should the adaptation of existing infrastructure be funded and prioritised?

5.4.1.3 Infrastructure planning and construction requires long-term certainties which are difficult to obtain within a political system in which policy priorities can change every few years. Moreover, using narrow capital investment criteria presents further problems, since the justifications for infrastructure projects may become obsolete as issues and trends change.

- 5.4.1.4 High Speed 2, and other rail infrastructure developments such as the Transpennine Route Upgrade, provide their greatest benefits in offering new network capacity by increasing the infrastructure available for passenger and freight services. This can then provide more frequent and reliable services as well as faster journey times. In the London area the Elizabeth Line has succeeded because it brings new connectivity to a wide range of socio-economic groups and links homes and commercial and economic and cultural activities. It is not just a line shadowing an existing piece of infrastructure, but vitally it also meets a wide range of needs and allows new journey opportunities and creates new connections. It makes places more accessible for those without private transport. Such examples show the importance of moving on from the 'minute saved' appraisal justifications towards a far wider range of economic and social benefits.
- 5.4.1.5 Something of this approach has already been adopted by Transport for Wales. In the Wales and Borders rail franchise competition in 2018 this included requirements to offer a greater number of the people in the Cardiff Valleys area access to the city centre within an hour, prioritising access for more people, rather than accelerating journeys for a smaller number.
- 5.4.1.6 **It is also crucial to note the importance of providing a pipeline of transport infrastructure investment in sectors such as rail.** A stable pipeline of work allows the supply industry to manage more efficiently and gives stability of employment across the sector even if the location of major rail infrastructure projects vary. The curtailing of HS2 will reduce the future work of a number of civil engineering contractors in the UK. The need for a pipeline also applies to investment in rolling stock, where the pattern has often been 'feast or famine.' Many UK 'manufacturers' are simply assembly plants for components produced elsewhere, such as Hitachi at Newton Aycliffe, whereas Alstom at Derby have indicated that there are likely to be job losses in 2024 due to the lack of forward rolling stock contracts.¹⁶³
- 5.4.1.7 **In considering sources of funding for transport investment, there appears to be a need to recognise that transport infrastructure is a national asset, literally part of the nation's fabric and so needs to be ultimately funded by national government.** This should not prevent long term concession-type arrangements but there must be clarity that the objectives and scope of transport investment should be set with public benefit and objectives foremost.



5.4.2 Land use investment impacts

- 5.4.2.1** Transport investment and land development are closely intertwined. Investment in transport infrastructure can bring wider benefits in terms of enabling land and property developments. This is particularly true for major investment such as a new rail line, like the Elizabeth line, or a new ring road for a large market town, however, the financial benefits may well accrue to a property developer, or existing homeowners with increased land and property values who have not directly contributed to the transport investment.
- 5.4.2.2** **There is an increasing recognition that city and local centres to be attractive experiences and not merely functional locations.** This existed pre-pandemic but has taken a greater prominence after we all had an enforced period staying in our local areas and not travelling. Different localities are competing with each other as attractive places to live, work, study and socialise. Although the Garden City concept in the early 20th century highlighted the need for separate areas for different activities, in the post-industrial and post-pandemic environment today there is now greater focus on easy access to a mix of daily activities. Successful development and redevelopment schemes will need to combine services, cafes, shopping, entertainment and offices in order to create destinations with good public realm. This needs to be fit for use throughout the day and night for a range of ages, purposes, and modes.
- 5.4.2.3** Funding for such developments is likely to be from private sector sources. However, there is an important role for local planning authorities to set the priorities within their spatial plans. **The priority for access modes of travel might well need to shift away from car drivers towards pedestrians, cyclists and bus users to create a more attractive place.** Local authorities will also need to manage how public areas are maintained and kept clean and attractive as well as give due consideration to the property for which they have responsibility such as schools, libraries and care homes.
- 5.4.2.4** Offices in central areas are potentially shifting back to mixed use including housing but urban areas also need public services such as educational facilities, health services and leisure amenities. Ongoing investment will be required if urban areas are to keep adapting to evolving needs. Older mixed developments will need to maintain their attractiveness alongside newer developments and zoning changes may be needed to allow mixed or changed land use.
- 5.4.2.5** Many road building and local transport infrastructure schemes rely on associated housing development and land value uplift to help repay Local Authority investment. Although land values rose substantially during the first period of the pandemic, it is not clear that these have outpaced general inflation more recently, and so assumptions about financing might need to be adjusted.

Figure 46: The Nazeing new road bridge. Improved connectivity brings opportunities for new development. Photo source: Network Rail



5.4.2.6 Conversely, there is a need to ensure that housing developers contribute appropriately to the travel needs and wider infrastructure requirements created by any new development. Section 106 funding has often been extremely limited in scope – such as merely funding a new roundabout so the residents of the new estate have good private car access the main road, but not funding a walkway or cycle path to connect to the town centre. There is potential for land value taxation such as a Community Infrastructure Levy - the level would be set nationally, but collected and used locally. This was explored in the early planning for Crossrail 2, a proposed rail link across London from south west to north east, but the project is not currently going ahead.¹⁶⁴

5.4.2.7 Overall, in considering capital investment for transport or land developments, there needs to be a holistic view. This must be broader than transport infrastructure investment just considering transport benefits and being assumed to be publicly funded and property developments being able to piggyback on that public investment without making a development contribution to properly enhance the area and provide for the new community in line with the local planning priorities and aspirations.

164 UK Government, *Planning for the future* (2023), <https://www.gov.uk/government/consultations/planning-for-the-future/planning-for-the-future#pillar-3-planning-for-infrastructure-and-connected-places>



6 Conclusions and Policy Recommendations

6.1 Key longer-term policy challenges

6.1.1 The longer-term impacts of the pandemic have been significant and have reshaped behaviours as indicated in the previous chapters. As a result, policy makers need to adapt to a world in which many trends are not those that would have been assumed before the pandemic. The challenges for policy makers today include how to reconcile these reshaped behaviours to the wider, long-term policy objectives that the Government has set, particularly in a period of relatively high inflation and interest rates.

6.1.2 Before exploring implications and policy recommendations, it is helpful first to lay out the longer-term policy goals that have been formulated by the Government in their strategic planning. The Department for Transport also shapes policy around these goals. The key strategic objectives that have been set by the current Government since the 2019 General Election include the following:

- **Reducing regional economic disparities, aka 'Levelling-up'.** A key policy priority announced by the Government is addressing regional economic disparities across the UK. Currently productivity in London is about 50% higher than in Wales or Yorkshire, while spending on research and development is mainly concentrated in the South-East of England. The Government released a White Paper in February 2022 which included a set of policy goals for reducing regional disparities, and increasing decision making and fundraising powers at a local level. These goals include improvements to regional connectivity and transport.¹⁶⁵ Many of the goals have bipartisan support and a 'Levelling Up and Regeneration' Bill is currently under consideration by Parliament.
- **Economic Recovery.** Recovering from the economic damage and dislocation caused by the pandemic has been a key Government priority. Achieving this has been challenging, with financial markets reacting negatively to any uncosted measures, and the UK economy already some 3% smaller than it would otherwise have been due to the costs of Brexit according to research from the National Institute of Economic and Social Research (NIESR).¹⁶⁶ Wider problems to be addressed include the need to address stagnant productivity in the UK, how to improve investment in growth sectors, as well as how to increase capital investment in transport and urban renewal.¹⁶⁷
- **Reducing Carbon Emissions and improving air quality.** In the Climate Change Committee's Sixth Carbon Budget (2020), the Government was set ambitious new targets for reducing CO₂ emissions by 78% from 1990 levels by 2035 (the UK has already reduced CO₂ emissions by 51% at the time of writing), with the aim of reaching net zero CO₂ emissions by 2050. Achieving

¹⁶⁵ UK Government White Paper, *Levelling Up the United Kingdom* (2022), <https://www.gov.uk/government/publications/levelling-up-the-united-kingdom>

¹⁶⁶ NIESR, *Revisiting the Effects of Brexit* (2023) <https://www.niesr.ac.uk/publications/revisiting-effect-brexit>

¹⁶⁷ See UK Government, *Chancellor Sets out long-term vision to Grow the UK Economy* (2023), <https://www.gov.uk/government/news/chancellor-sets-out-long-term-vision-to-grow-the-economy>

this highly ambitious target will require substantial investment in decarbonising transport, promoting public transport usage and supporting active travel. Details on how this can be done were set out in the Transport Decarbonisation Plan (July 2021), and more recently in the Government's *Net Zero Growth Plan* (March 2023).¹⁶⁸ In addition, commitments have been made to reduce air pollution from transport. A Clean Air Strategy was published by the Government in 2019 setting out how polluting emissions should be reduced, and this has been followed by many local authorities adopting Low Emission Zones to restrict the most polluting vehicles.¹⁶⁹

- **Improving our experience of travel.** A key Government policy priority remains improving the experience of transport users. This includes ensuring that travel supports well-being, as well as making sure people are not unduly excluded from accessibility and mobility opportunities. The Inclusive Transport Strategy of 2018 was designed to deliver better transport for disabled people, while other schemes make clear an objective of improving transport services offered.¹⁷⁰

6.1.3 To achieve these strategic goals, it will also be necessary to understand how the pursuit of one strategic objective might affect another. For instance, reducing carbon emissions may entail restricting investment in connectivity, while a strong economic recovery could worsen our experience of travel if it substantially increases congestion and overcrowding. We note that although 2024 is likely to be a general election year, all main political parties appear to be broadly in agreement with the above strategic goals. The conclusions and recommendations below have therefore been framed with reference to these policy objectives.

6.2 Key findings and conclusions

6.2.1 The analysis in this report has shown how the pandemic accelerated a number of pre-existing trends, including the rise of online shopping, increased digitisation of services and communications, an increase in flexible and home working, and a growing concern about environmental impacts and climate change.

6.2.2 Although travel demand has recovered close to pre-pandemic levels, this masks a number of fundamental changes in why, how and when people travel. There has been a substantial shift from commuting to leisure travel, with the result that more travel now takes place at weekends and during off-peak hours than previously, and slightly less at traditional peak times. This shift is evident across most modes, including car and rail travel.

6.2.3 The impacts on land use and planning are also significant. The city is not dead, as some had feared in the early stages of the pandemic, but there have been changes in how urban spaces and offices are used. Furthermore, increased online retail has brought new challenges in terms of the need for warehousing, consolidation centres, and traffic management in urban areas.

168 See Transport Decarbonisation Plan, <https://www.gov.uk/government/publications/transport-decarbonisation-plan> and Net Zero Growth Plan <https://www.gov.uk/government/publications/powering-up-britain/powering-up-britain-net-zero-growth-plan>

169 UK Government, *Clean Air Strategy* (2019), <https://www.gov.uk/government/publications/clean-air-strategy-2019>

170 UK Government, *Delivering the Inclusive Transport Strategy* (2020), <https://www.gov.uk/government/speeches/inclusive-transport-strategy-year-2-update>

Figure 47: Sunday crowding at Brighton Railway Station. Weekend travel has increased since the pandemic.



- 6.2.4** The ITC encourages policy makers to use these changes to reshape policy in order to meet long-term strategic objectives. Changing travel behaviour patterns will force a rethink on how public transport is funded, since the passenger pays model with low levels of public subsidy is no longer sustainable. Failure to properly invest in passenger transport by the Government will conflict with longer-term policy objectives on decarbonisation and passenger experience. In addition, the ITC recommends that the appraisal process for transport schemes will need to be revisited to ensure that the right objectives and benefits are correctly identified.
- 6.2.5** Policy makers will also need to rethink assumptions about land use and urban design. Changing demand patterns suggest the need for a reconfiguration of office space and design, as well as accommodating high levels of unmet demand for residential accommodation especially in southern England. Better public realm design, with a greater emphasis on green space and meeting places, will need to feature prominently in planning new developments. The changing nature of retail demand is likely to require innovation in terms of keeping high streets vibrant.
- 6.2.6** The pandemic also increased awareness of sustainability and environmental challenges. If the agreed net zero carbon targets are to be met, there will need to be substantial reshaping of travel demand and behaviour, including a focus on reducing how far and how often we travel. New forms of Road User Charging to replace fuel duty should be examined urgently and trials implemented. Encouraging more people into active travel, supporting lower levels of commuting, and financial backing for low carbon and collective transport modes can together make a substantial difference in terms of moving to a low carbon future. The development of information

sharing technologies should support the traveller, or freight forwarder in effective decision-making across transport modes and private and public solutions, including understanding financial, societal and environmental costs of those choices. Data captured should be accessible for short and longer term planning purposes.

6.2.7 For **land use and the built environment**, the longer-term impacts have also been profound, and include the following (See **Chapter 3**):

- **Smaller towns, suburbs and retail parks have seen a greater recovery in footfall than large city centres.** Efforts to revitalise the High Street have met with mixed success.
- **Rural areas have seen a rise in land prices and demand for housing, often from people outside the local area.** In addition, national parks, coastlines and areas of outstanding natural beauty have seen a sustained increase in visitors and peak congestion.
- **The pandemic has accelerated attempts by authorities to improve local residential and public space** and meet carbon reduction and air quality targets, with initiatives including low-traffic neighbourhoods, the encouragement of active travel and low emission zones. These measures have been controversial, particularly when first implemented, and been both welcomed and challenged by citizens.
- **Office space usage has significantly declined as a result of the rise of hybrid and flexible working practices.** While prime commercial property has recovered well, lower quality commercial real estate has suffered, and major companies are finding that they can operate with less office space.
- **Demand for residential property has increased**, initially in rural areas outside city centres, but more recently also in urban areas. Rapidly rising rents and house prices have significantly reduced housing affordability since the start of the pandemic, and rapid population increases are adding to this pressure.

6.2.8 Significant developments affecting **travel and transport** include the following (See **Chapters 4** and **5** for more detail):

- **A reduction in commuting travel, especially at traditional weekday 'peak hour' times, with a corresponding increase in leisure travel across most modes,** especially at weekends and formerly 'off-peak' times.
- **Public transport usage has taken a while to recover, especially on bus and rail journeys outside London, and travel demand has shifted to different times and days of the week.** This has resulted in a loss of bus services due to falling revenue and patronage, especially in rural areas. With the recovery in travel, overcrowding on some rail and metro services remains a problem, but now affects different services, including middle of the day and weekend journeys.
- **Lower peak hour and business travel demand has reduced significantly ticket revenue from public transport,** requiring a rethink of how passenger transport is funded and how much the traveller can be expected to pay.
- **Freight volumes, especially by road, have recovered strongly and this reflects an increase in online retail.** Van traffic as well as HGV traffic are now well above pre-pandemic levels and continue to grow faster than car traffic.

6.3 Recommendations for strategic policy making

6.3.1 Looking at these impacts, it seems clear that decision makers will need to adapt and rethink the policy measures that will be required to achieve their wider strategic goals. The ITC's analysis indicates a number of recommendations for policy making, including:

- 1 Investment in transport infrastructure will be a crucial part of helping the UK economy to achieve consistent growth.** This includes new infrastructure where necessary as well as the need to enhance and maintain the existing infrastructure. In terms of capital expenditure, which often requires funding from the public sector due to risk profile of such schemes, long-term benefits include good returns on capital investment, job creation, and economic growth arising from agglomeration. The new UK Infrastructure Bank may well have a role to play here in supporting funding. In considering forward investment it will be important to develop a planned pipeline of activity such as infrastructure construction and enhancement, or new vehicle building to enable the supply chain industries to deliver in a cost-effective way.
- 2 However, the appraisal process for transport schemes will need to be revisited to ensure that the right objectives and benefits are correctly identified to achieve long-term goals.** For example, journey time savings, which receives great weight in the UK's current appraisal methodology, may now be less relevant than environmental and social/community benefits. More work is also required to better incorporate longer-time wider benefits in appraisal of infrastructure schemes.¹⁷¹ At a local level, smaller-scale interventions such as active street re-design may provide rapid benefits, and the devolution of transport investment decision making (together with appropriate funding) to a more local level can help ensure that such schemes are best tailored for the communities they will serve.

Figure 48: The Werrington Dive Under project has improved capacity on the East Coast Mainline. Infrastructure investment will be essential to support growing passenger transport usage. Photo source: Network Rail



171 See Institute for Government, *How Governments use evidence to make transport policy* (2021), Chapter 3 <https://www.instituteforgovernment.org.uk/sites/default/files/publications/evidence-transport-policy.pdf>

- 3 **Changing travel behaviour patterns will force a rethink about how passenger transport services are funded.** The UK has traditionally relied on a 'passenger pays' model with low levels of public subsidy compared to most of our neighbouring countries. This might no longer be sustainable, and a larger share of funding will need to come from the public purse if services are not to decline in frequency and hours of operation. The danger of this is already being seen on local bus provision, where a significant number of rural services have been axed due to funding constraints.¹⁷² This unduly disadvantages key workers who are often reliant on early and late bus services, and those who are not car users/owners, especially the elderly and young people. Fare structures will also need to be rethought since the former reliance on peak-hour premium fares to pay for transport operations no longer applies to the same extent. The experience from the temporary bus fare capping to incentivise travel may contribute to the development of a sustainable model for operating costs. Failure to properly invest in passenger transport by the Government will conflict with longer-term policy objectives on decarbonisation and passenger experience.
- 4 As the urgency to reduce carbon emissions increases, **sustainability is likely to become an ever-higher priority for policy makers in both transport and land use.** If policy measures are poorly designed, or seen as inequitable, the public and political backlash can jeopardise wider objectives. There is a limited pool of political capital to implement such measures. As a result, we encourage policy makers to thoroughly review sustainability policies before implementation to understand their unintended consequences.¹⁷³ In transport, it is clear that stronger incentives will be needed to encourage electric vehicle take-up, as well as increased investment in good quality, frequent and easy to use passenger transport to increase usage. Infrastructure resilience to cope with climate change requires extensive adaptation and redesign. Measures to increase low-carbon freight also need to be urgently implemented, to ensure that the increase in freight traffic does not contribute to worsening emissions. Comprehensive Mobility as a Service (MaaS) and Road User Charging schemes should be considered to incentivise behavioural change towards more sustainable travel. ITC research has demonstrated that such schemes are publicly acceptable if people are shown that they will not be worse off financially.¹⁷⁴
- 5 **The impacts of the pandemic will require a rethink about land use and urban design.** Changing demand patterns suggest the need for a reconfiguration of office space and design, as well as accommodating high levels of unmet demand for residential accommodation especially in southern England. If demand for commercial space in urban areas decreases, this could be compensated by converting office space into residential units, helping to address the lack of housing supply in many UK cities. 'Tactical urbanism' could be adopted to make better use of urban land in response to the blurring of boundaries between residential and commercial uses. It is important that mixed developments

172 In Leicestershire alone, several bus links between major towns have already been axed in the wake of the pandemic. See <https://www.leicestermercury.co.uk/news/local-news/vital-bus-service-axed-despite-8181838> , <https://www.leicestermercury.co.uk/news/local-news/bus-linking-county-town-villages-6789995>

173 The ITC and Rees Jeffreys Road Fund have commissioned a new research study into the social and demographic impacts of decarbonising road vehicles which should provide new evidence on these issues. The report is due to be published in Summer 2024.

174 ITC and Social Research Associates, *Paying for Roads and Road Use: Attitudinal Report* (2016), http://www.theitc.org.uk/wp-content/uploads/2016/03/0995-159_Road-pricing_Mar2016.pdf



adequately respect the various needs of different user groups. Better public realm design, with a greater emphasis on green space and meeting places for public wellbeing, will need to feature prominently in planning new developments and the adaptation of existing properties. The changing nature of retail demand is likely to require ongoing innovation and adaptation in terms of keeping high streets active and appropriately welcoming for a range of different users, with differing access needs

- 6 At a local level, the pandemic has increased awareness of the need for improved local mobility and transport options and given the opportunity to experience reduced noise and air pollution** resulting from curtailed road traffic during the lockdown periods. Schemes such as LTNs and CAZs need to involve more effective community consultation and engagement and a full understanding of the benefits if they are to be successful as permanent solutions to local problems. Encouraging active travel such as walking and cycling is important to health and wellbeing as well as being low cost for the traveller. Local interventions tend to provide high economic benefit ratios and it is possible that more funding from central Government should be made available to enable measures to improve local transport provision. In addition, more powerful land value uplift legislation (along the lines of S106) or an infrastructure levy on new development could help to provide funding. New opportunities should be explored, such as the use of private hire and demand-responsive transport to meet needs in low-density areas, better software to improve local transport mobility apps, and customised mobility as a service schemes.
- 7 At a regional level, combined transport authorities have an important role in supporting wider infrastructure.** These also require much more robust funding mechanisms and continuity of support from central Government. Effective integration of regional transport and infrastructure planning is needed to bring together
- i) national planning, such as rail infrastructure improvements, and
 - ii) local authority planning, such as which buses to support financially and
 - iii) adjacent regions, such as between north Wales and Chester or between mid Wales and the West Midlands

Improved governance structures should reflect the way in which people and goods move around irrespective of administrative boundaries.

- 8** The ITC's *Why Travel?* Research study has demonstrated the extent to which travel provides important benefits for mental and social well-being.¹⁷⁵ We have seen how leisure travel demand has increased since the pandemic as people rethink their travel priorities. **Ways to improve travel experience should be considered, including better accessibility, improved physical and information connection between different services a greater emphasis upon comfort over speed, and using data to better plan capacity to meet demand.** It will be essential that policy makers tailor their measures in such a way that travel exclusion is not increased, and that car dependency is not forced on those in more rural and isolated areas. It may also be timely to consider the benefits from spending on the expansion of local and regional public transport services rather than cutting these services to accommodate reduced funding.

175 ITC, *Why Travel? Understanding the need to move and how it shapes our lives*. (Bristol University Press, 2021). The ITC will be running a series of expert workshops on themes arising from this work over the course of 2024.

6.3.2 Crucially, it will be important to ensure that transport and land use policy measures are objectives-focused if the wider strategic policy goals are to be met. These goals are more likely to be achieved if individual policy measures are not considered in isolation, but examined in terms of their relationship with other aims and measures, particularly where these sit with other Government departments, devolved authorities or with another organisation at a different level in the hierarchy (such as a unitary authority). Awareness is also needed of the ways in which measures in different policy areas might counteract each other (for example, vehicle decarbonisation policies might, if poorly designed, affect severely disadvantage those on low incomes or living in rural areas). We would therefore recommend that a strategic plan is developed which ensures that policy measures do not conflict with each other and are tailored in ways that examine any unintended consequences that might arise and mitigate these.

6.3.3 These conclusions and recommendations also point in the direction of the need for further research. Some key areas where more research work would be welcome include the following:

- We need to better understand alternative options for increasing funding for public transport to provide better services, and potentially shifting how we pay for road use in ways that are publicly acceptable.
- Much more work needs to be undertaken on changes to how travellers value their time, whether on the move or in a city, in order that appraisal methods can be improved.
- A clearer understanding is needed of how to create residential and urban places that better meet people's priorities and needs.
- Given the heavy messaging during the pandemic not to use public transport, more research is required on how non-users can now be persuaded to travel on bus and rail services.

6.3.4 Although, we have a clearer picture now of the post-pandemic 'new normal' a crucial lesson from the pandemic is that nothing is certain, global crises can appear at short notice, and it is foolish to assume that past trends will always continue. Policy makers should always be considering a range of possible futures, and more rigorous contingency planning for crises, whether environmental or human in origin, would be wise.

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