Transport for London Supply Chain: Economic Impact Assessment 2023/24

A Final Report by Hatch
November 2024

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Executive Summary

Introduction

i. Transport for London (TfL) has commissioned Hatch to assess:

- **the economic contribution supported by its expenditure with suppliers during the 2023/24 financial year**, including its scale and geographic spread.
- **the economic contribution supported through three major capital projects**, including Bank Station Capacity Upgrade, Barking Riverside Extension and the Railway Engineering Workshop Programme (REW) 2022-24.
- **assess the economic contribution of Places for London**, TfL's wholly owned commercial property company. This considered the economic contribution resulting from supply chain expenditure to support Places for London activities.

ii. The assessment relied on a base data extract from TfL's procurement database, which has been augmented with additional evidence collected by TfL to arrive at a more accurate reflection of the geographic distribution of its supplier spend. Since the location recorded in the base data reflected a supplier's invoice address, driven by the location of their Headquarters, the following evidence has been incorporated in the assessment:

- data on the site(s) of activity for large suppliers, collected by TfL.
- a mapping exercise that traced the amount and location that TfL bus operators spend on bus manufacturing.

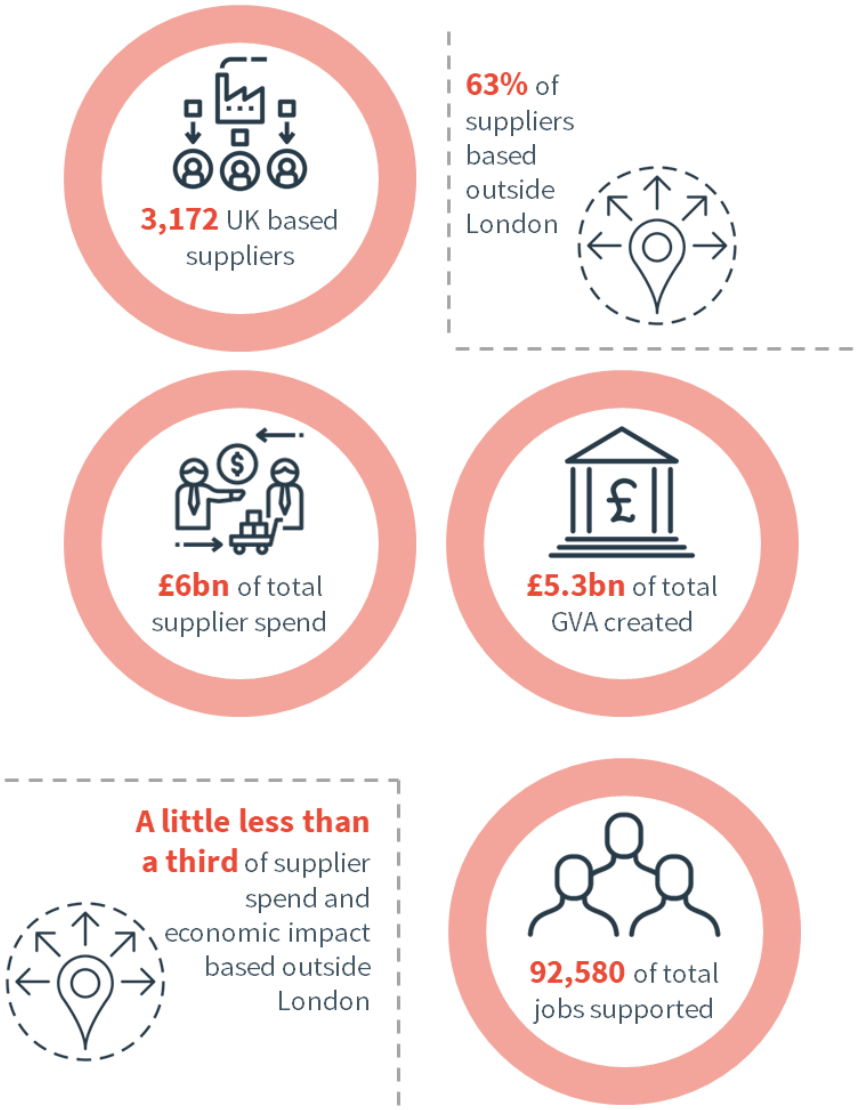
The economic impact of TfL supply chain expenditure

iii. The assessment concluded that in 2023/24, TfL spent **c. £6bn in the UK** with **3,172 suppliers,** which supported **£5.3bn in Gross Value Added (GVA) and 92,580 jobs**. Hence, **every £1m of TfL spend** supported **around 16 jobs** across the UK. Moreover, **more than half (62%)** of TfL suppliers **were SME businesses**.

iv. **63% of TfL suppliers** were based **outside of London**, in regions such as the South East (572 suppliers) and the East of England (358 suppliers).

v. **About a third of TfL spend and resulting economic impact** occurs **outside of London**. Around 21,500 jobs were supported outside the capital.

The economic contribution of TfL supply chain expenditure, 2023/24



Source: Hatch, 2024

vi. Over 2022/23[1] and 2023/24, TfL spent over **£12bn with more than 3,000 UK based suppliers**, which supported:

- **over £11bn in total GVA** (including direct, indirect and induced effects) – about as much as London's information services industry generated in 2021 and 2022.
- **a total of 197,000 FTE job years**, equivalent to supporting employment in c. 98,000 full-time job positions each year, on average.

vii. A little less than a third of its supplier spend and economic impact took place outside London across both years.

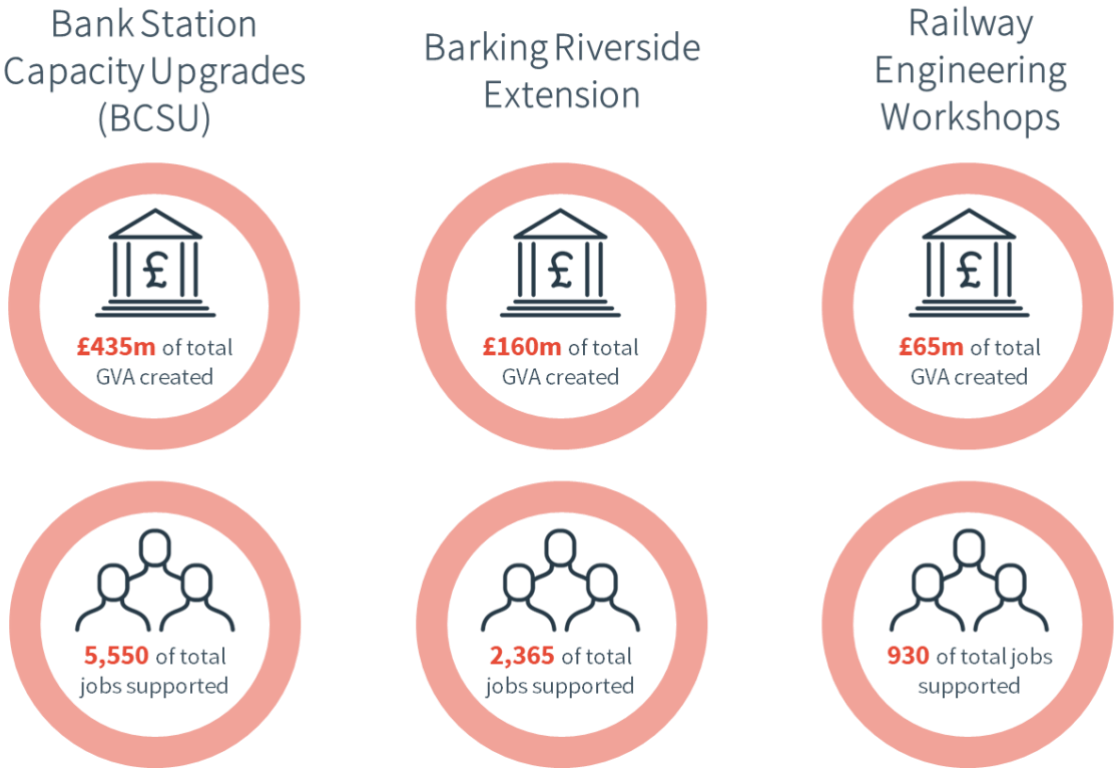
[1] Transport for London Supply Chain: Economic Impact Assessment 2022/23, Hatch, 2023

The economic impact of TfL capital investment projects

viii. The assessment examined the economic impact stemming from TfL's supply chain expenditure on three major capital investment projects:

- **The Bank Station Capacity Upgrades (BCSU)** – undertaken from 2015 to 2023 and aimed at increasing the station's capacity by 40% while prioritising accessibility and connectivity to new lines. **£520m was spent in the UK** for the project, spread across **661 suppliers with over half of them being outside of London**. The total economic impact supported through TfL expenditure over the lifetime of the BSCU project amounted to **£435m in GVA and 5,550 FTE job years**.
- **The Barking Riverside Extension** – delivered from 2017 to 2022 and unlocking thousands of new housing units while extending the London overground Gospel Oak to Barking line to a new station. **£195m was spent in the UK** for this project on **327 different suppliers, of which almost two thirds (65%) were outside the capital**. The project generated **£160m in GVA and 2,365 FTE job years over its duration**.
- **The Railway Engineering Workshops (REW)** – which have been a centre of excellence for rail maintenance and engineering since 1922. Supplier spend data was analysed for the past two financial years and allowed us to uncover that **£80m was spent on 251 suppliers in the UK, 96% of which were outside London**. The REW programme generated **£65m in GVA and supported 930 highly skilled FTE job years over the past two years**.

The economic contribution from major capital projects

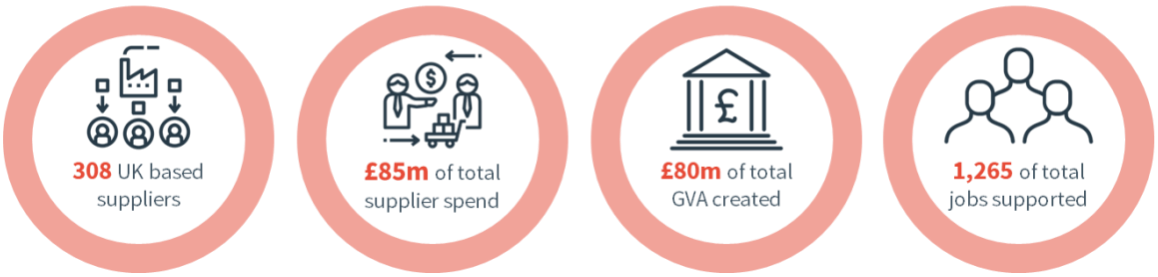


Source: Hatch, 2024

The economic contribution of Places for London

ix. Places for London, TfL's wholly own subsidiary managing its real estate assets and development occupies a chunk of TfL's total supplier spend. In 2023/24, Places for London spent **£85m in the UK with 308 suppliers**, of which **almost half (49%) were SMEs**. The total economic impact generated through this supplier spending amounted to **£80m in Gross Value Added (GVA) and 1,265 jobs across the UK**.

The economic contribution from Tfl's supply chain expenditure on Places for London activities



Source: Hatch, 2024

1. Introduction

1.1 Transport for London (TfL) spends multiple billions annually on a range of goods and services to support its capital and revenue activities. These significant expenditure injections into the UK economy support economic activity across the country.

1.2 TfL has commissioned Hatch to:

- **assess the economic contribution generated through its expenditure with suppliers** during the 2023/24 financial year. This report documents the scale and geographic spread of the economic contribution of TfL's supply chain expenditure at a national, sub-national and local level.
- showcase the economic contribution of TfL's capital investment activities through **case studies of three major capital investment projects**.
- **assess the economic contribution of Places for London**, TfL's wholly owned commercial property company. The analysis covers the economic contribution resulting from TfL's supply chain expenditure on supporting the activities of the company.

1.3 It is structured as follows:

- **section 2** outlines the key definitions and methodology for the economic impact assessment.
- **section 3** provides economic impact estimates at a national, sub-national and local level.
- **section 4** demonstrates the economic impact supported through three major capital investment projects undertaken by TfL.
- **section 5** considers the economic impact supported through Places for London.

2. Methodology

2.1 This section provides definitions for the key concepts used in the economic impact assessment.

Economic contribution of TfL supply chain expenditure

Definitions

2.2 TfL's expenditure with its suppliers contribute to the economy through three channels:

- **Direct effects:** stem from the economic activity supported directly within TfL's Tier 1 suppliers.
- **Indirect effects:** stem from the economic activity supported through the rest of the supply chain.
- **Induced effects:** stem from the economic activity supported through the spending of employees working throughout the supply chain.

2.3 Together, these effects represent the total economic contribution from this expenditure. Importantly, the economic contribution from these effects is spread across the UK, as TfL purchases from a wide range of suppliers. As such, the economic impact assessment has been carried out at:

- the level of **the UK**.
- **a sub-national level**, including the English regions, as well as Scotland, Wales and Northern Ireland.
- **a local level,** including local authorities and constituencies.

2.4 We measure these economic impacts in terms of:

- **Jobs supported** – as Full Time Equivalents (FTEs), to convert Full and Part Time jobs into a common currency. These represent a full-time job for the year in question in the main data. The capital project case studies refer to *FTE job years*, as the employment estimate reflects the number of FTE jobs supported over the finite duration of each project.
- **Gross Value Added (GVA)** – the key measure of the value of economic activity of a firm, sector or region.

2.5 **Note that economic contribution is not measured in terms of turnover/sales/gross output.** This measure accounts only for the value of sales and does not take into account the netting off of the value of bought in inputs into the production process. If we were to sum the value of turnover across the economy, we would be double counting, since one firm's income is another's expenditure. Instead, we sum the *value-added* components. This is the portion of turnover that is available for compensating employees in the form of wages, salaries and on-costs, and employers in the form of operating profits. GVA is, on average, roughly 50% of gross output across the economy.

Methodology

2.6 TfL's economic contribution has been estimated using Hatch's input-output model for the UK and the regions. The basis of our assessment is a base data extract from TfL's procurement database in 2023/24, which has been augmented with evidence on the location of activity (rather than the invoice address) of large suppliers and evidence gathered by TfL on bus manufacturing expenditure with Tier 2 suppliers.

2.7 The remainder of the section provides a description of the data available and how it has been used in our analysis.

Base Data

2.8 In addition to the amount of expenditure incurred with each supplier, the data extract from TfL's procurement database assigns:

- the location of a supplier to a geography based on its invoice address (i.e. its HQ location linked to Companies House). The geographic allocation of spend, and hence resulting economic contribution, has been primarily informed by this data, except where it has been augmented as described below.
- the TfL expenditure taxonomy of a supplier, which we have used to allocate expenditure to Standard Industrial Classification (SIC)[2] codes for the purposes of our model.
- whether a supplier is an SME[3] or a large corporate. This data has been used to estimate the percentage of SME suppliers relative to all suppliers in an area.
- whether TfL supply chain expenditure relates to Places for London activities. To demonstrate the supply chain driven economic contribution of Places for London, Chapter 5 isolates the economic contribution associated with this expenditure from the total economic contribution of the TfL.

Location of activities of large suppliers

2.9 TfL collected information on the site(s) where the spend of its large suppliers by value is being channelled. This exercise provided evidence on **27 large suppliers, which collectively accounted for £1.7bn of spend**, representing over a quarter (27%) of the total supplier spend in 2023/24.

2.10 We augmented the base dataset by extracting these large suppliers for whom site specific information has been provided, and adjusting the location of the relevant expenditure. This process was designed as a bottom-up sense check, because the location of activities may be different from the HQ address available from invoice-based information.

Bus Manufacturing Spend with Tier 2 Suppliers

2.11 Bus operators (Tier 1 TfL suppliers) commission manufacturers (Tier 2 TfL suppliers) to build buses according to TfL specifications. **TfL has carried out an exercise that maps the amount that their bus operators spent with bus manufacturers in 2023/24**.

[2] A five digit code that classifies a business's main area of economic activity.

[3] Defined as a business with fewer than 250 employees and either a turnover total of less than or equal to £45m, or a balance sheet total of less than or equal to £40m.

2.12 The mapping exercise suggests that bus operators (captured in TfL's Tier 1 supply chain) spent approximately **£140m on the production of buses meeting TfL specifications with the commissioned manufacturers**. This amount was spread across sites in Northern Ireland (38%, Yorkshire and the Humber (35%) and Scotland (27%).

2.13 The evidence collected through this mapping exercise have been incorporated into our economic impact model as follows:

- Direct effects continue to reflect the GVA and employment directly supported by TfL's spending with its Tier 1 suppliers (the bus operators).
- Modelling of indirect and induced effects sought to explicitly include the data collected on spend with Tier 2 suppliers (the bus manufacturers), and as such reflects the location and sector of their activities. The modelling of indirect and induced effects associated with the spend of bus operators included in the bus manufacturing mapping exercise has been appropriately augmented to eliminate double counting.

Estimating Local Impacts

2.14 Local results were derived by apportioning regional results to local authority and constituency areas using suitable factors. These factors were based on the local authority and constituency breakdown of TfL supplier expenditure suggested by the data provided by TfL.

2.15 This approach implicitly assumes that local economies are not significantly different from those of their respective regions, which may not hold true for some small areas. Hence, at lower geographic subdivisions, there is a greater margin of error associated with economic impact estimates. This should be borne in mind when interpreting results at the local authority and constituency level.

Economic contribution of Places for London

2.16 Places for London is TfL's wholly owned commercial property company. Places for London's economic contribution is two-fold:

- TfL spends money with suppliers to support the activities of Places for London. As discussed above, **the supply chain driven contribution of Places for London is isolated from the total economic contribution of TfL**, based on information in the base data extract provided by TfL.
- **The economic contribution facilitated by the Places for London property portfolio**, resulting from the activities of its tenants. The study has not considered the impact generated through this channel, as data availability constraints mean that it cannot be robustly quantified at this stage.

3. The economic contribution of TfL supply chain expenditure

3.1 The section considers the economic contribution that TfL's supply chain expenditure[4] supports at a national, sub-national and local level.

UK Impacts

3.2 **In 2023/24, over £9 in every £10 (95%)** of TfL supplier spend occurred on domestically based suppliers. TfL spent **c.£6bn in the UK with 3,172 suppliers**, of which **62% were SMEs**. The total economic contribution generated through this supplier spending (including direct, indirect and induced effects) amounted to **£5.3bn in Gross Value Added (GVA) and 92,580 jobs across the UK**.

3.3 Notably, the UK level findings suggest that:

- the scale of employment supported is **larger than the entire population of East Cambridgeshire**[5], and **more people than are employed by Lloyds Banking Group**[6].
- **every £1m of TfL spend supported around 16 jobs**.
- **every direct job** supported by TfL spend with suppliers **led to around an additional job** being supported in the wider economy, through those suppliers' expenditure and that of their employees.

Regional Impacts

3.4 TfL's expenditure supports suppliers, both large and small, spread across UK regions:

- **Close to two thirds (63%) of TfL suppliers** were based **outside of London**. There was a large concentration of suppliers in the South East and East of England.
- **62% of the suppliers outside of London were SME businesses**. Regions with the highest of proportion of SMEs were Northern Ireland (75%), East of England (67%) and Wales (66%).

3.5 **A little less than a third of TfL spend and resulting economic contribution occurs outside of London** (i.e. c.21,500 jobs). As examples, this includes 2,200 FTE jobs in the West Midlands and 1,890 FTE jobs in the Yorkshire and the Humber region.

[4] Including supply chain expenditure pertaining to TfL's wholly owned commercial property company, Places for London

[5] Source: ONS, Midyear Population Estimates.

[6] Annual report (lloydsbankinggroup.com)

Table 3.1 Regional Economic Contribution Estimates

	Total Supplier Expenditure (£m)	Total Number of Suppliers	% of which SME suppliers	Total Contribution		Direct Contribution		Indirect Contribution		Induced Contribution	
				GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs
London	£4,210	1,177	65%	£3,700	71,160	£1,820	40,660	£1,180	23,000	£690	7,500
South East	£480	572	60%	£470	6,170	£260	3,230	£120	1,840	£100	1,090
South West	£390	136	61%	£300	3,150	£130	1,310	£120	1,240	£60	600
East of England	£190	358	67%	£170	2,580	£80	1,300	£50	870	£40	410
North West	£170	200	57%	£160	1,980	£70	780	£60	800	£40	400
Yorkshire & the Humber	£110	151	52%	£140	1,890	£50	820	£50	700	£30	370
West Midlands	£180	235	58%	£130	2,200	£70	1,120	£40	730	£20	340
East Midlands	£130	175	58%	£120	1,690	£60	880	£30	490	£30	310
North East	£50	52	48%	£50	670	£30	390	£10	150	£10	130
Northern Ireland	<£5	8	75%	£30	410	£0	10	£30	320	£10	80
Scotland	£10	47	55%	£30	390	£0	60	£20	260	£10	80
Wales	£20	61	66%	£20	290	£10	170	£0	70	£0	50
United Kingdom	**£5,950**	**3,172**	**62%**	**£5,330**	**92,580**	**£2,590**	**50,750**	**£1,700**	**30,470**	**£1,040**	**11,350**

Note: Supplier expenditure and GVA figures are rounded to the nearest £10m. Employment figures are rounded to the nearest ten. Figures may not add up due to rounding.

Local Impacts

3.6 Table 3.2 shows the ten local authorities outside London that experienced the largest economic effects as a result of TfL supplier expenditure inflows in 2023/24. These are spread across multiple regions of England.

Table 3.2 Top 10 Local Authority Districts for TfL expenditure outside London

Local Authority	Region	Total Supplier Expenditure (£m)	Total No of Suppliers	% of which SME suppliers	Total Impact	
					GVA (£m)	Jobs
Exeter	South West	£230	6	50%	£180	1,920
Reading	South East	£150	21	48%	£150	1,980
Reigate and Banstead	South East	£130	25	48%	£130	1,710
Manchester	North West	£110	27	56%	£110	1,340
Derby	East Midlands	£80	22	55%	£80	1,080
Rugby	West Midlands	£80	9	11%	£60	1,010
Wiltshire	South West	£80	27	59%	£60	620
Crawley	South East	£80	7	57%	£60	710
East Riding of Yorkshire	Yorkshire and The Humber	£40	8	56%	£40	530
Bournemouth, Christchurch and Poole	South West	£50	9	50%	£40	400

Note: [1] Supplier expenditure and GVA figures are rounded to the nearest £10m. Employment figures are rounded to the nearest ten. Figures may not add up due to rounding. [2] Note that there is a greater margin of error associated with economic impact estimates at smaller geographic subdivisions (see Chapter 2). To be conservative and avoid spurious findings, economic impact estimates were redacted in some cases. These are indicated as "n/a" in the table.

3.7 Table 3.3 shows the ten parliamentary constituencies outside London that experienced the largest economic impact as a result of TfL supplier expenditure inflows in 2023/24.

Table 3.3 Top 10 Parliamentary Constituency (2024 Boundaries) outside of London

Constituency	Region	Total Supplier Expenditure (£m)	Total No of Suppliers	% of which SME suppliers	Total Impact	
					GVA (£m)	Jobs
Exmouth and Exeter East	South West	£230	2	50%	£180	1,920
Earley and Woodley	South East	£150	16	94%	£150	1,980
Dorking and Horley	South East	£120	9	100%	£120	1,570
Manchester Central	North West	£110	18	89%	£110	1,330
Derby South	East Midlands	£80	14	100%	£70	1,000
Rugby	West Midlands	£80	8	100%	£60	1,010
Crawley	South East	£80	7	86%	£60	710
Chippenham	South West	£50	10	80%	£40	450
Goole and Pocklington	Yorkshire and The Humber	£40	5	80%	£40	520
Darlington	North East	£40	5	100%	£40	490

Note: [1] Supplier expenditure and GVA figures are rounded to the nearest £10m. Employment figures are rounded to the nearest ten. Figures may not add up due to rounding. [2] Note that there is a greater margin of error associated with economic impact estimates at smaller geographic subdivisions (see Chapter 2). To be conservative and avoid spurious findings, economic impact estimates were redacted in some cases. These are indicated as “n/a” in the table.

Case study: TfL Supply Chain Expenditure in Emerging Sectors

The Digital and Green Economy sectors are among the five priority sectors identified in London's Industrial strategy[7]. Transport for London (TfL) is at the forefront of integrating cutting-edge technology and digital solutions to enhance the efficiency, safety, and sustainability of London's transport network. Moreover, TfL is dedicated to reducing carbon emissions and promoting sustainability across its operations. Table 1 highlights some of TfL's notable activities in these domains.

Table 1 TfL's commitment to innovation and the net zero transition

Commitment to digital innovation	Commitment to net-zero transition
• **Contactless Payment Systems:** TfL revolutionized ticketing with the introduction of the Oyster card and later, contactless payment systems. These advancements have streamlined passenger flow and reduced operational costs. • **Open Innovation:** TfL collaborates with market innovators globally through its 'Tap In for Innovation' process, addressing complex challenges and improving customer experiences[8]. • **Smart Road Technology:** Initiatives like RoadLab leverage AI and real-time data to manage roadworks and incidents more effectively, reducing congestion and emissions[9]. • **Digital Transformation:** TfL's partnership with Tata Consultancy Services (TCS) aims to digitally transform taxi and private hire licensing, ensuring continuous improvements and innovation.	• **Green Infrastructure:** TfL is investing in solar panels, LED lighting, and heat pumps across its estate to reduce reliance on fossil fuels and lower carbon emissions. • **Zero-Carbon Railway:** By 2030, TfL aims to meet all electricity requirements for the Underground through zero-carbon sources, significantly contributing to London's climate goals. • **Public Sector Decarbonisation Scheme:** TfL has secured substantial funding to implement carbon-reducing measures at multiple sites, including head offices and depots, furthering our commitment to a sustainable future[10].

The sectoral breakdown of TfL's supply chain in 2023/24 has been examined to gauge its engagement with companies in the digital innovation and green economy sectors. Appendix A outlines the methodological approach followed.

[7] London's Industrial strategy

[8] Open innovation - Transport for London (tfl.gov.uk)

[9] Innovative new technology set to make roads in London safer and smarter - Transport for London (tfl.gov.uk)

[10] Transport for London to push ahead with green heating and energy efficiency in head offices and depots - Transport for London (tfl.gov.uk)

Low Carbon Economy Sector

In 2023/24, TfL spent **£809m with 961 UK suppliers operating in the low carbon economy sectors**. This represents 14% of its total supply chain expenditure and 30% of all the suppliers it transacted with. **61% of TfL suppliers operating in the low carbon economy sector were SMEs**, which is slightly above the overall TfL supply chain pattern.

Around two thirds **(66%) of suppliers** were based **outside of London**. Significant sums were spent in the South West (£298m), the South East (£49m), the East of England (£35m). The low-carbon supply chain includes engineering consultancies, power companies, and industrials vested in decarbonising the supply chain.

Table 2 TfL Supply Chain Analysis: Low Carbon Economy Sector

	Expenditure with suppliers in the low carbon economy sector		Number of suppliers in the low carbon economy sector		% of SME suppliers	
	£m	As a % of total supplier expenditure	No.	As a % of total number of suppliers	Supplier in the low carbon economy sectors	All TfL suppliers
London	£330	8%	328	28%	64%	65%
South West	£298	76%	36	27%	59%	61%
South East	£49	10%	181	32%	60%	60%
East of England	£35	18%	104	29%	63%	67%
West Midlands	£24	13%	80	34%	56%	58%
Yorkshire & the Humber	£24	22%	56	37%	55%	52%
East Midlands	£19	15%	62	35%	58%	58%
Wales	£12	60%	15	25%	53%	66%
North West	£10	6%	68	34%	62%	57%
North East	£5	10%	14	27%	36%	48%
Scotland	£3	30%	12	26%	67%	55%
Northern Ireland	£1	54%	3	38%	100%	75%
United Kingdom	**£809**	**14%**	**959**	**30%**	**61%**	**53%**

Source: Hatch calculations based on Transport for London data, 2024. Supplier expenditure figures are rounded to the nearest £1m. Figures may not add up due to rounding.

Technology and Digital Sector

In 2023/24, TfL spent **£580m with 279 UK suppliers operating in the technology and digital sector**. This represents 10% of its total supply chain expenditure and 9% of all the suppliers it transacted with. 59% of TfL suppliers operating in the technology and digital sector were SMEs, which exceeds the share observed across TfL's supply chain.

More than two thirds (68%) of suppliers were based outside of London. Significant sums were spent in the South East (£132m) and the South West (£115m). Much was spent on specialized rail systems suppliers, and technologies linked to TfL's infrastructure.

Table 3 TfL Supply Chain Analysis: Technology and Digital Sector

	Expenditure with suppliers in the tech and digital sector		Number of suppliers in the tech and digital sector		% of SME suppliers	
	£m	As a % of total supplier expenditure	No.	As a % of total number of suppliers	Supplier in the low carbon economy sectors	All TfL suppliers
London	£263	6%	90	8%	54%	65%
South East	£132	28%	60	10%	52%	60%
South West	£115	29%	16	12%	69%	61%
Yorkshire & The Humber	£21	19%	12	8%	50%	52%
West Midlands	£19	11%	25	11%	76%	58%
East Midlands	£17	13%	13	7%	69%	58%
East of England	£9	5%	31	9%	68%	67%
North East	£3	6%	7	13%	50%	48%
North West	£2	1%	13	7%	46%	57%
Wales	£0	0%	6	10%	50%	66%
Scotland	£0	0%	4	9%	75%	55%
Northern Ireland	£0	0%	2	25%	50%	75%
United Kingdom	**£580**	**10%**	**279**	**9%**	**59%**	**53%**

Source: Hatch calculations based on Transport for London data, 2024. Supplier expenditure figures are rounded to the nearest £1m. Figures may not add up due to rounding.

Case study: Apprenticeships supported through TfL supply chain expenditure

The study considered the total number of apprenticeships supported through Transport for London's expenditure with its Tier 1 suppliers in 2023/24. Appendix B provide a brief outline of the methodology followed.

It is estimated that **1,340 apprentices were employed across the UK** within direct suppliers to TfL in 2023/24. This is equivalent to about 3% of the direct full-time equivalent (FTE) employment supported through TfL expenditure in the same year. This makes it comparable to the national incidence of apprenticeships relative to FTE employment (3%). The scale of apprenticeships supported is reflective of TfL's propensity to work with suppliers in sectors that are more likely to employ apprentices. Examples include the construction and, to a lesser extent, the transport sectors.

Regionally, the number of apprenticeships created follows a similar pattern to the overarching analysis:

Table 1 Apprenticeships Supported along the Transport for London supply chain

Region	Number of apprenticeships
London	1075
South East	85
West Midlands	40
East of England	40
South West	30
North West	25
East Midlands	20
Yorkshire & the Humber	15
North East	5
Wales	5
Scotland	0
Northern Ireland	0
United Kingdom	**1,340**

Source: Hatch calculations based on Transport for London data, 2024. Apprenticeship figures are rounded to the nearest 5. Figures may not add up due to rounding.

4. The economic impact of TfL capital investment projects

4.1 TfL's capital investment activities are a key lever of economic impact. This section focuses on demonstrating the economic contribution supported through three of TfL's major capital investment projects:

- Bank Station Capacity Upgrade
- Barking Riverside Extension
- Railway Engineering Workshop Programme (REW) – 2022-2024.

Bank Station Capacity Upgrade

Background

4.2 Bank station is a key interchange served by six lines (Northern, Central, Waterloo & City, and at the Monument end of the same station complex, the District & Circle) as well as the Docklands Light Railway, for which Bank is the main central London terminus. The Bank Station Capacity Upgrade (BSCU) project was initiated in response to a significant increase in passenger demand and congestion at Bank and Monument stations, which are pivotal access points into London and rank among the most intricate underground railway stations globally.

4.3 The project's inception was driven by the need to augment the station's capacity and enhance the overall passenger experience. This was to be achieved through the construction of new station entrances, lifts, escalators, walkways, and platforms, all aimed at facilitating better movement and accessibility within the station.

Aims & Objectives

4.4 The main objectives of the BSCU project were:

- To increase the station capacity by 40% to accommodate more passengers.
- To reduce crowding and improve the quality of access, interchange, and ambience.
- To support the economic growth of the city by providing better transportation infrastructure.

What was delivered

4.5 The BSCU project delivered several key improvements, including:

- Construction of a new station entrance on Cannon Street at the Nicholas Lane junction, providing direct access to Northern line platforms, with lifts and escalator connections.
- A new 570m underground southbound tunnel to increase circulation space and provide access to the Northern line.
- New platforms, escalators (27), ticket hall on King William Street, and passenger lifts.

4.6 As part of a broader effort to make London's transport network more inclusive and user-friendly for everyone, accessibility was one of the main outcomes to be realized through the BCSU project. This is in line with London's Supplementary Planning Guidance (SPG) on Accessible London, which aims to make the city accessible to all. Key accessibility features included:

- **Step-free access** including new lifts providing step-free access to the Northern line and improved step-free access to the DLR. This is part of a broader investment programme championed by the mayor aimed at boosting step-free access across the London Underground network.
- Additional **Escalators and Moving Walkways** facilitating easier movement within the station.
- Overall **Increased Capacity** (+40%), reducing congestion and making it easier for all passengers to navigate.
- New **interchange routes** between the Northern line and DLR, and between the Northern and Central lines.

Timeline

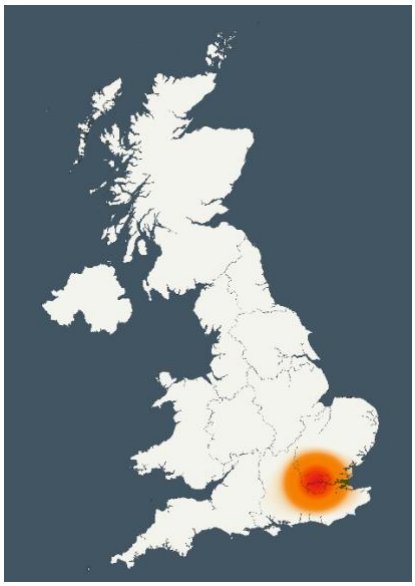
- December 2015: Granted Transport & Works Act Order (TWAO) for the project.
- April 2016: Construction begins.
- October 2020: Tunnelling completed with over 200,000t of material excavated.
- October 2022: Construction of passenger routes between the Northern line, DLR, and Central line was completed
- February 2023: Project completed, increasing the station's capacity by 40%.

Impact

4.7 Over its lifetime, the BSCU project generated £520m in spend in the UK spread across 661 suppliers, with about a third (33%) of it being spent outside of London. A significant amount of money was also spent in the East of England (£90m) and the South East (£45m).

4.8 Construction activities form the largest chunk of spend, representing £215m (42%) out of the total £520m, followed by expenditure relating to the "Buying and selling, renting and operating of own or leased real estate" (19%). The three following sectors on the podium represent project services' derived sectors.

Figure 1.1 BSCU Supplier Spend Heatmap



Source: Hatch Analysis based on TfL data, 2024

Table 1.1 Top Five Sectors of Tfl's Supplier Expenditure For The BSCU

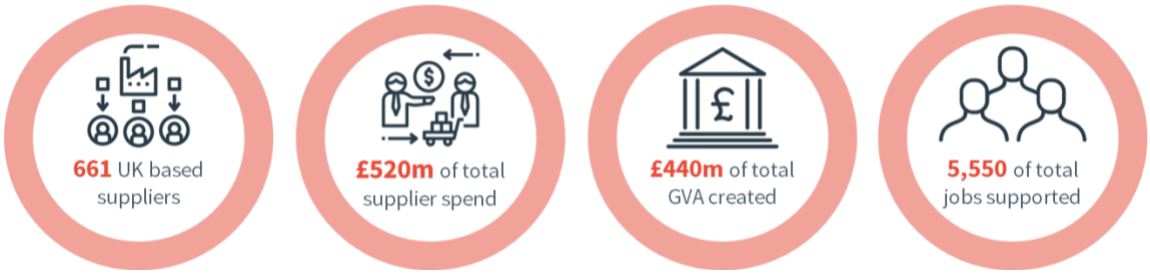
Spend Sector	Spend %
Construction	42%
Buying and selling, renting and operating of own or leased real estate, excluding imputed rent	19%
Architectural And Engineering Activities; Technical Testing and Analysis	8%
Activities Of Head Offices; Management Consultancy Activities	5%
Office Administrative, Office Support and Other Business Support Activities	4%

Source: Hatch Analysis based on TfL data, 2024.

4.9 The total economic impact (including direct, indirect and induced impacts) supported through TfL expenditure over the lifetime of the BSCU project amounted to **£440m in GVA and 5,550 FTE job years**. To put this into context:

- Every £1m of expended on the BSU project supported 11 FTE jobs across the UK.
- On average, the BSU project supported £60m in GVA and 775 FTE jobs on an annual basis[11].

Figure 1.2 Total Economic Impact of the BSCU project

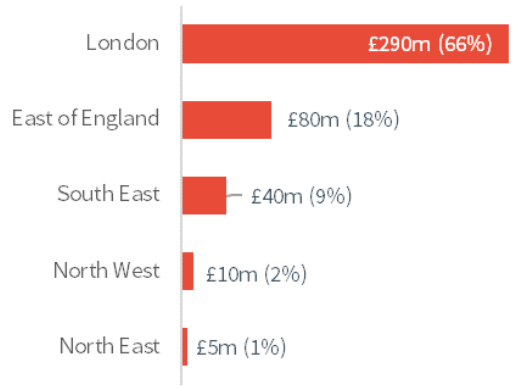


Source: Hatch Analysis based on TfL data, 2024

[11] Based on an estimated project duration of 86 months (or ~7.17 years).

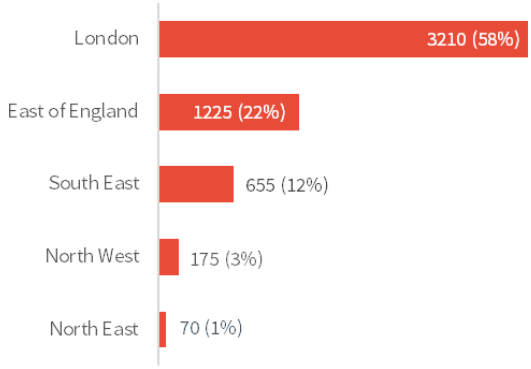
4.10 Figure 1.3 and Figure 1.4 showcase the top regions benefiting from the BSCU project in terms of GVA and jobs supported. As discussed previously, the East Midlands figure is dominated by one particularly high value contract.

Figure 1.3 Top Five Regions in GVA impact



Source: Hatch Analysis based on TfL data, 2024

Figure 1.4 Top Five Regions in jobs supported



Source: Hatch Analysis based on TfL data, 2024

Barking Riverside Extension

Background

4.11 The Barking Riverside extension is a significant infrastructure project aimed at enhancing connectivity in East London. Barking Riverside is a mixed-use development located in the London Borough of Barking and Dagenham, built on land formerly occupied by Barking Power Station. The development spans 440 acres and has planning permission for 10,800 homes, with a minimum of 35% affordable housing. As of May 2024, 3,500 homes have been delivered or are under construction, with 44% of them being affordable[12]. The extension of the London Overground to Barking Riverside was essential to support the completion of this development and provide adequate transport links.

Aims & Objectives

4.12 The primary aims and objectives of the Barking Riverside extension were to:

- Improve transport connectivity for the residents of Barking Riverside, enabling quicker and easier journeys to central London and other parts of the city.
- Support the growth and development of the Barking Riverside area by providing essential transport infrastructure.
- Promote sustainable travel options, including walking and cycling, by integrating these modes of transport into the new station's design.
- Enhance accessibility by ensuring the new station is fully step-free, making it easier for people with disabilities and those with mobility challenges to use the service.

[12] Referral of a proposed subsidy to Barking Riverside Limited by Homes England - GOV.UK (www.gov.uk)

What was delivered

4.13 The Barking Riverside extension project successfully delivered several key components:

- A new elevated terminus station at Barking Riverside, which connects passengers to central London in as little as 22 minutes and to Barking in 7 minutes.
- A 1.5-kilometre viaduct and new railway line, extending the Gospel Oak to Barking line to the new station.
- Integration of sustainable travel options, including a secure cycle store and improved walking and cycling routes.
- Collaboration with local stakeholders to support community programs and initiatives, including work placement and experience days, apprenticeships, and community outreach.

Timeline

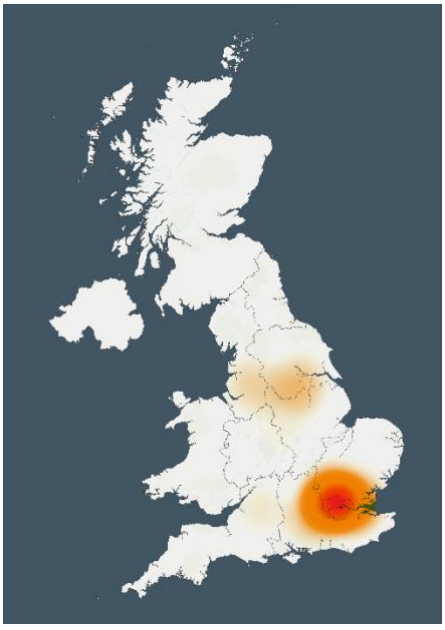
- August 2017: Secretary of State granted the Transport and Works Act Order.
- December 2018: Morgan Sindall Infrastructure and VolkerFitzpatrick were appointed as contractors to deliver the project.
- February 2019: Start of major construction works.
- July 2022: Opening of the new Barking Riverside station, ahead of the original schedule.

Impact

4.14 The total spent in the UK for the Barking Riverside project was £195M on 327 different suppliers, almost two-thirds (65%) of which was outside the capital. The largest regions outside London benefiting from the project included the East of England (£60m), the South East (£20m), the North West (£15m) and Yorkshire and the Humber (£15m).

4.15 Construction activities form the biggest spend sector, accounting for £115m of the total spend, with notable sums being spent in London (£40m) and the East of England (£35m). Manufacturing forms the second biggest spend sector, with Manufacture of other transport

Figure 1.5 Barking Riverside Supplier Spend Heatmap



Source: Hatch Analysis based on TfL data, 2024

equipment[13] and Manufacture of fabricated metal products accounting for £15m each. All the Manufacture of other transport equipment category was spent in London while the bulk of the Manufacture of fabricated metal products was spent in the East of England. Project services of the likes of Architectural and Engineering Activities; Technical Testing and Analysis in addition to Office Administrative, Office Support and Other Business Support Activities follow with £10M being spent for each.

Table 1.2 Top Five Sectors of Tfl's Supplier Expenditure For The Bank Station Upgrade Project

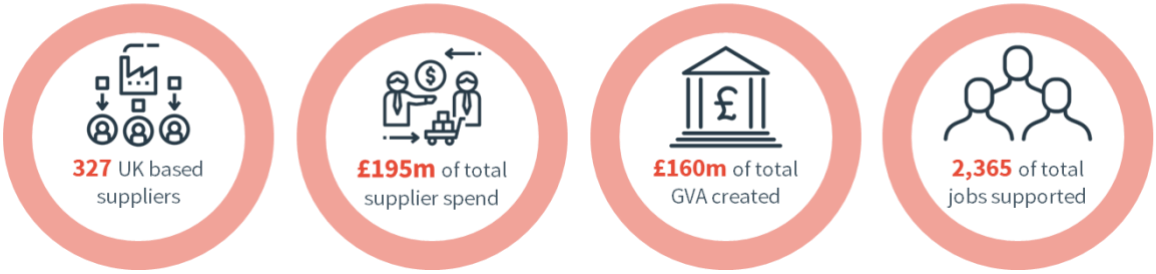
Spend Sector	Spend %
Construction	58%
Manufacture of other transport equipment - 30.2/4/9	9%
Manufacture of fabricated metal products, excluding weapons & ammunition - 25.1-3/5-9	6%
Architectural And Engineering Activities; Technical Testing and Analysis	6%
Office Administrative, Office Support and Other Business Support Activities	4%

Source: Hatch Analysis based on TfL data, 2024.

4.16 The total economic impact (including direct, indirect and induced impacts) supported through TfL expenditure over the lifetime of the BSCU project amounted to **£160m in GVA and 2,365 FTE job years**. To put this into context:

- Every £1m expended on the Barking Riverside project supported 12 FTE jobs across the UK.
- On average, the Barking Riverside project supported £40m in GVA and 595 FTE jobs on an annual basis.

Figure 1.6 Total Economic Impact of the Barking Riverside project

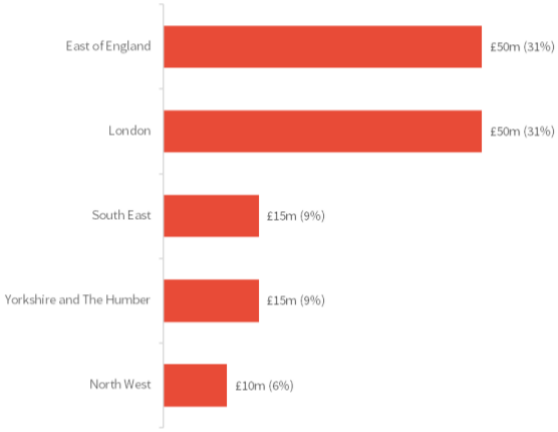


Source: Hatch Analysis based on TfL data, 2024

[13] This typically covers the manufacture of railroad rolling stock and locomotives, air and spacecraft and the manufacture of parts thereof.

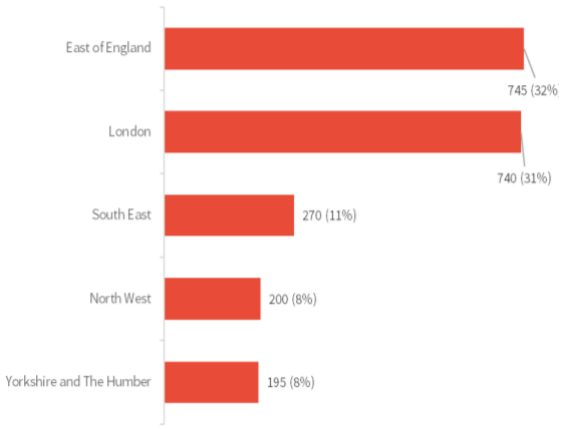
4.17 Figure 1.7 and Figure 1.8 showcase the top regions benefiting from the Barking Riverside project in terms of GVA and jobs supported.

Figure 1.7 Top Five Regions in GVA impact



Source: Hatch Analysis based on TfL data, 2024

Figure 1.8 Top Five Regions in jobs supported



Source: Hatch Analysis based on TfL data, 2024

Railway Engineering Workshop Programme (REW) – 2022-2024

Background

4.18 The London Underground Rail Engineering Workshops are a crucial part of Transport for London's (TfL) efforts to maintain and enhance the performance and safety of the tube network. Established in 1922 and located in Acton, West London, these workshops have been pivotal in every major overhaul on the London Underground. Known for their operational excellence and skilled engineering teams, the workshops are a centre of excellence for rail maintenance.

Aims & Objectives

4.19 The primary aims and objectives of the London Underground Rail Engineering Workshops are to:

- Ensure the ongoing performance and safety of the tube network by maintaining and upgrading assets.
- Adapt to technological advancements in trains and operating infrastructure to keep assets operating at peak performance.
- Promote sustainable travel options and enhance accessibility for all passengers.
- Equip apprentices with the skills and experience needed for a successful career in rail engineering.

What was delivered

4.20 The Workshops are involved in a wide range of activities crucial for the upkeep and enhancement of the tube network:

- Train Overhauls and Refurbishments: the workshops are responsible for the refurbishment and overhaul of the Bakerloo, Central, Circle, District, Hammersmith and City, Jubilee, Metropolitan, Piccadilly, and Victoria lines' rolling stock, which includes maintaining and repairing brakes, bogies, wheels, train motors and compressors:
  - **Mechanical Overhauls**: Engineers perform comprehensive mechanical overhauls, including the replacement of worn-out components such as wheels, axles, and suspension systems. This ensures that trains run smoothly and safely. The workshops are notably responsible for maintaining the Rail Adhesion Trains (RATs), devices introduced in 1962 which help train wheels grip the tracks during braking.
  - **Electrical and Electronic Systems**: The workshops handle the maintenance and upgrading of electrical and electronic systems, including traction motors, control systems, and onboard diagnostics. This work is essential for the reliability and efficiency of the trains.
- Train Modification Unit:
  - **Upgrades and Modifications:** The Train Modification Unit focuses on implementing upgrades and modifications to existing train fleets. This includes installing new technologies, enhancing passenger comfort, and improving energy

efficiency. One of these initiatives includes assembling small parts including devices called “shoegears” which pick up electrical energy from the conductor rail, and improve energetic efficiency.

  - **Safety Enhancements:** Engineers work on integrating advanced safety features, such as improved braking systems and automated control systems, to enhance the overall safety of the tube network.

- Infrastructure Maintenance:
  - **Track and Signal Maintenance:** The workshops are involved in the maintenance of tracks and signalling systems. This includes regular inspections, repairs, and upgrades to ensure the smooth operation of the tube network.
  - **Station Equipment:** Maintenance of station equipment, such as escalators, lifts, and ticketing systems, is also a key responsibility. This work ensures that stations remain functional and accessible to all passengers.
- Sustainability Initiatives:
  - **Energy Efficiency Projects:** The workshops are engaged in projects aimed at reducing energy consumption and promoting sustainability. This includes retrofitting trains with energy-efficient lighting and HVAC systems.
  - **Recycling and Waste Management:** Engineers implement recycling and waste management practices to minimise the environmental impact of workshop activities.

4.21 In addition, the REW workshops are very involved in the community and generate immense social value for its stakeholders. The following initiatives are currently underway:

- A comprehensive 3.5-year development program for apprentices, covering various specialized engineering sections and departments, including electrical, electronic, mechanical, and the Train Modification Unit.
- Collaboration with local stakeholders to support community programs and initiatives, including work placement and experience days, apprenticeships, and community outreach.

Timeline

- 1922: The Railway Engineering Workshop was established.
- Ongoing: The workshops have been involved in every major overhaul on the London Underground since their inception.
- Present: The workshops continue to adapt to technological advancements and maintain the performance and safety of the tube network.

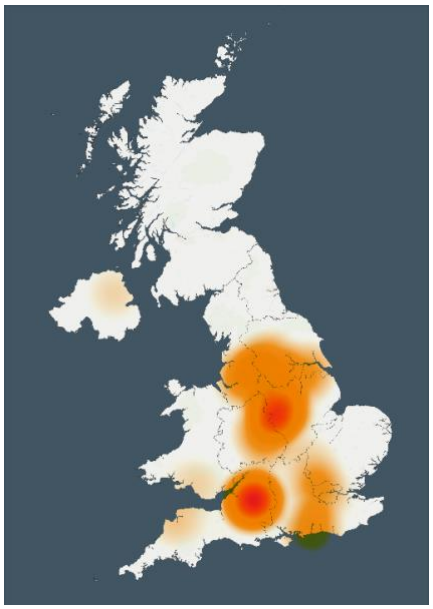
Impact

4.22 Due to the ongoing nature of this case study, the supplier spend data provided spreads over the past 2 years of the programme. During these 2 years, **£80m was spent on 251 suppliers** based in the UK supporting a total economic impact (incl. direct, indirect and induced effects) of £65m in GVA and 930 FTE jobs.

4.23 It stands out that 96% of the total spent on suppliers was spent outside of London, with the lion's share of the spend going to the South West (£20m), the East Midlands (£15m) and Yorkshire and the Humber (£10m). £5m was spent in London, the North West, the South East and West Midlands, respectively.

4.24 The REW programme spent upwards of £10m with 93 UK-based SME suppliers. A significant chunk of that money was spent in the West Midlands (£5m) and the North West (£2m) which differs from the general trend from the programme.

Figure 1.9 Barking Riverside Supplier Spend Heatmap



Source: Hatch Analysis based on TfL data, 2024

4.25 The largest sectors in receipt of spend were the Manufacture of other transport equipment (£20m)[14], Repair and installation of machinery and equipment[15] (£20m), and manufacturing, either of Machinery And Equipment (£10m), of Rubber and plastic products (£5m), or of other products (£5m).

Table 1.3 Top Five Sectors of Tfl's Supplier Expenditure For REW Programme

Spend Sector	Spend %
Manufacture of other transport equipment - 30.2/4/9	24%
Rest of repair; Installation - 33.11-14/17/19/20	23%
Manufacture Of Machinery And Equipment N.E.C.	15%
Manufacture Of Rubber And Plastic Products	8%
Other Manufacturing	6%

Source: Hatch Analysis based on TfL data, 2024.

4.26 The total economic impact (including direct, indirect and induced impacts) supported through TfL expenditure over the lifetime of the REW programme amounted to **£65m in GVA and 930 FTE job years**. To put this into context:

- Every £1m of expended on the REW project supported 12 FTE jobs across the UK.

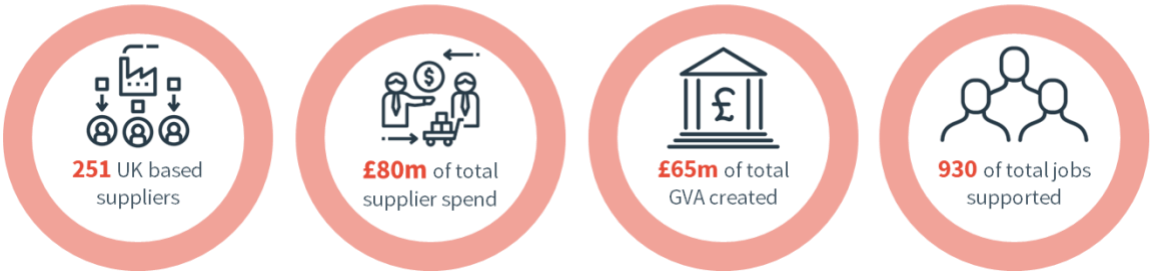
[14] This typically covers the manufacture of railroad rolling stock and locomotives, air and spacecraft and the manufacture of parts thereof.

[15] This includes the specialised repair of goods produced in the manufacturing sector with the aim to restore machinery, equipment and other products to working order.

- On average, the REW project supported £35m in GVA and 465 FTE jobs on an annual basis.

4.27 The specialist nature of REW activities, which have gained it a reputation as a centre of excellence for rail engineering, means that it attracts talent with a pre-requite level of expertise and experience, and thereby supports highly skilled employment.

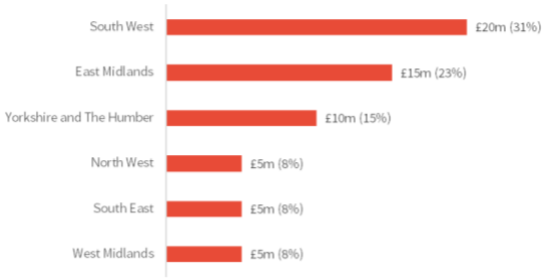
Figure 1.10 Total Economic Impact of the Barking Riverside project



Source: Hatch Analysis based on TfL data, 2024

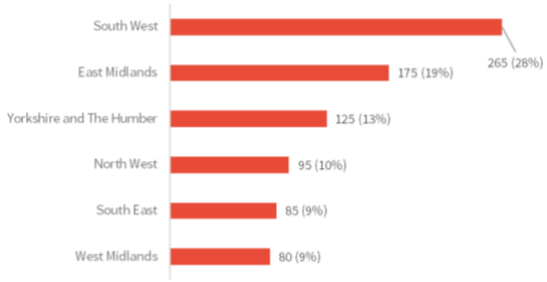
4.28 Figure 1.11 and Figure 1.12 showcase the top regions benefiting from the REW project in terms of GVA and jobs supported.

Figure 1.11 Top Five Regions in GVA impact



Source: Hatch Analysis based on TfL data, 2024

Figure 1.12 Top Five Regions in jobs supported



Source: Hatch Analysis based on TfL data, 2024

5. The economic contribution of Places for London

5.1 Places for London is a wholly owned commercial property company of Transport for London. It was established to manage and develop TfL's extensive property portfolio, which includes around 5,700 acres of land.

5.2 Overall, Places for London aims to leverage TfL's property assets to generate income, support the transport network, and contribute to solving London's housing and space challenges. Some of the key activities and projects undertaken by Places for London are:

- **Affordable Housing Development:** Places for London is actively involved in addressing London's housing crisis by developing affordable homes. For example, 3,500 new homes are being built by Places for London in Edgware, with 35% being affordable.
- **Mixed-Use Developments:** Places for London has developed several mixed-use development projects combining residential, commercial, and community spaces. Notable projects include the Liberty of Southwark and the Limmo Peninsula.
- **Workspace and Retail Spaces:** Places for London is also focused on creating new workspaces and retail areas. They are notably renovating the building above Covent Garden station to deliver 12,000 sq ft of workspace.

5.3 This section focuses on the economic contribution supported through Places for London. It considers the economic contribution stemming from TfL supply chain spending associated with Places for London activities.

5.4 The economic footprint of the Places for London property portfolio also includes the impacts supported through the activities of its tenants/occupiers. However, the study does not consider impacts generated through this channel, as data limitations mean that it cannot be robustly quantified at this stage.

Economic impact from TfL's Places for London supply chain spending

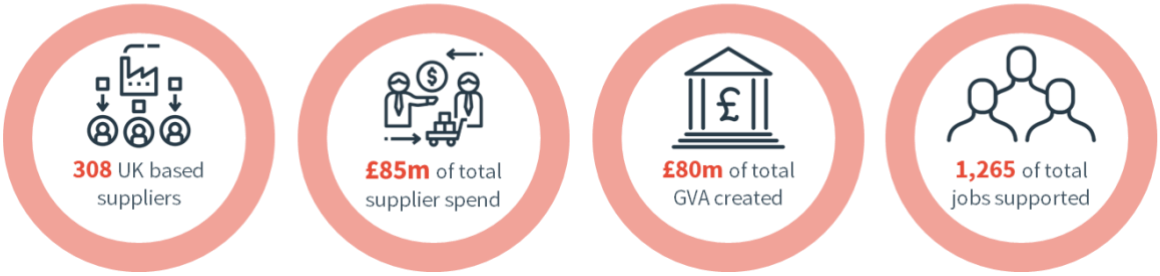
UK Impacts

5.5 **In 2023/24,** TfL expenditure supporting Places for London activities amounted to **£85m across 308 UK based suppliers**, of which **almost half (49%) were SMEs**. The total economic contribution supported through this supplier spending (including direct, indirect and induced effects) amounted to **£80m in Gross Value Added (GVA) and 1,265 jobs across the UK**.

5.6 Notably, the UK level findings suggest that:

- **every £1m of spend on Places for London activities supported around 15 jobs**.
- **every direct job** supported by supply chain expenditure on Places for London activities **led to around an additional job** being supported in the wider economy, through those suppliers' expenditure and that of their employees.

Figure 5.1 Total Economic Contribution of TfL's supply chain expenditure on Place for London activities



Source: Hatch Analysis based on TfL data, 2024

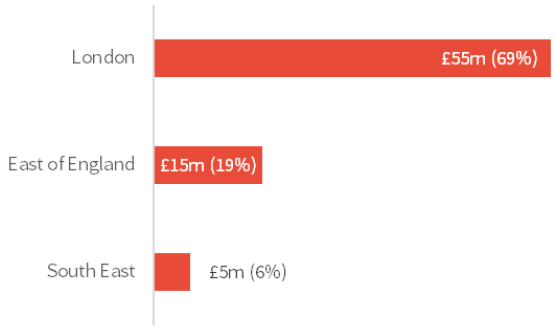
Regional Impacts

5.7 Supply chain expenditure on Places for London activities supports suppliers, both large and small, spread across UK regions:

- **More than 88% of Places for London's suppliers** were based in London and its periphery, in the East of England. The nature of Places for London's activities are such that a large concentration of suppliers are in and around the properties and projects Places for London manages, all situated around London.
- **About half of the suppliers** supported through expenditure on Places for London activities were SME businesses.

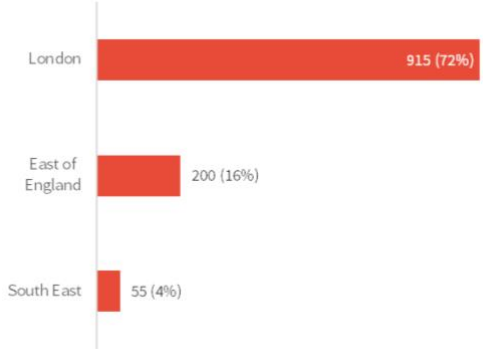
5.8 Figure 5.2 and Figure 5.3 showcase the top regions benefiting from supply chain expenditure supporting Places for London activities.

Figure 5.2 Top Three Regions in GVA contribution



Source: Hatch Analysis based on TfL data, 2024

Figure 5.3 Top Three Regions in jobs supported



Source: Hatch Analysis based on TfL data, 2024

Appendix A - Technical Appendix: TfL Supply Chain Analysis

A.1 TfL provided a base extract of the suppliers it transacted with during 2023/24. The TfL supplier categorisation was used to obtain a best fit match of the sector in which suppliers operate.

A.2 In the absence of commonly accepted definitions of the 'Technology and Digital' and 'Low Carbon Economy' sectors, the analysis uses bespoke definitions, based on Hatch's past experience in sector studies, to identify which TfL suppliers operate in these sectors.

A.3 Given the limitations of using SIC codes, Hatch originally suggested an AI-based approach to identifying suppliers operating in these sectors, using web scraping. In the absence of this approach, we need to rely on a best-fit match of the economic activities typically undertaken in the 'Technology and Digital' and 'Low Carbon Economy' sectors to the 5-digit industries included in the Standard Industrial Classification (SIC) framework[16].

Limitations

A.4 The methodology described above is subject to the following limitations:

- **Definitions of new and emerging sectors that are based on the SIC framework do not provide a precise reflection of the companies operating in them.** SIC codes are slow to be updated to describe new and emerging sectors. SIC codes in the UK have not been updated in the UK since 2007. This means that when new sectors emerge, they are somewhat obscured within existing SIC codes, which do not accurately describe their activities. New and emerging sectors typically rely on niche expertise from companies across a range of 'traditionally defined' industries. Definitions based on SIC codes will inevitably capture companies that may operate in industries with a significant cluster of new or emerging sector activity, but do not undertake this type of activity themselves. Conversely, SIC code-based definitions will omit innovative companies that do not operate in industries which tend to be clusters of new or emerging sector activity. Recent attempts to overcome these limitations involve the use of web-scraping techniques to detect companies that operate in new and emerging sectors based on the online description of their activities.
- **5-digit SIC codes are not readily available for TfL suppliers.** As such, the analysis had to rely on higher level SIC code classifications (a mix of 2-digit and 3-digit SIC codes) of the 'Technology and Digital Sector' and 'Low Carbon Economy Sector' definitions.

[16] The collection and presentation of data on the sectoral breakdown of economic activity in the UK is based on the Standard Industrial Classification (SIC) framework, which subdivides the economy into over 600 individual 5-digit SIC codes.

Appendix B - Technical Appendix: Apprenticeships Analysis

B.1 There is no direct data on the number of apprentices that are employed within TfL's suppliers. We have therefore generated modelled estimates using published data on apprenticeships and what we know about TfL's supply chain.

B.2 The total number of apprenticeships supported through Transport for London's expenditure with its Tier 1 suppliers in 2023/24 has been estimated by applying the UK economy-wide incidence of apprenticeship participation by sector to the direct jobs created by Transport for London via supplier expenditure.

B.3 The incidence of apprenticeship participation by sector has been derived by:

- estimating the number of apprenticeship *starts* by sector in 2021/22[17].
- extrapolating the number of apprenticeship *participants* by sector by applying the ratio of total apprenticeship starts to total apprenticeship participation across the economy in 2021/22[18] to the sectoral data obtained in the previous step. Note that the ratio of apprenticeship starts to participation varies by industry, and as such the derived estimates should be considered indicative.
- then, obtaining estimates of the ratio of apprenticeship participation to the number of full time equivalent employees working in specific sectors in 2022. This was done using data from the ONS Business Register and Employment Survey (BRES)[19].
- applying this ratio to the direct jobs created within TfL's supply chain, which were derived from our input-output economic model.

[17] Apprenticeships in England by industry characteristics , Academic year 2021/22 - Explore education statistics - GOV.UK (explore-education-statistics.service.gov.uk)

[18] Microsoft Power BI

[19] Business Register and Employment Survey - Office for National Statistics (ons.gov.uk)

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