

Market Failure in UK Public Transport

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Abstract:

The performance of the UK's public transport system has become a growing concern, as rising fares, unreliable services, and unequal access increasingly affect both economic efficiency and social fairness. These issues make it important to study how market forces in the transport sector may not be working properly. This report focuses on the main forms of market failure in the UK, including monopoly power in rail services, reduced bus provision in rural areas, and environmental costs that are not fully priced into transport choices. Using basic economic ideas such as monopoly behaviour, externalities, and information problems, the report reviews government statistics, academic research, and recent industry data to explain why these failures continue. The findings show that high fares, poor performance, and unequal transport access are linked to long-standing structural problems. The report concludes that the UK needs both short-term protections for passengers and long-term reforms that improve oversight and support low-carbon transport.

Keywords: Market failure, UK public transport, Monopoly power, Externalities, Transport policy

1. Introduction

Britain's transport system exhibits enduring and multifaceted market failures across both urban and rural contexts, particularly in rail, bus, and urban transit networks. These failures are structurally encoded: sunk-cost irreversibility in rail track, demand thinness in rural bus, and unpriced carbon across modes. The Department for Transport has acknowledged that the transport sector remains one of the largest contributors to carbon emissions, creating a misalignment between the system and the UK's legally binding net-zero commitments[1]. To date, no study has simultaneously estimated the interactive deadweight loss of rail monopoly, bus oligopoly and road carbon mis-pricing which within an integrated UK counterfactual framework. The aim of this report is to exam-

ine the multiple dimensions of market failure in the UK's transport system. Specifically, it elucidates how natural monopolies in rail, inadequate rural service provision, and unaddressed environmental externalities erode both economic efficiency and social equity. Moving beyond mere identification, the report evaluates their significance by elucidating their contribution to diminished economic efficiency, entrenched regional inequalities, and excessive carbon emissions. By applying established economic theories of monopoly, externalities, and information asymmetry, alongside evidence from government reports and academic research, this analysis demonstrates why market forces alone are insufficient to deliver optimal transport outcomes within the British context. It also considers the broader implications of these failures,

particularly how they affect long-term productivity, social inclusion, and environmental sustainability.

2. Describing the Problem

The UK's public transport system exhibits multiple interconnected forms of market failure that collectively undermine efficiency, fairness, and sustainability. According to Mankiw, market failure occurs when the free market is unable to allocate resources efficiently due to structural imbalances such as monopoly power, externalities, or asymmetric information. In the UK, each of these problems is evident[2].

A prominent manifestation of such failure lies in pricing practices. In 2024, rail fares increased by 5%, outpacing inflation without commensurate improvements in service quality. This indicates a breakdown in the price mechanism: higher costs for consumers are not linked to higher quality or efficiency. Profit-driven conduct by private operators has further exacerbated negative externalities, as evidenced by 217,000 service cancellations in 2024[3]. Each cancellation inflicts broader social costs in lost working hours, disrupted education, and reduced confidence in public services. Low-income households are hit hardest. The Joseph Rowntree Foundation documented that low-income households allocate 25% of their disposable income to transport expenditure, compared with only 10% for wealthier groups, further widening social inequality[4].

These issues are rooted in structural features of the transport system. Natural monopolies characterise rail infrastructure, with Network Rail controlling over 20,000 miles of track and nearly 2,500 stations [5]. This structure erects significant barriers to entry, confining passengers to a system where operators can pass high access charges onto consumers. Incomplete market structures have deepened rural marginalisation: more than 1,000 rural bus routes have disappeared since 2010, leaving car dependency as the only viable option in many areas. Meanwhile, principal-agent problems are widespread because private companies prioritise shareholder returns over passenger service quality[6].

The monopoly dimension is particularly striking. The Competition and Markets Authority determined that 72% of rail journeys lack effective competitive pressure[7]. Peak-period fares on identical routes can exceed off-peak fares by up to 300%, a form of price discrimination only sustainable in the absence of competition. Bus markets show similar trends: in 58% of local markets, a single operator dominates, with fares 42% higher than in competitive regions [8]. Such concentrated power stifles innovation, deters investment, and entrenches inefficiency. The harms of monopoly extend beyond static market efficiency losses; when combined with price discrimination, they trigger far-reaching long-term effects. Predatory price discrimination severely undermines fair competition

among businesses and ultimately harms consumer welfare by distorting market competition mechanisms. In the long run, this strategy transfers consumer surplus to producers, exacerbating inequality in social income distribution. Simultaneously, when monopolists can implement price discrimination, their profit-maximizing behavior may achieve a Pareto-optimal state for total social welfare—but this comes at the expense of consumer interests. The solidification of this distribution pattern further impacts society's consumption capacity and the equilibrium of its economic structure.

Environmental costs compound these problems. Road transport constitutes 24% of the UK's total greenhouse gas emissions, yet fuel taxation and congestion charging fail to fully internalise the social costs associated with emissions. Public transport services themselves remain carbon-intensive with only 2% of buses being zero-emission in 2023. Aviation, meanwhile, enjoys a long-standing exemption from aviation fuel taxation, which artificially lowers ticket prices and crowds out greener alternatives. Such market distortions entrench the system in unsustainable behavioural patterns, jeopardising the UK's 2050 net-zero commitments.

Taken together, these issues illustrate that market forces alone have not delivered efficient or equitable outcomes. Instead, the system imposes growing economic and social costs, particularly on disadvantaged groups such as rural residents and urban low-income households, who face restricted access to employment, education, and healthcare.

3. Analyzing the Problem

The structural features of the UK's public transport system account for the persistence of market failure over decades. Rail infrastructure demonstrates the classic conditions of a natural monopoly. Characterised by substantial fixed costs and significant entry barriers, it is inefficient to duplicate track or station networks. As a result, Network Rail's control of infrastructure creates inherent monopoly power. Operators incur access fees equivalent to 25–30% of their total operational costs, which are passed on to passengers through higher fares[5]. This monopoly has not generated efficiency gains: service delays have increased by 37% since 2016, and cancellations reached record levels in 2024. The long-term effects of this pricing structure are particularly evident in the erosion of consumer trust and the exacerbation of social inequalities. Passengers bear the brunt of these inefficiencies through higher fares, while the lack of competitive pressure disincentivizes operators from improving service quality. Over time, this dynamic reinforces a cycle of declining public satisfaction and reduced investment in infrastructure, further entrenching the market failure.

Information asymmetry exacerbates these inefficiencies. Operators frequently report inflated performance indicators: an Office of Rail and Road (ORR) audit found that

22 percent of trains classified as “on-time” by operators were in fact delayed when independently measured [5]. This discrepancy exemplifies a classic principal–agent problem—operators (agents) have a clear incentive to over-state punctuality to passengers (principals) who lack the real-time data to verify the claim [9]. Because the official metric excludes delays of less than five minutes at terminal stations, companies can legally massage the figure, further widening the information gap.

The result is adverse selection: travellers cannot distinguish high-quality from low-quality services before purchase, so superior operators gain no marginal reward and may even reduce service levels to cut costs [10]. Stiglitz argues that when information is costly or incomplete, markets cease to be efficient allocators; the UK rail market offers a textbook illustration[11]. Passenger surveys show that perceived punctuality is fifteen percentage points below the published rate, corroborating the belief that headline data are unreliable. This persistent gap erodes trust, dampens demand elasticity and ultimately perpetuates under-performance across the network.

Beyond economic inefficiencies, these failures impose significant social costs. Transport for the North underscores how inadequate connectivity perpetuates regional disparities, constraining economic development in northern regions relative to London and the Southeast[12]. Restricted mobility further exacerbates “transport poverty,” wherein individuals lack access to affordable transport for accessing employment, education, or healthcare services. This creates a vicious cycle: lack of mobility reduces opportunities, while low incomes restrict transport options.

The environmental dimension adds a further layer of failure. Market pricing mechanisms systematically undervalue the full social cost of carbon and local pollutants. Aviation, for instance, benefits from tax-free jet fuel and zero VAT on international tickets, cutting about £0.08 per passenger-kilometre compared with the £0.11 fuel duty plus VAT borne by petrol cars and the £0.13 implicit carbon price already faced by UK rail operators through electricity network charges and indirect carbon pricing. This artificial discount encourages travellers to substitute short-haul flights for lower-carbon rail journeys: CAA data show that 30 percent of UK-Europe passengers fly routes where a rail option under five hours exists, generating an estimated 1.1 Mt CO₂ e annually—equivalent to the annual emissions of all Greater Manchester buses combined.

Incomplete markets also hamper green-transport supply. Despite the UK’s 2025 zero-emission bus (ZEB) target, only 2,300 battery electric and hydrogen buses were in service in 2023, less than 40 percent of the German fleet and 45 percent of the French total. Auction prices revealed in the 2022-23 ZEB scheme averaged £430,000 per vehicle versus £340,000 in Germany, signalling thinner domestic demand and higher perceived technology risk. The absence of a secondary market for used batteries and uncertainty over residual values further depress operator

willingness to invest, illustrating how missing price signals and institutional gaps interact to slow decarbonisation even when grant funding is available.

Finally, the concept of government failure must also be considered. Efforts to privatise and liberalise the transport sector were designed to enhance efficiency, yet outcomes have proven counterproductive. Franchise agreements have frequently entrenched poor performance while insulating operators from competitive pressures. Regulatory capture has further eroded oversight, with private operators exerting influence on policymakers to safeguard their interests. Thus, both market and government failures interact to perpetuate inefficiency and inequity in the UK’s transport system.

4. Recommendations

Addressing these entrenched failures thus necessitates a combination of short-term interventions and long-term structural reforms. In the short term, policies should focus on protecting consumers from monopoly pricing and ensuring minimum service standards. Fare caps could serve to constrain operators’ ability to exploit their monopoly power, while targeted subsidies for socially essential but commercially unviable routes would safeguard rural and low-income communities against further marginalisation. However, as the National Audit Office warns, subsidies must be meticulously designed to avoid imposing unsustainable fiscal burdens or distorting operator incentives[13]. By alleviating immediate pressures on passengers and averting further route closures, these short-term measures would contribute to stabilising the system.

In the long term, deeper reforms are required to tackle structural inefficiencies. Strengthening public oversight of rail infrastructure could enhance accountability, improve coordination, and ensure that investment decisions are aligned with social needs rather than shareholder returns [13]. Enhanced public oversight does not necessarily entail full nationalisation; instead, it requires a regulatory framework that prioritises passenger outcomes over profitability. At the same time, policymakers must establish incentive structures to promote low-carbon travel. This could involve reducing taxation on low-carbon transport modes, investing in zero-emission bus fleets, and expanding congestion charging schemes that more accurately reflect the social cost of pollution[15]. Drawing lessons from international examples is useful here. Germany’s €49 monthly public transport pass illustrates how fare integration and subsidisation can significantly boost ridership levels. Scandinavian nations have successfully integrated public ownership with substantial investment in green mobility solutions. Crucially, these reforms must be implemented in a coordinated manner to mitigate the risks associated with fragmented governance[16]. A cohesive national transport strategy, aligned with net-zero objectives, would facilitate the integration of regional

networks and ensure policy consistency across sectors. By combining immediate consumer protection with long-term structural change, the UK can realign its transport system towards efficiency, equity, and sustainability[17].

5. Conclusion

The UK's transport system continues to exhibit enduring and interconnected market failures stemming from monopoly power, externalities, and information asymmetry. These failures have yielded inflated fares, unreliable services, regional disparities, and rising environmental costs. Moreover, liberalisation efforts have introduced elements of government failure, with regulatory capture and flawed franchise models entrenching inefficiencies instead of addressing them. A comprehensive strategy is therefore required. In the short term, fare caps and targeted subsidies can offer immediate protection to consumers, while in the long term, enhanced public oversight of infrastructure and targeted incentives for low-carbon travel can realign the sector with broader economic and social goals. International comparisons demonstrate that such reforms are feasible and effective when underpinned by consistent policy frameworks. Only through a holistic approach to addressing these failures can the UK develop a transport system that is efficient, equitable, and sustainable. In the absence of decisive reform, the cycle of rising fares, deteriorating performance, and environmental harm will persist, eroding both public trust and the nation's long-term development objectives. Current research has focused solely on England, lacking comparative analysis with Scotland, Wales, and Northern Ireland. Future studies will incorporate cutting-edge analytical tools, employing big data to examine passenger travel patterns and utilizing machine learning to predict the effectiveness of policy interventions. Additionally, cross-national comparisons will be conducted, expanding beyond the EU to include cases such as Japan and Singapore, analyzing the similarities and differences in market failures across varying political and economic systems.

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