

ARUP



## Open Access Operations Paying Their Way

Track Access Charges and Economic Benefits

# Executive Summary

Lumo and Hull Trains are FirstGroup's two open access operations, which have proven to be a success as part of the UK rail system under two different operating models.



Hull Trains operates services between Beverley, Hull and the Humber region, and London King's Cross. Having been established in 1999, Hull Trains has been serving its route and the community for over 20 years and its operating model focuses on bringing significant socio-economic benefits to the Hull region.



Lumo operates train services exclusively on the East Coast of the UK between London King's Cross and Edinburgh Waverley, calling at Stevenage, Newcastle and Morpeth. Its operating model focuses on providing third tier to the rail market on a well served route and on facilitating modal shift from air and road to rail between major cities of Edinburgh, Newcastle and London.



## Driving rail growth

Both operations have been driving rail growth through service expansion and, during recent times where the rail industry has been struggling, they have managed to grow their customer base significantly. Hull Trains in particular has seen a 42% increase in demand from 2018/19 to 2023/24 compared the rail industry as a whole shrinking by 8% in that period.



## Non-abstraction

With both Lumo and Hull Trains success in growing passenger numbers over recent years and the rest of the industry struggling, it would be easy to jump to the conclusion that their growth is happening at the expense of franchised operators. However, both operators have been found to be not primarily abstractive with Lumo performing particularly strongly in this metric due to its focus on providing modal shift it has helped to generate over 4 million new rail journeys. Ultimately, Lumo's growth in both journeys and revenue is primarily generative.



## Funding the rail network

The total government subsidy required to run the railway has, since the COVID-19 pandemic, reached unprecedented levels with total government support to the industry being £21.1 billion in 2023 and payments to franchised operators accounting for 20% (£4.2 billion) of that figure.

Since open access operators do not receive government subsidies, they exist at no financial burden to the taxpayer but instead contribute through access charges and other fees.

The success of Lumo on the East Coast has seen it become the first open access operator to start paying the Infrastructure Capacity Charge (ICC) alongside the Variable Usage Charge (VUC). This ICC cost has been ramping up since Lumo started operation and by 2025/26 it will be paying £5.20 per train mile. Comparing this to similar long distance operators and assuming no major changes in train miles, LNER will pay around 10% less than Lumo and Avanti West Coast would pay 35% less than Lumo per train mile.



## Delivering investment and socioeconomic benefits

In 2023 the platforms at Howden Station were redeveloped to offer better accessibility for all passengers. The improvements were funded by Hull Trains' £3m Passenger Infrastructure Improvements Fund and they include raised platform levels, tactile paving, non-slip surfaces, better drainage, and safety lining.

Hull Trains operating model is predicated on bringing societal benefits and economic prosperity to an otherwise underserved market. A study conducted in 2023 by Arup found that the total economic benefits delivered by Hull Trains from launch up to 2032 are estimated to be in the range of £325m-700m. Similarly, it found that total benefits delivered by Lumo from launch up to 2033 are estimated to be around £470m-740m. These benefits are drawn from time savings, agglomeration, direct employment, modal shift and fare savings.



# Introduction

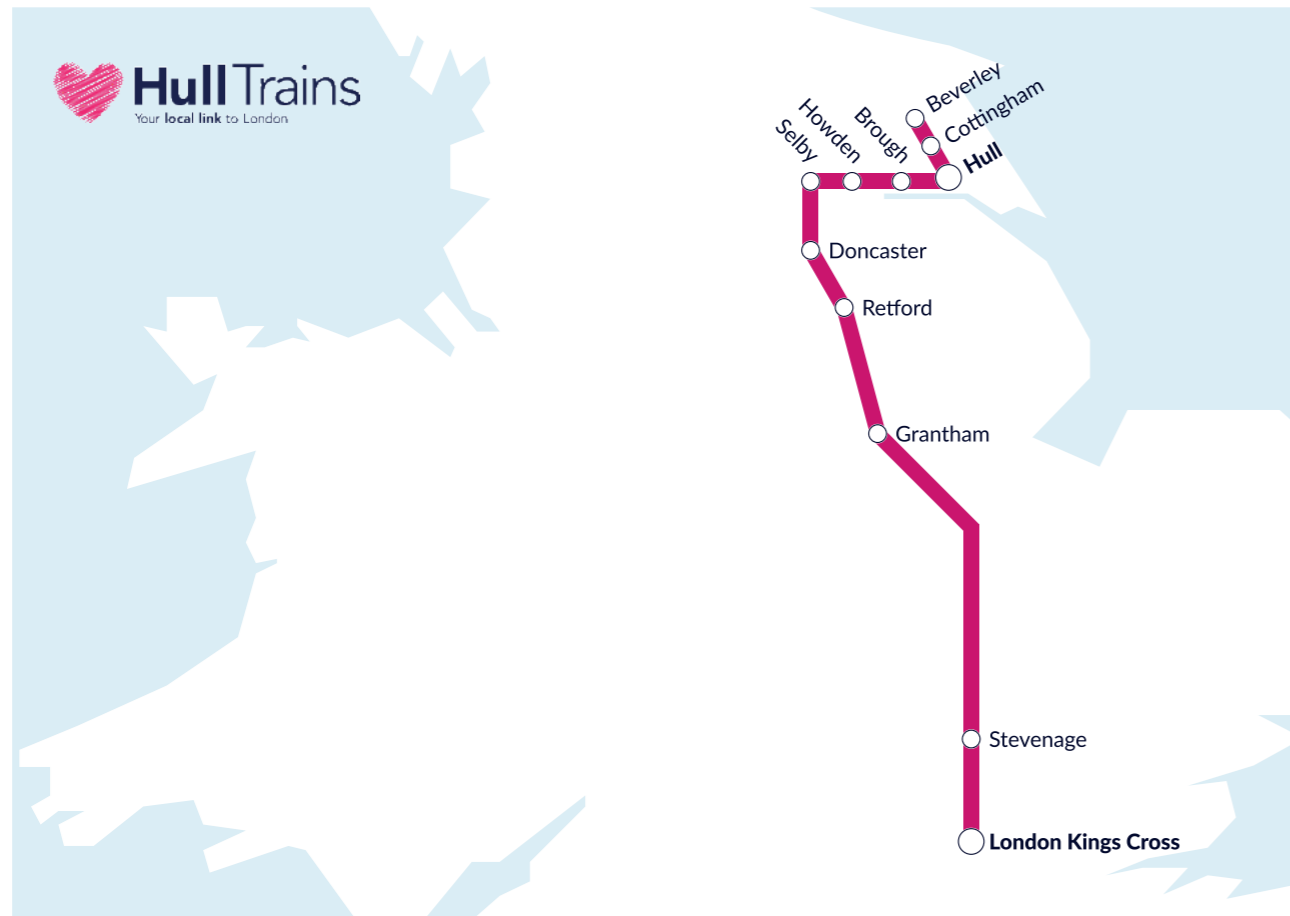
Historically, there have been two types of rail operators in the UK; open access operators and franchised operators. The picture has become more complex in recent years as franchised operators have been brought closer to government, initially in the form of more tightly specified concessions, and more recently through the public ownership transition programme.

For simplicity, this report uses the term ‘franchised operators’ to refer to all passenger operators which are subject to specification or management by the Department for Transport (DfT). The key differences between the two operating models is outlined in Table 1 below.

This report focuses on FirstGroup’s two open access operations, Lumo and Hull Trains, which have demonstrated success as part of the UK rail system. While Hull Trains and Lumo are both open access rail operators, they have very different operating models, and they pay their way via different means. This report aims to evidence the ways in which they pay their way and demonstrate the benefits of these operations within the industry.

**Table 1 – Key differences between open access and franchised operators**

Safety/security measure	Open access operators	Franchised operators
Operational model	These operators run services independently and do not have exclusive rights to routes. They compete directly with other operators, including franchised ones.	These operators hold contracts with national or devolved government to run services on specific routes. They often have exclusive rights to these routes for the duration of their franchise agreement.
Funding and subsidies	They do not receive subsidies from the government and must cover their costs through ticket sales and other revenue streams.	They may receive government subsidies to cover operating costs, especially on less profitable routes. They might also pay premiums to the franchising authority if their services are highly profitable.
Track access Charges	These operators pay variable track access charges based on their actual usage of the rail network. They may also pay additional charges like the Infrastructure Capacity Charge (ICC).	Those operators typically pay both fixed and variable track access charges to cover the overall costs of maintaining and renewing rail infrastructure.
Service flexibility	These operators have more flexibility to innovate and adjust their services based on market demand.	These operator’s services are defined by the terms of their franchise agreements, which can limit their ability to make rapid changes.
Market focus	These operators often focus on <b>niche markets</b> or <b>underserved routes</b> , providing additional connectivity and competition.	These operators serve a broader range of routes, including both profitable and less profitable ones, as mandated by their franchise agreements.



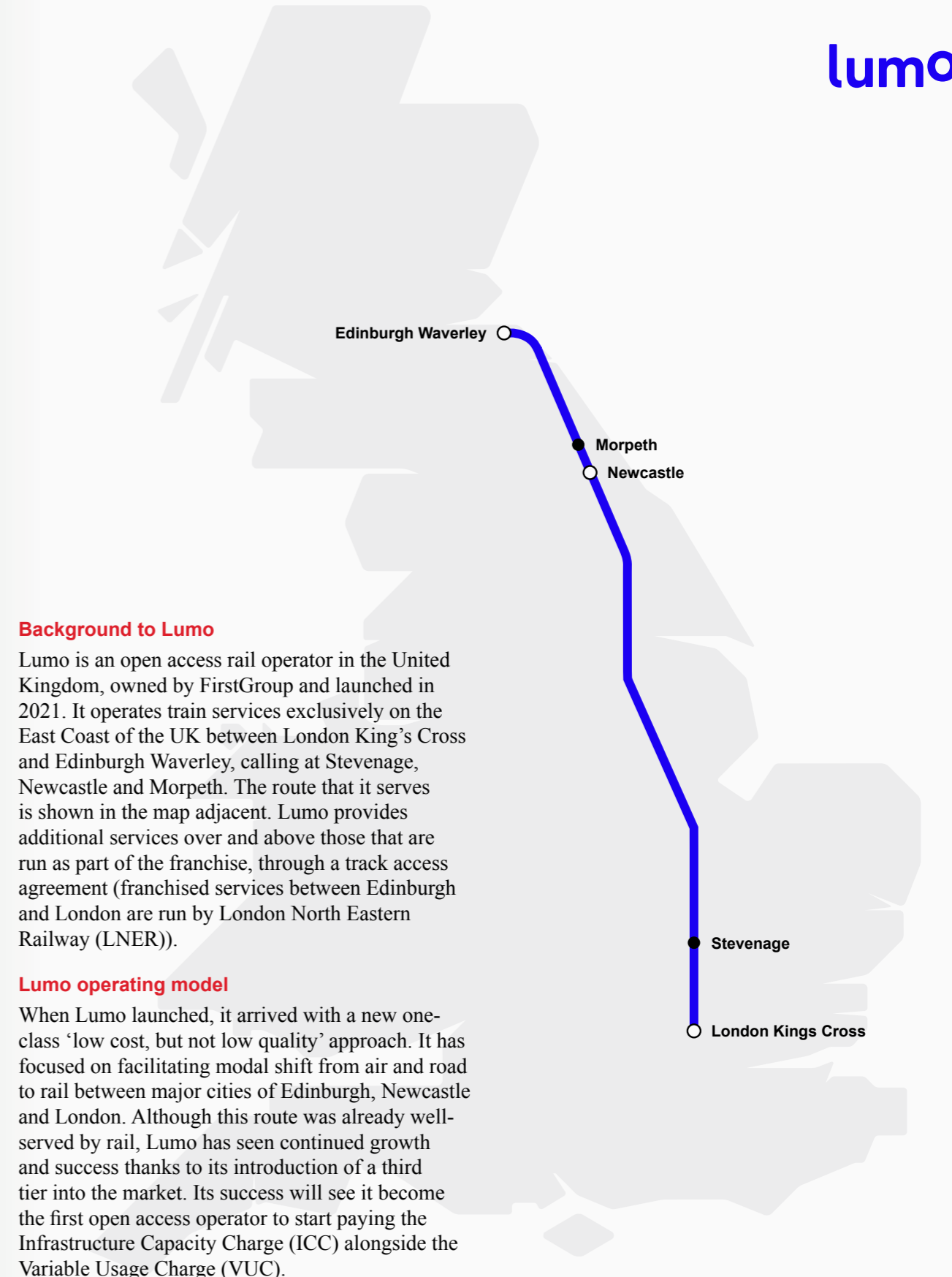
**Background to Hull Trains**

Hull Trains is a rail operator in England, owned by FirstGroup. It operates train services between Beverley, Hull and the Humber region, and London King’s Cross. The full route it serves is shown in the map above. Although most of the rail network in Britain is run by franchised operators, Hull Trains is an open access operator. As an open access operator, Hull Trains provides additional services over and above those that are run as part of the franchise, through a track access agreement (franchised services between Hull and London are run by London North Eastern Railway (LNER)).

Having been established in 1999 and services launched in 2000, Hull Trains has been serving its route for over 20 years. In that time, it has increased the number of services operated, provided additional capacity, and established a significant level of market share. It recovered quickly following the COVID-19 pandemic and continues to provide crucial connectivity between London and Hull/East Yorkshire.

**Hull Trains operating model**

Before Hull Trains began operations, there was only one train per day in each direction between Hull and London, operated by what is now LNER. When Hull Trains launched in 2000, it provided an additional three services a day. This has increased over time and today there is a total of eight trains per day, of which seven are operated by Hull Trains. This has brought significant socio-economic benefits to the Hull region that will be explored further in this report.



**Background to Lumo**

Lumo is an open access rail operator in the United Kingdom, owned by FirstGroup and launched in 2021. It operates train services exclusively on the East Coast of the UK between London King’s Cross and Edinburgh Waverley, calling at Stevenage, Newcastle and Morpeth. The route that it serves is shown in the map adjacent. Lumo provides additional services over and above those that are run as part of the franchise, through a track access agreement (franchised services between Edinburgh and London are run by London North Eastern Railway (LNER)).

**Lumo operating model**

When Lumo launched, it arrived with a new one-class ‘low cost, but not low quality’ approach. It has focused on facilitating modal shift from air and road to rail between major cities of Edinburgh, Newcastle and London. Although this route was already well-served by rail, Lumo has seen continued growth and success thanks to its introduction of a third tier into the market. Its success will see it become the first open access operator to start paying the Infrastructure Capacity Charge (ICC) alongside the Variable Usage Charge (VUC).

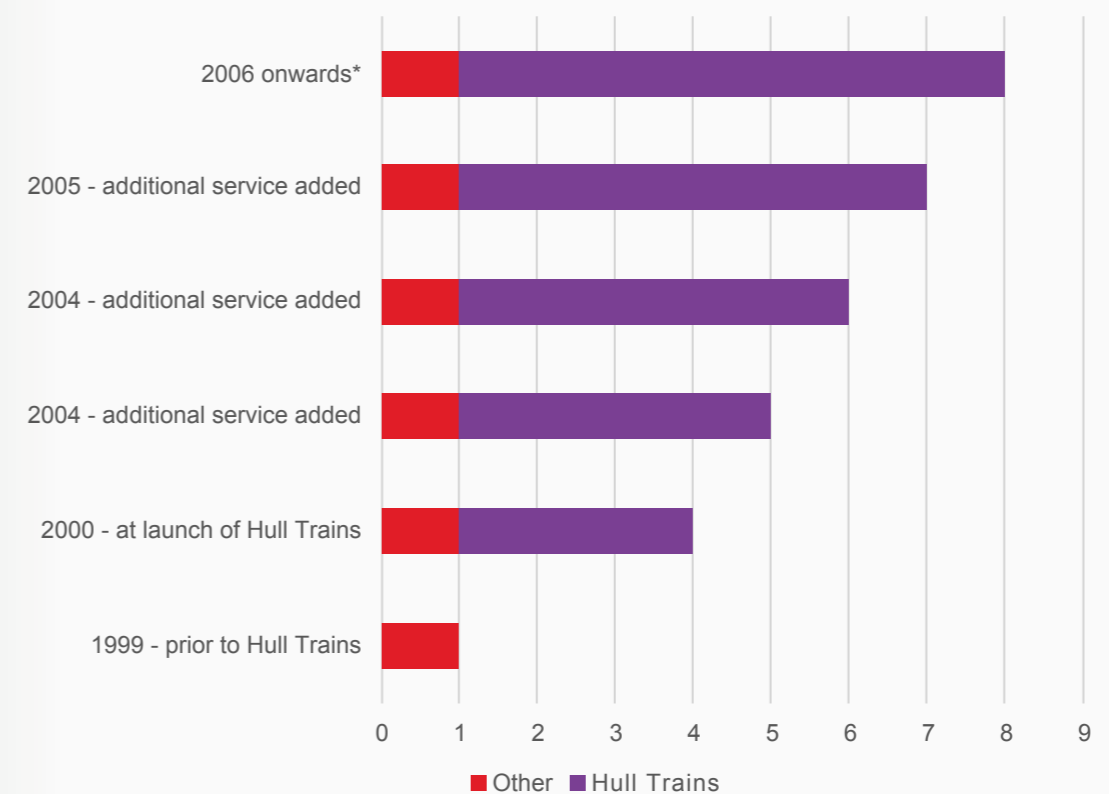


# Driving rail growth

## Hull Trains

Hull Trains has single handedly driven service level growth over the last quarter of a century on a market segment that might otherwise have the same level of service it had in 1999. Figure 1 below shows how the number of direct train services between Hull and London has changed over time. The 'other' category refers to what is now LNER.

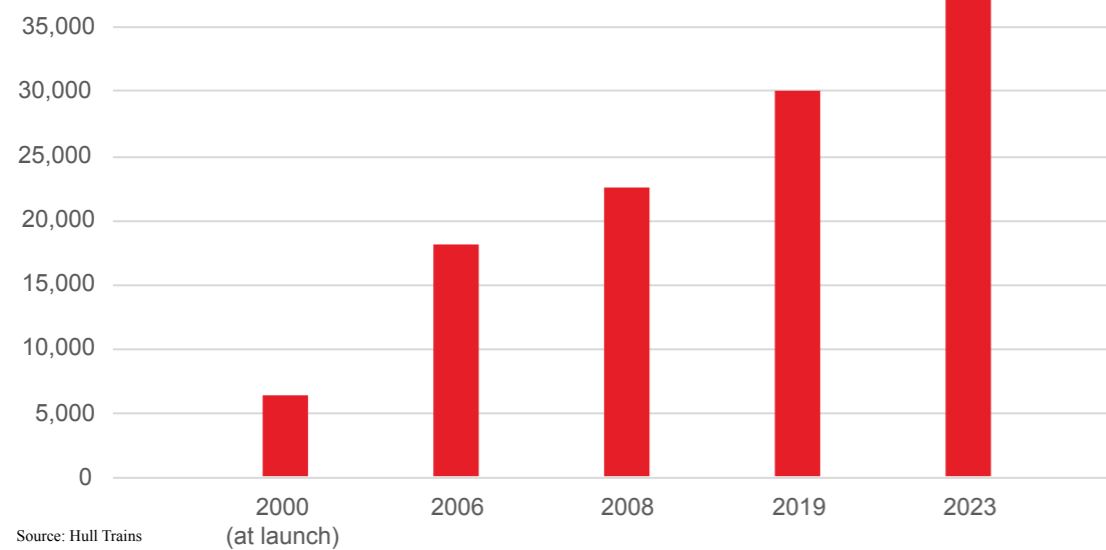
Figure 1 – Direct trains between Hull and London per weekday (single direction)



\* Excludes suspension of services during lockdowns resulting from Covid-19

Figure 2 shows that total capacity across a week (measured by total seats) on Hull Trains services has increased by almost 500%, compared to the level at launch in 2000.

**Figure 2 – Total seats per week on Hull Trains services**



**Lumo**

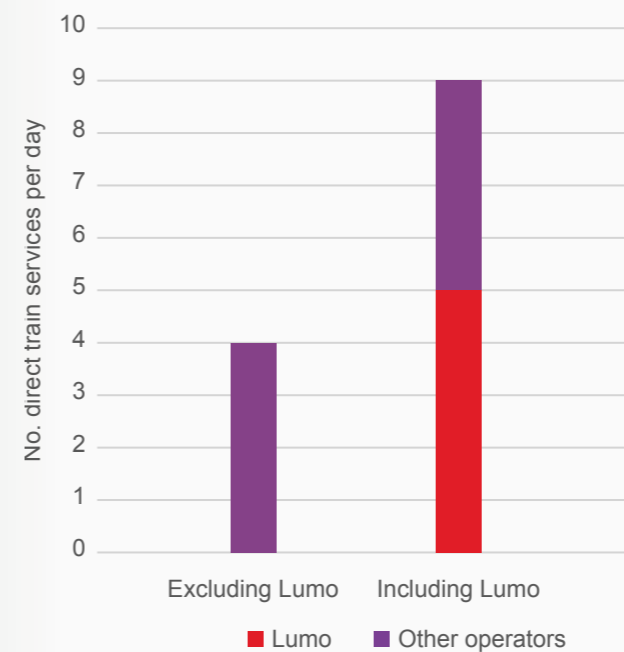
Lumo has added five direct train services per day between London King’s Cross and Edinburgh.

Lumo offers the first rail service of the day from London to Newcastle and Edinburgh, departing before 6am, which enables passengers to arrive in Newcastle just after 8.30am and Edinburgh just after 10am. This makes it an attractive option for business trips that need to arrive in time for meetings during the working day. This service also calls at Stevenage, offering an opportunity for passengers from the Home Counties to join the service and provides an alternative to flights from Luton Airport. It also offers the last rail service of the day, departing King’s Cross just before 8.30pm, whereas the last weekday service with other rail operators is at 7pm.

It generally has fewer stops than competing services from London to Newcastle. Three of Lumo’s five daily services are direct to Newcastle with no stops, while the other two stop at Stevenage before arriving at Newcastle. By contrast, some competing services stop at as many as 10 intermediate stations before arriving at Newcastle.

Lumo provides five direct train services from London King’s Cross to Morpeth per day. Although Morpeth services with other operators have increased since Lumo’s launch, Lumo services still drive the total, being more than double than it otherwise would be. This is illustrated in Figure 3 below.

**Figure 3 – Weekday direct rail services between London and Morpeth**



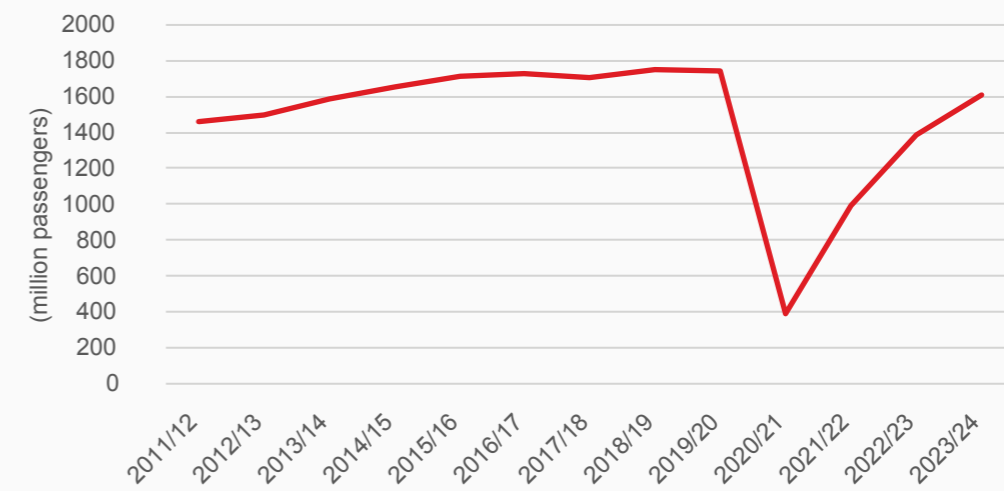
Source: National Rail timetable



**Demand growth**

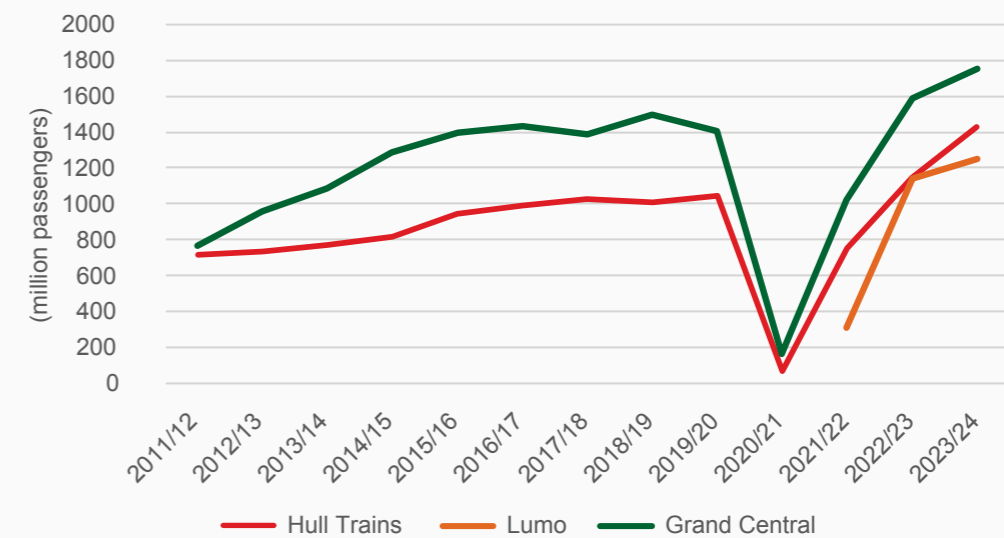
As we have seen in the previous sections, open access operators have been driving rail growth through service expansion and, during a time where the rail industry is struggling, they are also managing to grow their customer base.

**Figure 4 – Total Rail Passenger Journeys in Great Britain**



Source: ORR Table 1223a: Passenger journeys by operator, annual data

**Figure 5 – Total open access rail passenger journeys by operator**



Source: ORR Table 1223a: Passenger journeys by operator, annual data

Lumo began operations in 2021/22 and, having managed to achieve passenger numbers on par with Hull Trains in its first full year of operation (2022/23), has gone on to grow by a further 10% in its second year (2023/24).

As we can see from the table below, open access operators, Grand Central and Hull Trains, alongside the Heathrow Express, had the largest reduction in passenger numbers during the COVID-19 pandemic. Because these operators do not receive government subsidies, they had to cease operations to survive. Despite this, Grand Central and Hull Trains have recovered and grown more than any other operator since, outperforming franchised operators that have

received government help and driving the railway's recovery after the COVID-19 pandemic.

Lumo is excluded from this summary table as it only started operating in 2021 and sufficient data is not available to provide a pre pandemic comparison. However, Lumo has exhibited year on year growth since its inception.

**Table 2 – Passenger Journeys and Demand Growth by Operator**

	2018/19	2020/21 (COVID)	2023/24	Demand Growth (2023/24 vs. 2018/19)
	(million passenger journeys)			
Avanti West Coast	39.5	6.2	32.8	-17%
c2c	49.1	15.0	35.8	-27%
Caledonian Sleeper	0.3	0.1	0.3	0%
Chiltern	29.3	4.6	21.1	-28%
CrossCountry	40.6	6.7	32.8	-19%
East Midlands Railway	26.7	5.1	28.9	8%
Govia Thameslink Railway	341.5	76.1	279.0	-18%
Great Western Railway	100.0	17.9	82.6	-17%
Greater Anglia	84.9	19.0	76.4	-10%
London North Eastern Railway	22.3	4.2	24.2	8%
London Overground	188.1	59.2	181.4	-4%
Merseyrail	30.8	9.0	28.3	-8%
Northern Trains	101.3	21.9	85.1	-16%
ScotRail	97.8	14.4	81.1	-17%
South Western Railway	216.0	45.7	153.2	-29%
Southeastern	183.2	40.2	128.4	-30%
TfW Rail	33.5	5.0	26.2	-22%
TransPennine Express	29.2	5.4	23.4	-20%
West Midlands Trains	78.7	13.6	61.8	-21%
<b>Grand Central</b>	1.5	0.2	1.8	17%
<b>Heathrow Express</b>	6.2	0.3	4.5	-27%
<b>Hull Trains</b>	1.0	0.1	1.4	42%
<b>Total</b>	<b>1,753.0</b>	<b>387.9</b>	<b>1,612.0</b>	<b>-8%</b>

Source: ORR Table 1223a: Passenger journeys by operator, annual data

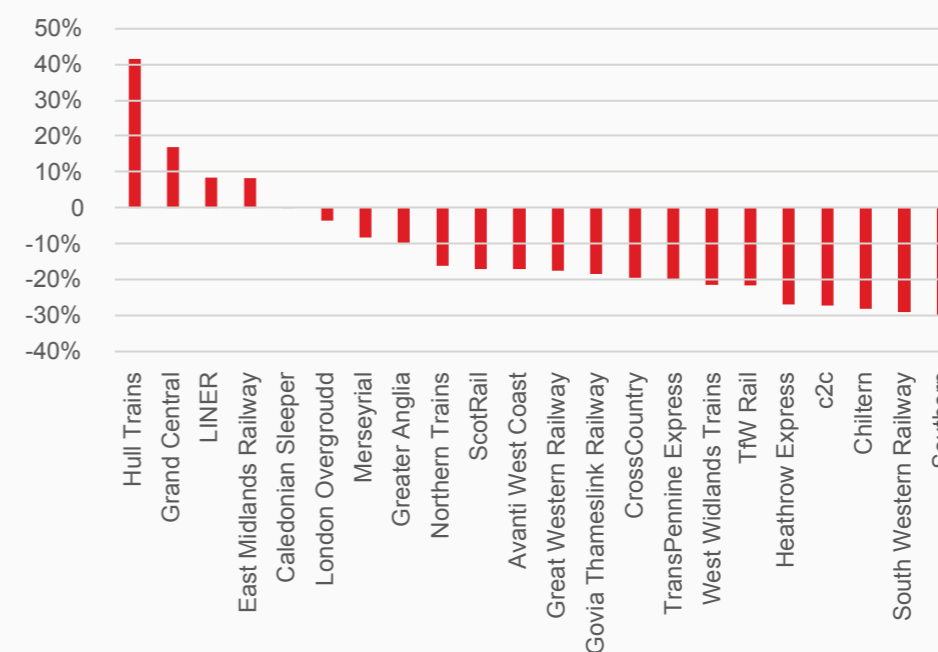
Open access operators Hull Trains and Grand Central have exhibited the strongest passenger growth figures between 2018/19 and 2023/24. However, another open access operator, the Heathrow Express, has struggled to grow. This can be explained through the 2022 opening of the Elizabeth Line which now offers direct competition to Heathrow Airport. Since opening, the line has proven to be extremely popular showcased by the fact that Thameslink was the only operator to carry more passengers in 2023/24 than the Elizabeth Line.

With both Hull Trains and Grand Central primarily operating on the East Coast Mainline (ECML) it would be easy to jump to the conclusion that their growth is happening at the expense of franchised operators on the same route. However, one of the

few franchised operators to experience passenger growth during this time is their closest long-distance competitor on the ECML, LNER.

With open access operators seeing sustained passenger growth, it follows that open access operator income will also be growing. In Network Rails Eastern Region, where both Hull, Lumo and Grand Central operate, income from non-franchised operators is exceeding per-COVID-19 levels (9% higher), in contrast with income from franchised operators which is lagging behind pre-COVID-19 levels (28% lower). Where franchised operators struggle for passenger numbers and passenger income, a deficit needs to be filled with government subsidy. Again, this contrasts with open access operations which are self-sufficient.

**Figure 6 – Passenger growth from 2018/19 to 2023/24**





This begs the question: how have open access operators managed to outperform traditional franchise operators in the recent post pandemic years? The answer could lie in the below operational advantages that open access operators bring to the industry.

**Flexibility and agility**

Open access operators have more flexibility in their operations. They can quickly adapt their services to meet changing passenger demands and market conditions.

**Customer-centric approach**

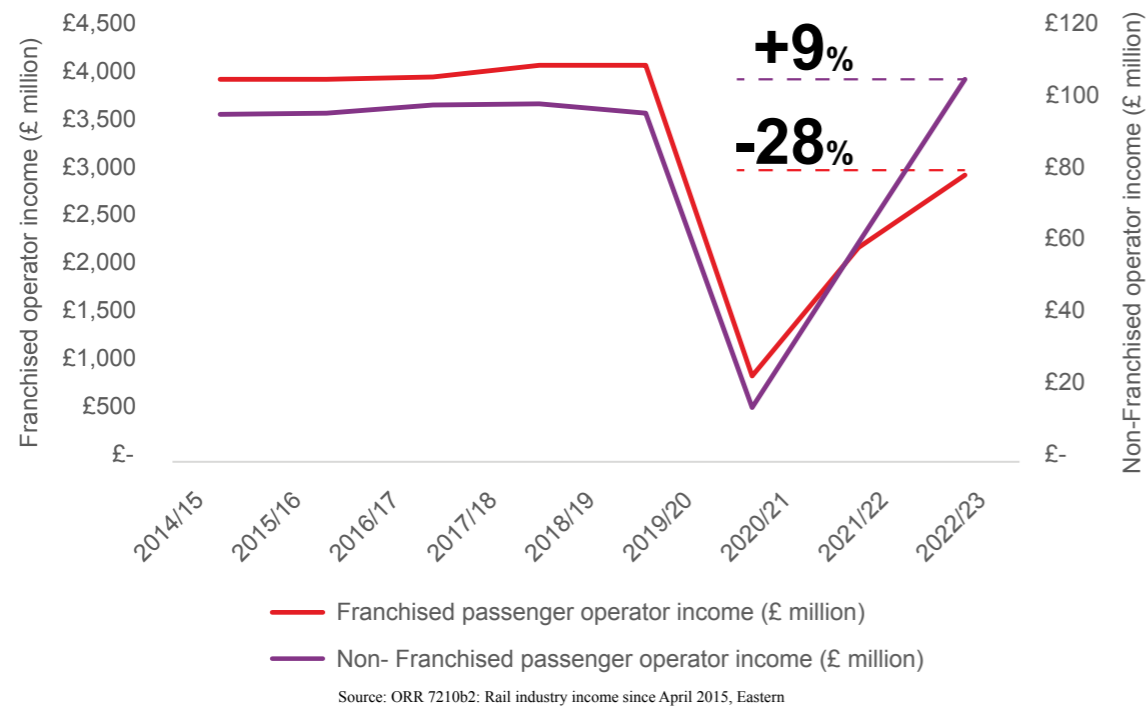
These operators focus on providing a high-quality customer experience, which includes competitive pricing, better service levels, and more direct routes. This customer-centric approach has helped them attract and retain passengers.

**Market responsiveness**

Open access operators are typically more responsive to market changes. They can introduce new services or adjust existing ones without the bureaucratic constraints that franchised operators might face.

These points are illustrated through some selected examples in the following section.

**Figure 7 – Passenger operator Income since April 2015**



**Lumo and Hull case studies**

**Timetable changes for sporting events**

When the England football team played Bosnia & Herzegovina at St James’ Park in Newcastle on the 3rd of June 2024, Lumo amended its timetable to make sure that fans that needed to travel south after the game had a rail option to do so. Their amended service to London Kings Cross departed Newcastle railway station at 22:20 to give fans enough time to reach the station after the match.

When local team Gateshead FC reached the FA Trophy final at Wembley Stadium on Saturday 11th of May, Tyneside based Lumo announced that they would be running an extra train to get fans back from London. Not only this, Lumo teamed up with local Gateshead brewery Black Storm to offer fans and travellers a special commemorative beer onboard its trains.

These examples illustrate open access operators’ responsiveness and flexibility to add or amend services based on the requirements of their customer base.

**Community engagement**

Hull Trains enabled two trailblazing LGBTQI+ campaigners to attend UK Pride in Doncaster as part of the company’s support for the annual event. Mike Jackson and Jonathan Blake (the inspiration behind 2014 film Pride) were guests of honour at UK Pride in Doncaster. Not only did Hull Trains provide the guests of honour with travel to the event but they specially decorated one its trains with the UK Pride in Doncaster logo.

Lumo participated in an event supporting the If U Care Share Foundation, a leading suicide prevention and mental health charity in the North East of England. At the event, Matthew Smith, the charity’s founder, announced a fundraising challenge where he would run nearly 800 miles to every Premier League stadium in England.

These examples clearly demonstrate both Lumo and Hull Trains customer centric approach and their desire to help the communities that they serve.



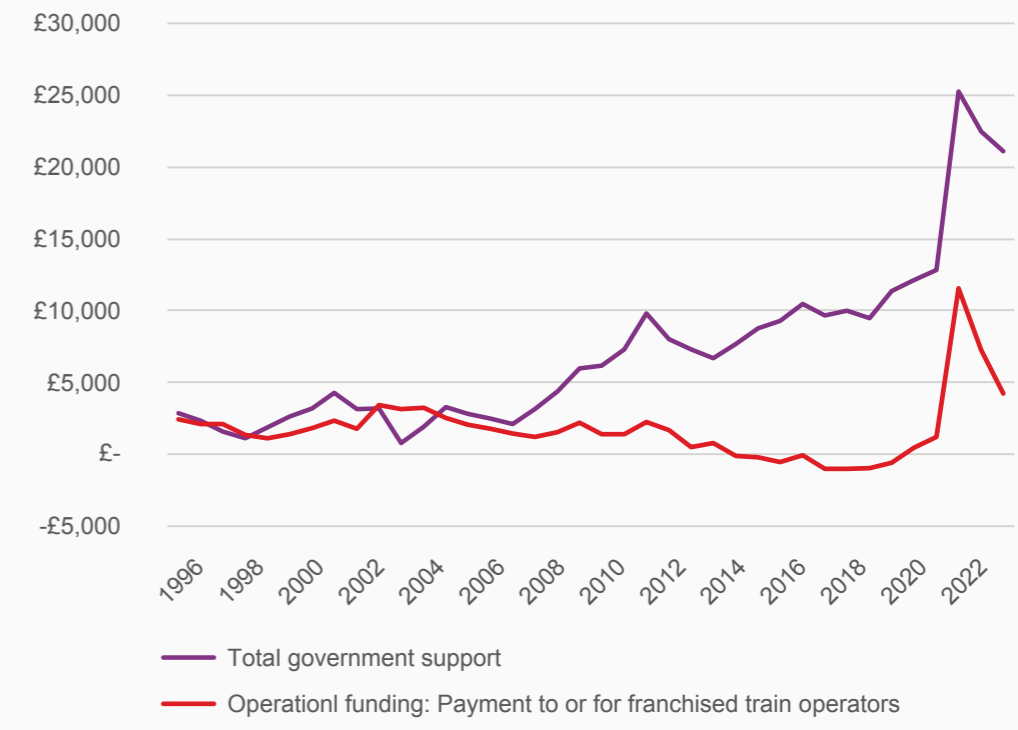


# Funding the rail network

**The total government subsidy required to run the railway has, since the COVID-19 pandemic, reached unprecedented levels**

As introduced in the previous section, when franchised operators cannot cover their costs they must be covered through government subsidy. Prior to the COVID-19 pandemic, between 2010 and 2018, government subsidies to franchised operators were net negative, meaning that the industry was covering its operating costs at a national level. Since then, the industry has been drastically changed by the COVID-19 pandemic. Government support has increased significantly, with as much as 46% of total government support to the rail industry going to franchised operators in 2020 to 2021, equalling a total of £11.6 billion.

**Figure 8 – Government support to the rail industry (22/23 prices)**

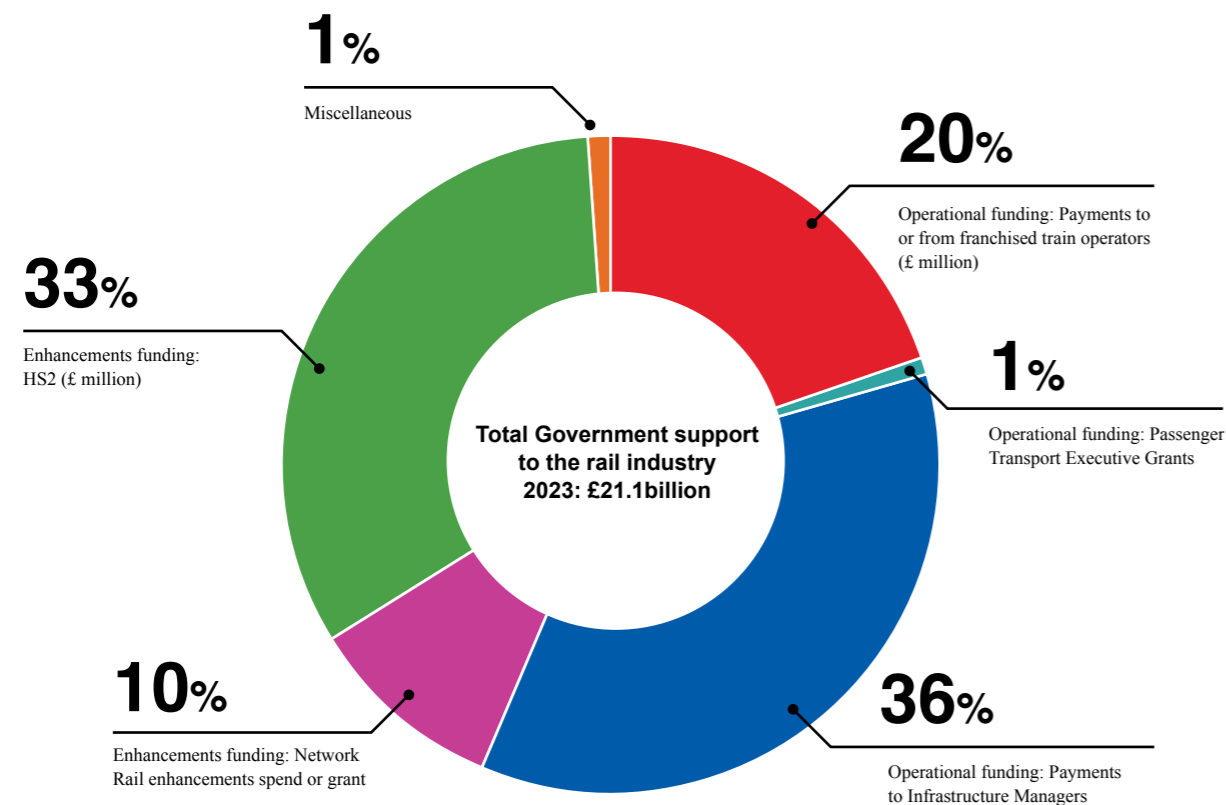


Source: ORR Table 7270: Government support to the rail industry (April 2022 to March 2023 prices), Great Britain, annual data, April 1985 to March 2023

During the COVID-19 pandemic, government subsidy to franchised operators was understandably high due to national lockdowns and travel restrictions. However, data from 2023 shows that payments to franchised operators remains at 20% of total government support to the rail industry, equalling a total of £4.2 billion. The pie chart below shows how a more detailed breakdown of this.

Conversely, open access operations exist at no financial burden to the taxpayer but instead contribute through access charges and other fees which are explained in the next section. Lumo and Hull Trains take on all the revenue risk themselves and are responsible for generating enough income to cover their expenses and make a profit without relying on taxpayer money.

Figure 9 – Total government support to rail industry in 2023



Source: ORR Table 7270: Government support to the rail industry (April 2022 to March 2023 prices), Great Britain, annual data, April 1985 to March 2023

### Current access charges

There can be a misconception that open access operators do not pay their way in the same way that franchised operators are required to do. Traditional franchised operators are required to pay both a fixed and variable user charge, whereas open access operators only pay a variable user charge and, the case of Lumo, an Infrastructure Cost Charge (ICC).

The fixed charge is a residual funding mechanism and is the outstanding funding requirement for NR after all other charges and grants are levied or made. It varies year to year, sometimes substantially, and franchised operators are held neutral for any changes in the charge through the contract with their funders.

Different charging schedules are applied to franchised and open access operators, as outlined in Table 3 below.

Not all open access operators pay the ICC because it is only levied on services that can bear it. The Office of Rail and Road (ORR) conducts a “market-can-bear” test to determine which services are financially capable of paying the ICC. This test assesses the profitability and market conditions of different service segments, such as interurban and airport services. If a service segment is deemed unable to bear the additional cost, it is exempt from the ICC. Lumo was deemed able to bear the additional cost and began paying the ICC 2023/24. In the case of Lumo the ICC now fulfils a similar role that the FTAC does for franchised operators but on a flat rate per train mile basis. The next section explains how this charge will be applied and provides a comparison to equivalent long-distance operators that pay FTAC.

Alongside the payment of access charges, both operators generate economic, environmental and social benefits for the communities they serve. Section 4 sets out these benefits in more detail.

Table 3 – Charges paid by rail operators in the UK

Charge	Description	Franchised	Open access	
			Lumo	Hull Trains
Fixed Track Access Charge (FTAC)	FTAC is calculated using Network Rail’s fixed cost model, which allocates the total fixed costs of maintaining and operating each route section to train operators based on their type and volume of traffic. This annual charge is determined through traffic forecasts and considers both general fixed costs and traffic-related avoidable fixed costs to ensure fair cost recovery.	✓		
Infrastructure Cost Charge (ICC)	The Infrastructure Cost Charge (ICC) for open access operators is calculated based on a flat rate per train mile. This charge is designed to ensure that these operators contribute to the fixed infrastructure costs of the rail network, similar to the contributions made by franchised operators		✓	
Electricity Asset Usage Charge (EAUC)	This charge recovers the variable costs of maintaining and renewing electrification assets used by electric trains	✓	✓	✓
Variable Usage Charge (VUC)	This charge covers the wear and tear on the track and other infrastructure caused by train operations	✓	✓	✓
Station Long Term Charges	This charge helps recover the costs associated with the maintenance, repair, and renewal (MRR) of station infrastructure	✓	✓	✓
Schedule 4 Access Charge Supplement*	These payments are part of the Schedule 4 possessions regime, which compensates train operators for disruptions caused by planned engineering works and other scheduled maintenance activities	✓	✓	✓

\* Open access operators in the UK rail industry have the option to pay the Access Charge Supplement (ACS) to receive full compensation under the Schedule 4 possessions regime. Both Hull Trains and Lumo have decided to pay into the regime in CP7.

### Future charges for CP7

Due to the type of open access operator Lumo is, it began paying an ICC charge in 2023. This is ramped up over a five-year period from its first year of operation, as shown in the table below. This will be ramped up over a five-year period from its first year of operation, as shown in the table below.

Year of operation	2021/22	2022/23	2023/24	2024/25	2025/26
% of ICC set for CP7	0%	0%	25%	50%	100%
Lumo £ per train Mile	£0	£0	£1.299	£2.598	£5.195

Source: CP7 Open Access ICC Rates List - 2024/25 Prices

We do not know what the train mileage will be when this charge is fully ramped up, but we can use the latest year of data (2023/24) as an assumption. We also know what the CP7 fixed charges will be for franchised operators and can, therefore, back work to find out what their cost per train mile would be as a way of comparison. We have undertaken this comparison exercise for Lumo's most direct competitor, LNER and another long-distance operator, Avanti West Coast.

As we can see, assuming no major changes in train miles between 2023/24 and 2025/26, **LNER will pay around 10% less than Lumo per train mile**. Avanti West Coast would pay 35% less than Lumo per train mile.

When this calculation is done for vehicle miles, the difference is even more stark. This is because Lumo trains are made up of 5 cars compared to LNER and Avanti trains that are made up of 9 or 10 cars on average. Again, assuming no major changes in vehicle miles, **LNER will pay around 48% less than Lumo per vehicle mile**. For Avanti West Coast the difference is even more pronounced with their cost being almost 67% less than Lumo per vehicle mile.

With regards to the assumption that train miles will be the same in 2025/26 as they were in 2023/24, we do not believe this to be an unreasonable assumption since train miles have remained steady since 2015 except for 2020/21 when services were reduced at the outset of the COVID-19 pandemic.

Figure 10 – London North Eastern Railway train miles since April 2015

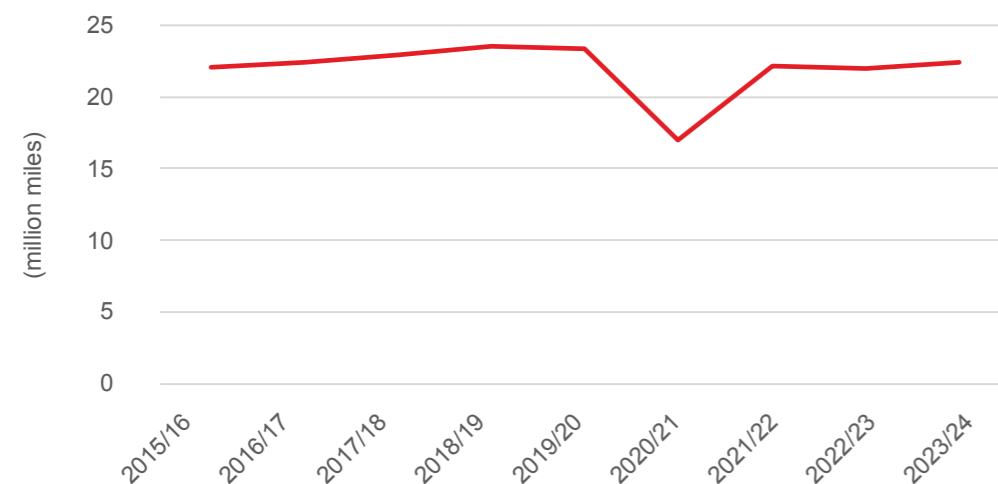


Figure 11 – 2023/24 train miles (millions)

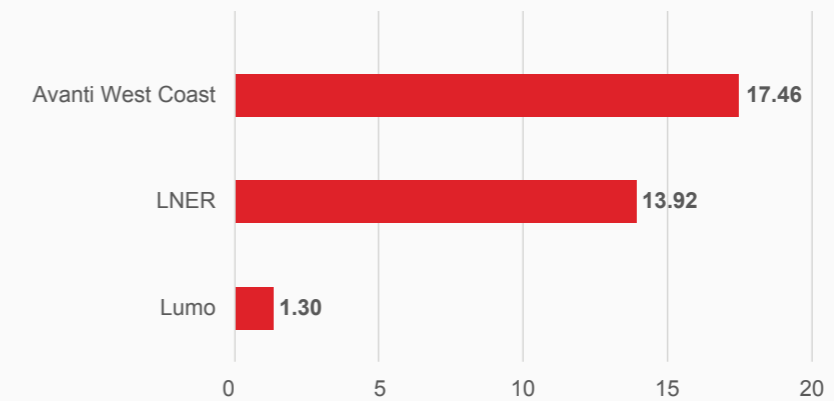
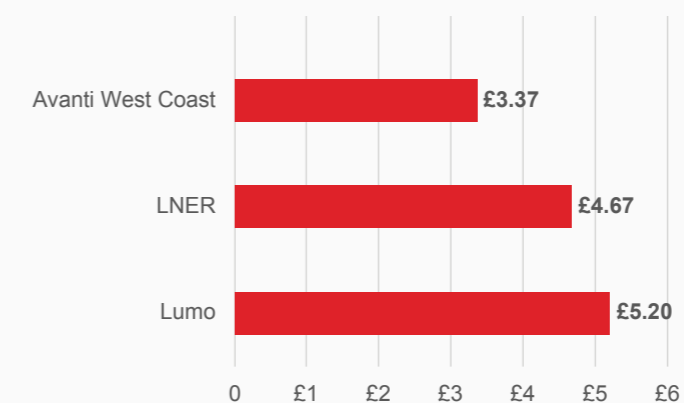


Figure 12 – 2025/26 charges assuming 23/24 mileage (£ million)



Figure 13 – 2025/26 £ per train mile



Source: ORR Table 1243b: Passenger train kilometres by operator (all traction), quarterly data  
Source: CP7 Schedule of Fixed Charges - 2024/25 Prices

### Non-abstraction

Lumo and Hull Train operate in a very tightly regulated environment. The ORR conducts a number of regulatory tests to ensure that open access operators are not negatively impacting the rail industry. One of these regulatory tests was the “market-can-bear” test that was explored in the previous section to determine if the ICC should be applied. Another test is the Economic Equilibrium Test (EET) that each open access operation proposal is subjected to.

### Revenue analysis

The ORR conducts the EET to assess the financial impact of the new service. This involves comparing the revenue generated by the new service with the revenue abstracted from existing franchised services.

### Generation vs. abstraction

The test calculates a ratio of revenue generation (new passengers) to revenue abstraction (passengers switching from existing services). A higher ratio indicates a positive impact.

### Decision making

If the EET shows that the new service will not primarily abstract revenue from existing services, the ORR may approve the application. Otherwise, adjustments may be required.

The Not Primarily Abstractive (NPA) test was developed in 2004 as a tool to understand the impact of an open access operator’s service proposal on the incumbent franchise and therefore the Secretary of State. The ORR often rejects open access proposals for not meeting these criteria.

**Table 4 – open access applications results and decisions (2021-22 prices)**

Date	Applicant	Route	NPA Ratio	Abstraction	Outcome
Dec 2014	Great North Western Railway Company Ltd.	Blackpool North to London Euston	0.28:1	~£41m p.a.	Rejected
Aug 2015	Great North Western Railway Company Ltd.	Blackpool North to London Euston	0.30:1	~£25m p.a.	Approved
May 2016	Great North Eastern Railway Company Ltd.	Edinburgh Waverley to London King’s Cross	0.41:1	~£159m p.a.	Rejected
May 2016	Great North Eastern Railway Company Ltd.	Cleethorpes/West Yorkshire to London King’s Cross	0.37:1	~£53m p.a.	Rejected
<b>May 2016</b>	<b>East Coast Trains Ltd. (FirstGroup)</b>	<b>Edinburgh Waverley to London King’s Cross</b>	<b>0.81:1</b>	<b>~£29m p.a.</b>	<b>Approved</b>
Jun 2018	Great North Western Railway Company Ltd.	Blackpool North to London Euston	0.30:1	~£15m p.a.	Approved
Aug 2018	Grand Southern (Alliance Rail Holdings)	Southampton Central to London Waterloo	0.22:1	~£9m p.a.	Rejected
Jan 2021	Grand Union Trains Ltd.	London to Carmarthen (6 trains per day subset)	0.45:1	~£29m p.a., net of ICC	Rejected
Nov 2022	Grand Union Trains Ltd.	London Paddington to Carmarthen	0.44:1	~£19m net of ICC	Approved
Mar 2024	Grand Union Trains Ltd.	London Euston to Stirling	0.38:1	~£24.4m p.a.	Approved

Source: Assessing the costs and benefits of new open access services, ORR, April 2024

As highlighted in the table above, the Lumo NPA test has the strongest NPA ratio of any open access operator proposal. For every £1 abstracted, it was expected to generate 81p. This is largely down to Lumo’s modal shift benefits. The extent to which this modal shift has been realised since beginning operation has led to it being suggested that Lumo does not abstract any demand from other operators, according to a study undertaken by Winder Phillips. This study, looking at the impact of open access operators on revenue and journeys, found that since beginning operation Lumo had helped generate over 4 million new rail journeys. This had aided a material switch from air travel by supporting a 55% growth in rail revenue between London and Edinburgh between 2018/19 and 2023/24.

This report examined NPA ratios for journeys and revenue for both of FirstGroup’s open access operator routes. For each route it found that the introduction of open access had attracted new demand to the rail market and had each had a strong inferred NPA. The results are shown in the table below:

For Hull Trains, it found that six years after operations, revenue on flows from London to Selby, Brough and Hull had increased by 92%. It did find evidence of some abstraction from Doncaster, but for every £1 of revenue abstracted, it estimates that Hull Trains generated up to an additional 67p of industry revenue.

**Table 5 – Summary of results for London flows only, detailing indicative journey/ revenue generation of each example, and corresponding NPA ratio**

Open Access Operator flows to London	Total Journeys generated (m)	Total Revenue generated (£m)	NPA (journeys)	NPA (revenue) <sup>1</sup>
Lumo (2022/23 to 2023/24) <sup>2</sup>	5.3 to 5.4	232 to 263	No net abstraction	No net abstraction
Hull Trains (2003/04 to 2009/10) <sup>3</sup>	1.8	29 to 34	1.59 to 1.75	0.51 to 0.67

<sup>1</sup> NPA excludes Infrastructure Cost Charge

<sup>2</sup> Total revenue and journeys generated over first three years of operation will be higher due to exclusion of 2021/22

<sup>3</sup> Total revenue and journeys generated over first ten years of operation will be higher due to exclusion of 2000/01 to 2002/03

Source: Impact of Open Access operators on industry revenue and journeys, Winder Phillips Associates



# Delivering Investment and socioeconomic benefits

## The Purpose Coalition

Both Lumo and Hull Trains are part of the Purpose Coalition which is made up of organisations who are committed to breaking down barriers to opportunity. It has developed a framework to measure and track the work of organisations to break down barriers to opportunity. This framework is shown below:

A recent Purpose Coalition report highlights the transformative work of Lumo and Hull Trains. It finds that both operators are deeply embedded in the communities they serve, supporting local initiatives, educational programmes, and cultural events. By forming strong partnerships with local organisations, they have helped to build sustainable communities and promote social mobility in regions with high deprivation levels.

The report uses the above framework to benchmark Lumo and Hull Trains' activities, while focusing on:

### Economic and social impact

By offering competitive fares and frequent services, Lumo and Hull Trains have reduced the reliance on more expensive and polluting forms of transport, enhancing access to key economic hubs.

### Social mobility

Both operators have invested in apprenticeship programmes and career development initiatives, creating pathways into the rail industry for young people and those from disadvantaged backgrounds.

### Environmental sustainability

Lumo's all-electric trains and Hull Trains' bi-mode technology exemplify their leadership in sustainable travel, significantly reducing carbon emissions.

Figure 14 – The Purpose Coalition Framework









### Hull Trains

As discussed in previous section, the Hull Trains operating model is predicated on bringing societal benefits and economic prosperity to an otherwise underserved market.

A study was conducted in 2023 by Arup looking at the economic impacts of Hull Trains which found the benefits to be significant. It found that the total benefits delivered by Hull Trains from launch up to 2032 are estimated to be in the range of £325m-700m. The company has responded to growth in passenger demand over time, added

significant capacity to the route over and above that which is provided by the franchised service and benefited the community that it serves.

The table below summarises the findings from this study.

Benefit	Estimated total from launch to 2022	Estimated total from 2023 to 2032	Overall total from launch to 2032
Time savings 	£100m-130m, of which £75m-100m business time savings (GVA)	£75m-100m, of which £55m-80m represents GVA	£175m-£230m, of which £130m-180m GVA
Agglomeration 	£10m-40m (GVA)	£5m-25m (GVA)	£15m-65m (GVA)
Direct employment 	£35m-70m (GVA)	£25m-45m (GVA)	£60m-115m (GVA)
Mode shift benefits - environmental (carbon, air quality and noise) 	£13m-35m	£5m-10m	£18m-45m
Mode shift benefits - other (highway congestion, accidents etc) 	£15m-£90m	£30m-140m	£45m-230m
Fare savings 	c.£13m	Conservatively excluded due to uncertainty over future fares	c. £13m
<b>TOTAL</b>	<b>£185m-380m of which c.£120m-210m GVA</b>	<b>£140m-320m of which c.£85m-150m GVA</b>	<b>£325m-700m of which c.£200m-350m GVA</b>

### Enhanced frequency and capacity

As already discussed in this report, Hull Trains has increased daily services over time; today there is a total of eight trains per day on the route it serves, of which seven are operated by Hull Trains. Along with the higher capacity trains that are now used, this has led to an increase in total weekly seats of almost 500% since launch. Passenger demand is now 42% above pre-COVID-19 levels whereas the overall rail industry is 8% lower.

### Economic benefits

Hull Trains is estimated to have delivered economic benefits of £185m-380m since launch in 2000, in the form of time and fare savings to passengers, mode shift from car to rail, productivity benefits through connectivity to London and the direct jobs that it supports.

### Environmental benefits

Alongside reducing carbon emissions through mode shift, Hull Trains reduced carbon emissions associated with operating its services by 65% in 2022/23, compared with a 2019/20 baseline.

### Social benefits

Hull Trains also delivers additional benefits - for instance, through delivering journey quality for passengers. In the last edition of the National Rail Passenger Survey, Hull Trains scored higher than franchised train operators on all measures. Hull Trains has also entered into partnerships with local organisations such as the Hull & East Yorkshire Children's University, delivering additional benefits to the community.

### Looking ahead

Hull Trains continues to serve Hull and the Humber region. With a track access agreement that currently runs to 2032, the service will deliver benefits for years to come. Additional benefits over the next ten years are estimated at £140m-320m.

### Other investments

In 2023 the platforms at Howden Station were redeveloped to offer better accessibility for all passengers. The improvements were funded by Hull Trains' £3m Passenger Infrastructure Improvements Fund and they include raised platform levels, tactile paving, non-slip surfaces, better drainage, and safety lining. The project was a collaborative effort with Northern, Network Rail, and TransPennine Express to minimise disruption. The upgrades have been positively received by local stakeholders and passengers, enhancing the overall accessibility and safety of the station.

## Lumo

In CP7, Lumo began paying an ICC meaning that, when compared to long-distance franchised operators, it will be more than paying its way purely in financial terms. However, in a similar way to Hull Trains, Lumo also brings wider economic, environmental and social benefits.

A similar study was conducted alongside the Hull Trains study looking at the economic impacts of Lumo. It found that the total benefits delivered by Lumo from launch up to 2033 are estimated to be around £470m-740m. These benefits demonstrate just how much Lumo has added to the UK economy. The addition of Lumo services has increased people's ability to travel sustainably along the corridor that it serves, while delivering environmental benefits. The table below summarises the findings further.

Benefit	Estimated total from 2021-33
Time savings	£9m-19m
Agglomeration	£1m-6m
Direct employment	£21m-43m
Mode shift benefits - environmental (carbon, air quality and noise)	£130m-365m
Mode shift benefits - other (highway congestion, accidents etc)	£125m+
Fare savings to Lumo	c.£185m
<b>TOTAL</b>	<b>£470m-740m</b>

## Passenger journeys

Lumo has demonstrated strong growth in passenger numbers since its launch in October 2021. Using data from the ORR, Lumo's passenger demand has increased by 10% between 2022/23 and 2023/24.

## Economic benefits

Lumo is estimated to deliver economic benefits of £340m-375m from launch up to the end of its track access agreement in 2033, in the form of time savings, agglomeration, fare savings to Lumo, mode shift and the direct jobs that it supports.

## Environmental benefits

It is estimated that in the financial year 2022/23, Lumo helped customers to avoid emitting 60.6 ktCO<sub>2</sub>e by using their services. The greenhouse gas benefit from 2021 to 2033 is between £130m-365m. This benefit is at a substantial scale, reflecting that Lumo services have led to mode shift from private vehicles and air.

## Tourism

Tourism plays an important role in the economies of several of the locations served by Lumo. Tourism benefits are not usually monetised within a transport economic assessment. However, through increasing service frequency and improving connectivity between locations along its route, Lumo helps to support tourism by enabling people to have a convenient, sustainable way of visiting the places that it serves.

## Partnerships and initiatives

As well as Lumo's beneficial impact on the economy and sustainability, it has played an active role in the communities it serves by supporting many events and initiatives, including charity partnerships and sponsoring local organisations. Lumo advocates continuous learning and personal development, with 90% of their team undertaking a custom designed apprenticeship when they join.