



UNIVERSITY OF
LIVERPOOL

AMION
CONSULTING



ECONOMIC & WIDER IMPACTS

MAIN REPORT **SEPTEMBER 2024**




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University of Liverpool

Economic and Wider Impacts

Final Report
September 2024

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SECTION ONE

INTRODUCTION

1 Introduction

1.1 Overview

The University of Liverpool was founded in 1881 as a university college with the mission “*For advancement of learning and ennoblement of life*”. With the University of Liverpool’s 150th birthday on the horizon, the University is deploying a new strategic framework, Liverpool 2031, that builds upon its historic foundations and seeks to advance the University into the Top 100 worldwide.

It is intended that this study helps the University to assess its current position, celebrate its achievements to date, and guide future activity towards achieving the goals of Liverpool 2031.

AMION Consulting were commissioned to assess the economic and wider impacts of the University of Liverpool.

The study focused on analysis at two levels:

- Liverpool City Region (LCR); and
- the United Kingdom.

Additionally, given the University’s considerable international reach, the report includes a number of references to its global impact.

Quantitative analysis is conducted at both LCR and UK levels, focusing on the 2022/23 academic year, which is the most recent year for which information is consistently available. However, data where available from 2023/24, alongside up to seven years earlier, is also reported. In addition, further quantitative and qualitative data, which illustrates the impact of the University, are reported at these levels, and globally.

This study included:

- **A University-wide data collection exercise:** sourcing information from across the University of Liverpool. This has included collecting centralised: financial accounts, human resources (HR) data, student enrolment data, procurement expenditure data, and data submitted to the Higher Education Statistics Agency (HESA). We reviewed official University submissions to the Research Excellence Framework (REF), the Knowledge Exchange Framework (KEF), and the Teaching Excellence Framework (TEF). Alongside centralised information, we have collected

de-centralised information such as departmental reports, case studies, and engagement and visitor data.

- **Primary Data Research Exercise:** alongside existing University data, we conducted surveys to collect additional data to inform the study. This includes a student survey conducted on-campus and online which was completed by over 1,200 participants, as well as an Alumni Survey that received over 350 responses.
- **A Secondary Data Collection Exercise:** utilising available provision of statistics about the City Region and national economy from sources such as the Office for National Statistics (ONS).
- **Internal University consultation programme:** consulting senior leadership alongside academic and professional services staff to ensure a full and current understanding of the University’s activities and strengths, as well as to identify relevant sources of information. We spoke to those directly employed by the University, as well as representatives from organisations directly related to the University, such as the Guild of Students and Liverpool Student Homes. In total, we spoke to over 75 University staff and stakeholders.
- **External University Stakeholder Consultation:** alongside members of staff from the University, we spoke to representatives from key local stakeholders and employers, such as National Museums Liverpool and industrial partners such as Unilever.
- **An Economic Impact Assessment:** an assessment of core economic impact, covering employee and operational direct, indirect and induced impacts, alongside impacts arising from student and student visitor spending, and Research and Knowledge Exchange impacts. This assessment is undertaken within a multi-regional input-output (MRIO) framework.
- **Wider Impact Analysis:** detailing a broad range of impacts created by the work of the University across its teaching, research, cultural contributions, staff and student activity, global partnerships, and ability to be a catalyst for positive change.
- **Case Studies:** spotlighting activity happening across the University.

1.2 Approach

1.2.1 Overview

The University of Liverpool is a substantial organisation with 28,680 students, 7,842 staff across 77 departments, and with an annual income of over £675 million in 2022/23. As such, the range of activities that the University engages in is vast, covering not only the core activities of teaching and research, but also additional contributions to economic development, culture, community, personal development, environmental sustainability, and advancing social justice.

This study's goal is to capture the scale and character of the impacts arising from the University. This is done across three sections analysing economic impacts, wider social impacts, and illustrative case study themes.

1.2.2 Economic Impacts

In line with best practice methodological approaches, we assess the University's operational economic impacts across three channels:

- **Direct Impact:** the socio-economic activity generated by the University itself through the construction and operation of its facilities and the employment of research and ancillary staff.
- **Indirect Impacts:** the impact associated with the University spending money with suppliers of goods and services.
- **Induced Impact:** the impact associated with staff employed both directly and indirectly, spending their wages in the wider economy.

This analysis was undertaken within an MRIO framework. The IO tables provide a representation of economic interactions within the economy, and enables the construction of a model of the LCR and UK economy, from which the University can be removed to estimate its impact. This method is detailed in Appendix A.

1.2.3 Wider Impacts

The broader impacts of the University are captured across the following areas:

- **Teaching and Learning Impacts:** the long-lasting impacts from the high-quality teaching that happens on the University of Liverpool

campuses in advancing social mobility and creating opportunities for graduates.

- **Research and Knowledge Exchange Impacts:** the wider impacts from research partnerships, collaborations, intellectual property, commercialisation and consultancy, starts ups and spin outs, as well as local impact of research conducted at the University.
- **Catalysing Change Impacts:** this covers activities at the University that contribute to creating impacts upon sustainability, advancing students development, and the University’s staff and students’ contribution to the city-region through their work and volunteering.
- **Driving Culture and Visitor Economy:** the contributions of the University, its staff, and its students to local culture and heritage.
- **Global Impact:** the University’s global impact and reach through its collaboration and partnerships.

1.2.4 Case Studies

Alongside collecting quantitative data and conducting monetary analysis, this study has brought together activities happening across the University that illustrate the depth and breadth of its impact. The case studies cover the following areas:

- **Local Civic Leadership:** the University’s role in pioneering public policy and creating a local innovation-eco system.
- **Leading Research with Industry:** spotlighting the extensive and far-reaching research that the University undertakes with partners to tackle practical challenges, particularly across the area of materials chemistry, health and life sciences, and digital.
- **Creating a Liverpool Health and Life-Sciences super-cluster:** exploring the contributions of the University towards advancing the Liverpool City Region as a health and life sciences supercluster.
- **Organisational sustainability:** the work of the University in improving its environmental, social, and governance sustainability.
- **Net-Zero research:** a sample of the wide-ranging research ongoing at the University, aiming to tackle climate change, biodiversity loss, and environmental degradation.
- **Culture:** the University's contribution to the culture, creative, and heritage sectors in LCR through its collaborations.

- **Community:** the University's contribution to uplifting the lives of local communities within the LCR.
- **Student experience:** highlighting the attractiveness of the University and Liverpool as a place to study.
- **Widening participation:** the work of the University to raise aspirations, improve access to higher education, and ongoing support for those from underrepresented backgrounds
- **Global impact:** the University of Liverpool on the world stage.

Section 6 of this report presents the Case Studies.

SECTION TWO

**UNIVERSITY
OF LIVERPOOL**

2 University of Liverpool

2.1 A historic University with a modern vision

The University of Liverpool was established in 1881, initially as a university college, with its philanthropically funded, iconic redbrick Victoria Building subsequently opening in 1892, and the University receiving its Royal Charter in 1903. In 1994 the University became a founding member of the research-intensive Russell Group of universities, and in the 21st century it has undergone significant expansion, as a result of both increased participation in higher education by British students and the University’s increasingly global reach.

Today, as the University approaches its 150th anniversary, it offers a diverse array of courses, spanning such disciplines as engineering, medicine, law, and the humanities. The main campus, situated in the heart of Liverpool, combines historic architecture with modern facilities. It also has sites on the Wirral and in Daresbury connected to veterinary medicine, and investments in the innovation ecosystem.

In 2006, the University co-founded the Xi’an Jiaotong-Liverpool University (XJTLU) in Suzhou, China with Xi’an Jiaotong University. In October 2023, XJTLU had over 25,000 enrolled students on more than 100 programmes across its campus in Suzhou and its recently opened Entrepreneur College in Taicang, with more than 2,000 staff in total. With a track record of global research partnerships and projects, an alumni community in over 180 countries, and ranked among the top 200 universities globally, the University has a strong international presence.

The University’s original mission – “for the advancement of learning and ennoblement of life” – set the foundation for a modern, forward-looking institution, that aims to achieve its ambitions and tackle the grand challenges of the age. This is captured in its current organisational values, as set out in ‘Liverpool 2031: Our Strategic Ambition’, which are to be ‘Ambitious, Collaborative, Inclusive, Innovative and Responsible’.

Looking ahead, Liverpool 2031 sets out the University’s ambition to be recognised as a global Top 100 university. It is currently ranked 165th in the QS World University Rankings 2025, 168th in the Times Higher Education World University Rankings 2024 and 101-150 in the Academic Ranking of World Universities/Shanghai Ranking 2025. The University of Liverpool is committed to advancing its impact through ambitious plans. Over the next decade, it

aims to significantly enhance its research capacity, expand its academic staff, and develop its campus infrastructure. Additionally, the University plans to increase its student enrolment, further solidifying its role as a leading institution for education and research in the UK and beyond.

Liverpool 2031 lays out four key strategic pillars:

- **Research and Impact:** “To deliver ground-breaking research that changes our world for the better.”
- **Education and Experience:** “To create outstanding transformative, research-connected, learning experiences that empower our diverse community of students and teaching staff to achieve their highest potential.”
- **Global Experience:** “To be recognised as a global Top 100 university, making a positive impact in the places we operate and the partnerships we build through outstanding research and education.”
- **Place and Innovation:** “To drive prosperity and wellbeing through the Liverpool City Region through excellence in research, innovation and partnership for local and global impact.”

Alongside these pillars are two overarching themes:

- **People and Culture:** “To foster an inspirational, welcoming and inclusive culture in which all can thrive and reach their full potential, recognising and celebrating the strengths of our diverse communities and building collaboration, engagement and high-quality support into all that we do.”
- **Sustainability:** “To drive forward environmental and social equity through our education, research and operation, making a positive impact within and beyond our boundaries.”

2.2 Scale and structure

The impact of the University is created by the flow of money through the institution and how it is spent and the consequences of the activities of its staff and students. This section provides an overview of the scale of the organisation. Later sections present a detailed analysis of these figures and their implications.

Based on 2022/23 data, the University had a total income of £675 million, including £118 million in research income¹. It has an annual expenditure of £665 million, including £374 million on staff payroll and £72 million on capital infrastructure.²

There are 7,842 staff employed by the University, of which 32% are academic staff, 13% are researchers, 10% are technical, and 44% are professional services staff.³

The University is organised into 77 departments under three faculties. There are over 28,680 students on campus studying at the University across 400 undergraduate and postgraduate programmes (see Figure 2.1). Around 9,000 undergraduate and postgraduate students graduate from the University each year. The University has a network of 270,000 alumni across over 180 countries.⁴

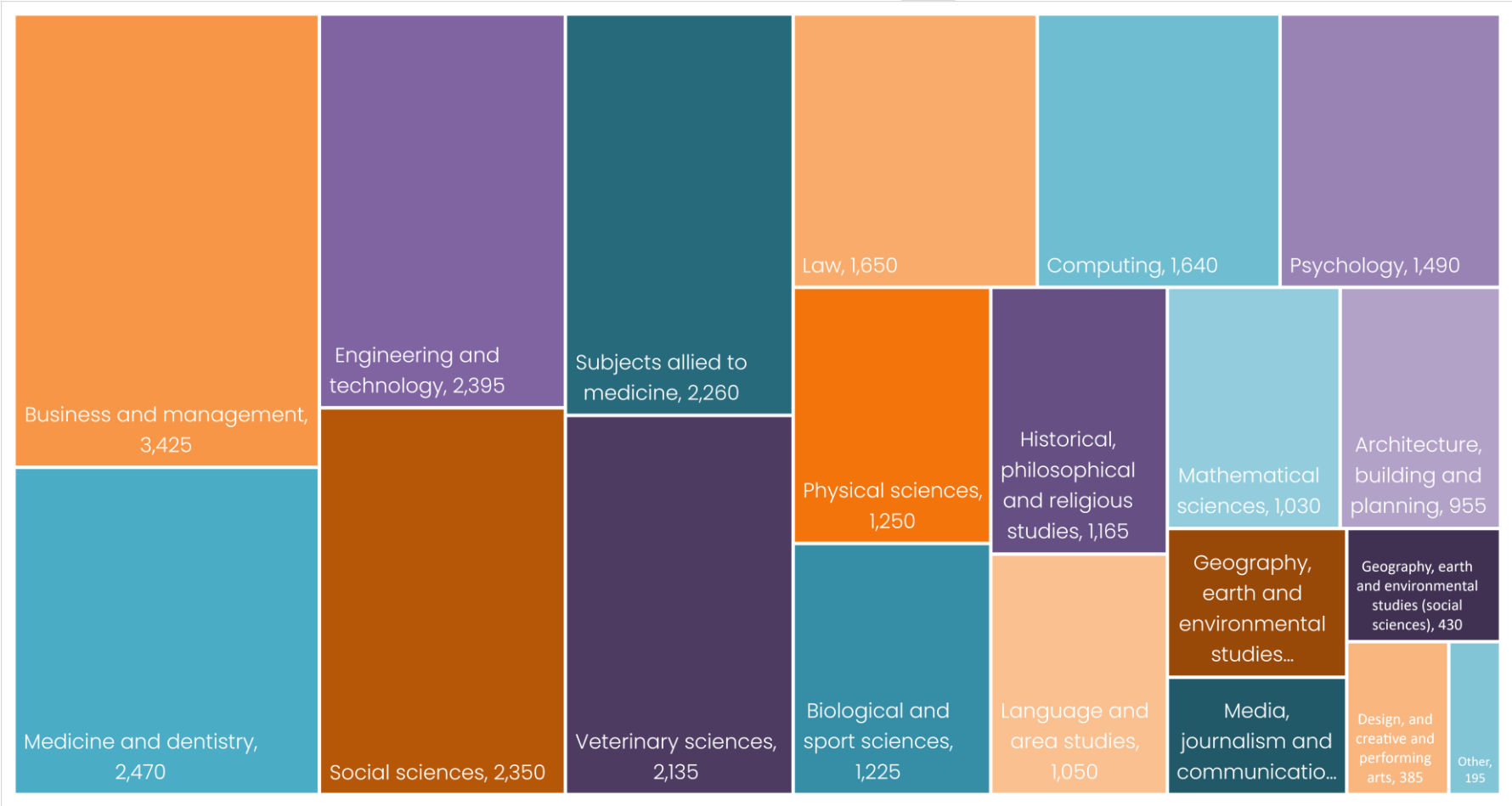
¹ Excluding Research England funding.

² https://www.liverpool.ac.uk/media/livacuk/finance/Review_of_the_Year_2023.pdf

³ HR data provided by the University of Liverpool

⁴ Based upon student enrolment and graduation data provided by the University of Liverpool

Figure 2.1: Breakdown of University students by subject (2021/22)



Source: HESA 2024

Note: The larger the square, the more students studying that course area. Other includes Education and Teaching, Combined and General studies, and agriculture and food courses.

2.3 Awards and Achievements

The University of Liverpool has an impressive record of awards and achievements including:

- Awarded the highest (Gold) rating in the Teaching Excellence Framework (TEF) 2023, which assesses teaching quality and student outcomes
- 91% of research rated as world-leading or internationally excellent by the Research Excellence Framework (REF) 2021
- The 2024 Knowledge Exchange Framework places the University in the top quintile (Quintile 5, representing very high engagement) for Research Partnerships, IP and Commercialisation, Working with Business, and Working with the Public and Third Sector.
- Ranked 19th in the 2025 Complete University Guide, 23rd in the Times and Sunday Times Good University Guide, 25th in the 2025 Daily Mail University Guide, and 27th in the 2025 Guardian University Guide.
- The Shanghai Ranking Academic Ranking of World Universities (ARWU) places Liverpool 101-150 in the world, and 9-12 in the UK.
- Consistently ranked in the Top 200 Universities world-wide by the QS World Universities rankings (presently 165th) and the Times Higher Education World University Ranking (presently 168th).
- The Queen's Anniversary Prize for Chemistry was awarded to the University's Department of Chemistry in 2024 for its pioneering research to address global challenges and benefit society.
- Students voted the University of Liverpool first for its course content in the StudentCrowd 2024 survey. It also ranked 18th overall in the Best UK Universities 2024 league tables.

Nobel Prize Associations

As a member of the Russell Group of leading research-led institutions, the University is renowned for its research excellence and boasts several Nobel Prize winners. It consistently ranks among the top UK universities for attracting research grant funding. Recognised for its high-quality teaching and research, the University is associated with nine Nobel Laureates:

Sir Ronald Ross Professor
and Chair of Tropical
Medicine, 1899–1912

Charles Barkla BSc (Hons)
Mathematics 1898, MSc 1901,
Hon LLD 1931

Sir Charles Sherrington Holt
Professor of Physiology at
Liverpool, 1895–1913

Sir James Chadwick Lyon
Jones Chair of Physics at
Liverpool, 1935–1943

Sir Robert Robinson Chair in
Organic Chemistry, 1915–1920

Har Gobind Khorana PhD 1948,
Hon DSci 1971

Rodney Porter BSc (Hons)
Biochemistry 1938,
Hon DSci 1973

Ronald Coase Assistant
Lecturer in Commerce,
1934–1935

Professor Sir Joseph Rotblat
PhD 1950, Hon DSci 1989

SECTION THREE

ECONOMIC IMPACT

3 Economic impacts

3.1 Introduction

In this section, we outline the findings of the economic impact modelling exercise for the University of Liverpool’s activities. Direct impacts are assessed in the first instance, and are followed by individual reviews of capital spending, supplier spending, staff spending, student spending, tourist spending, and research and knowledge exchange.

The impact assessment is undertaken within the MRIO framework. IO tables provide a representation of economic interactions within an economy, detailing patterns of sales and purchases between sectors, sales for final use and profiles of related economic features such as GVA⁵. More details of the methodology adopted and modelling framework are contained in Appendix A.

The IO modelling reports GVA and full time equivalent (FTE) employment.

3.2 Research and Knowledge Exchange impacts

University of Liverpool research income amounted to £160.7 million in 2022/23⁶, UK Research Councils contributed 30% of the total, whilst Research England research grants accounted for 27% of the total. Other contributions came from the UK government (16%), UK charities (9%), UK industry (3%) and from overseas (14%). The methodological appendix contains more detail on the nature of empirical evidence into the relationship between impact and academic research.

Table 3.1 reports modelled impacts showing that research and productivity spillovers contribute:

- £183 million in GVA and supports 2,440 jobs in LCR; and,
- Across the UK, the total research impact generates £808 million in GVA and creates 9,378 jobs.

⁵ Gross Value Added (GVA) is the increase in the value of the economy due to the production of goods and services. It is the value of the amount of goods and services that have been produced, less the cost of all inputs and raw materials that are directly attributable to that production.

⁶ When including Research England funding.

Table 3.1: University of Liverpool Research and Productivity Spillover Impacts			
	LCR Direct	LCR Indirect/Induced	Total LCR
Total Research GVA (£m)	69	114	183
Total Research Jobs	837	1,603	2,440
	UK Direct	UK Indirect/Induced	Total UK
Total Research GVA (£m)	270	538	808
Total Research Jobs	2,976	6,402	9,378

In terms of knowledge exchange, IP licensing income is £4.9 million with associated costs of £1.1 million. Turnover from spin outs is estimated at some £7.9 million, with consultancy turnover also reported at £14.9 million. Income from business courses is reported at some £2 million, with facilities and equipment hire generating close to £4 million. Contract research income is indicated to be £23.5 million

Table 3.2 shows how this income delivers significant benefits including:

- LCR knowledge exchange impacts are £39 million and 592 jobs (when including direct, indirect, and induced impacts); and.
- at the UK level combined knowledge exchange impacts extend to £66 million and 772 jobs (with direct, indirect, and induced impacts).

Table 3.2: Knowledge Exchange Impacts				
Impact Area	LCR GVA (£m)	LCR Jobs	UK GVA (£m)	UK Jobs
Contract Research	£15m	208	£27m	319
Courses & Facilities	£6m	120	£8m	96
Intellectual Property	£3m	50	£3m	41
Spin Outs	£5m	77	£9m	111
Consultancy	£10m	137	£18m	205
Total Knowledge Exchange	£39m	592	£66m	772

Note: Table simplified for readability

3.3 Direct impact

The direct impact of the University of Liverpool reflects the economic contribution made through everyday operations. The scale of direct economic impact is, like any other activity, conventionally measured in terms of GVA and employment and is evaluated using information from the 2022/23 'Review of the Year and Financial Statements' published by the University.⁷

This places staff costs at £373.9 million (setting aside the staff element to USS pensions). Adding operating surpluses, interest, and depreciation, this places a direct GVA estimate of some £456 million. The University employs 7,842 staff and the direct FTE employment is defined in the Statements at 6,001.

3.4 Capital expenditure impact

University of Liverpool 2022/23 capital expenditure is reported at £72.1 million, substantially higher than the previous three years where values dropped to around £50 million (the COVID period and aftermath) from some £70 to £80 million previously. In total, £300 million capital expenditure has been spent over the previous five year period (see Figure 3.1).

⁷ [Review of the Year, 2023.pdf \(liverpool.ac.uk\)](#)

Figure 3.1: University of Liverpool’s Capital Investment (£, millions)



Source: University of Liverpool Financial Accounts

The University’s investment in capital purchases not only stimulates economic activity throughout the wider supply chain, but also contributes to the physical development and transformation of the city. Transformational projects over the last decade include the £81 million Materials Innovation Factory (MIF) – in partnership with Unilever and housing one of the highest-concentrations of Materials Science Robotics in the world – and the £12.7 million Digital Innovation Facility (DIF) – a new home for world-leading research dedicated to maximising the possibilities of emerging technologies, including artificial intelligence (AI), robotics and data visualisation. In addition, significant investment has also gone into building and upgrading teaching facilities and student accommodation, including an extension of the Management School, upgrading of the School of Law and Social Justice, the Crown Place Student Residential Scheme, the Greenbank Student Village rebuild, and the state-of-the-art Yoko Ono Lennon Centre, home of the Tung Auditorium. The capital expenditure of these projects totals more than £200 million.

Details of the location of capital spend show that some 44% of expenditure flows to suppliers in the LCR, from which we infer a direct output impact of £31.7 million. Direct outputs are assigned across IO sectors in relation to the nature of the reported activity.

Taking these as the basis of activity in the IO models, analysis (see Table 3.3) defines:

- a direct GVA impact of £12 million for the LCR and £29 million for the UK, with respective employment impacts of 138 and 283 jobs⁸.
- indirect and induced impacts of £20 million GVA with 280 jobs within LCR and £56 million with 689 jobs within the UK.
- a combined GVA impact of £32 million and 418 jobs for the LCR economy. These rise to £86 million and 972 jobs at UK level.

Table 3.3: University of Liverpool Capital Expenditure Impacts			
	LCR Direct	LCR Indirect/Induced	Total LCR
GVA (£m) Impacts	12	20	32
Jobs Impacts	138	280	418
	UK Direct	UK Indirect/Induced	Total UK
GVA (£m) Impacts	29	56	86
Jobs Impacts	283	689	972

3.5 Supplier spending impacts

Supplier spend profiles reflect the pattern of goods and services purchased by the University of Liverpool to enable its operations. The spending of the University extends through its supply chain, contributing to further GVA growth and job creation.

Supply chain spend by University of Liverpool (e.g. equipment, catering, IT)



...which is then spent by local firms on wages for their employees on local services (e.g. food and drink, motoring and household supplies)



By analysing detailed profiles of the University’s supplier purchasing by location, we have been able to assess the proportion of spend sourced within the LCR area and the UK at industry sector level.

With total 2022/23 purchasing reported at £240 million, scrutiny of the supplier database indicates that some 18% of total spend was placed in the LCR

⁸ All employment numbers are expressed in FTE terms.

economy with 86% placed in the UK as a whole. In effect, supplier-related output in the LCR/UK amounted to £42.5 million / £206.8 million respectively.

With spend allocated across IO sectors in relation to the nature of the activities reported, model outcomes suggest (see Table 3.4):

- a direct GVA impact of some £22 million and 390 jobs for LCR, rising to £96 million and 1,348 jobs for the UK. The differential reflects the variation in initial spend distribution between areas.
- indirect and induced impacts of £23 million and 336 jobs in the case of LCR and £124 million and 1,575 jobs for the UK.
- total GVA/Jobs LCR impact is modelled at £45 million / 726 rising to £220 million / 2,923 jobs at the UK level.

Table 3.4: University of Liverpool Supplier Spending Impacts			
	LCR Direct	LCR Indirect/Induced	Total LCR
GVA (£m) Impacts	22	23	45
Jobs Impacts	390	336	726
	UK Direct	UK Indirect/Induced	Total UK
GVA (£m) Impacts	96	124	220
Jobs Impacts	1,348	1,575	2,923

3.6 Staff spending impacts

Defining the economic impacts associated with University’s staffing makes it necessary to determine the extent to which staff reside in the LCR and might, thereby, be presumed to spend from their wages and salaries in the LCR area. Anonymised data defining the spatial distribution of staff by salary bands are analysed against ONS ‘Living Costs and Food Survey’ profiles to determine typical patterns of consumption in the light of tax/social security deductions by salary band.

With 74% of University staff living in LCR, it is estimated that annual staff spend equates to some £105 million for purposes of analysis. Modelling defines the impacts as (as shown in Table 3.5):

- direct LCR/UK GVA impacts of £45 million /£61 million and employment impacts of 588/741 jobs.

- indirect and induced LCR/UK GVA impacts of £66 million/£120 million along with 964/1,459 LCR/UK jobs.
- combined impacts of £111 million of GVA with 1,552 jobs rising to £182 million of GVA and employment of 2,200 at UK level.

Table 3.5: University of Liverpool Staff Impacts			
	LCR Direct	LCR Indirect/Induced	Total LCR
Staff GVA (£m) Impacts	45	66	111
Staff Jobs Impacts	588	964	1,552
	UK Direct	UK Indirect/Induced	Total UK
Staff GVA (£m) Impacts	61	120	182
Staff Jobs Impacts	741	1,459	2,200

3.7 Student impacts

Beyond core operations, the University generates a range of additional impacts through the attraction of domestic and international students, associated visits/tourism, and research activities.

Students contribute significantly to the University’s economic impact through their spending on goods and services during term-time. This spending boosts local businesses by increasing their revenue and supporting jobs, providing positive effects on the wider supply chains, The vast majority of which would not have relocated to the LCR for study in the absence of the University, further enhancing its economic influence.

Table 3.6 summarises the results of our student survey in terms of average weekly expenditure. In total, students spent on average £280 per week, 46% of which on accommodation and household bills, 19% on shopping including food shopping, and 16% on leisure and nightlife.

Table 3.6: University of Liverpool Student average expenditure by area (2023/24) per week

Accommodation (and household bills)	Shopping including grocery shopping, household items, clothes and shoes etc	Leisure and socialising, including food and beverage	Entertainment and hobbies ,including sporting activities, gym memberships, cultural events, theatre, concerts etc	Transport around Liverpool	Other	Total (per week)
£129	£53	£45	£17	£16	£18	£280

Using an average 43 weeks' residence attendance and distribution of spend we allocate to sectors via an economic matrix which provides the following estimates (see Table 3.7):

- combined direct LCR/UK GVA and employment at £125 million/ £122 million and 1,281/1,392 jobs, respectively;
- indirect impacts as £187 million / £231 million GVA and 2,584/2,684 jobs, respectively; and
- combined total impact of University's students in LCR at £312 million GVA with 3,865 jobs rising to £352 million GVA and 4,076 jobs at UK level.

Table 3.7: University of Liverpool Domestic/Overseas Student Impacts			
	LCR Direct	LCR Indirect/Induced	Total LCR
Domestic Student GVA (£m)	73	110	183
Domestic Student Jobs	751	1,520	2,271
Overseas Student GVA (£m)			
	52	77	130
Overseas Student Jobs	530	1,064	1,594
Combined Student GVA (£m)			
	125	187	312
Combined Student Jobs	1,281	2,584	3,865
UK Direct			
UK Indirect/Induced			
Total UK			

Table 3.7: University of Liverpool Domestic/Overseas Student Impacts			
Domestic Student GVA (£m)	69	134	203
Domestic Student Jobs	782	1,545	2,327
Overseas Student GVA (£m)	52	97	149
Overseas Student Jobs	610	1,139	1,749
Combined Student GVA (£m)	122	231	352
Combined Student Jobs	1,392	2,684	4,076

3.8 Tourist impacts

The concentration of students provides opportunities for visitors to the LCR area. Using the student survey undertaken for this report, we identified that an average of three visitors per domestic student and one visitor per overseas student come to the area per academic year, with an average of one night per visitor. This is then assessed against average LCR tourism spend. This analysis shows a combined impacts of domestic and overseas students as (see Table 3.8):

- direct GVA and employment estimates are defined as £9 million and 143 jobs for the LCR economy and £9 million / 151 jobs for the UK;
- indirect and induced LCR/UK impacts are subsequently defined as £8 million / £12 million GVA and as 132 / 156 jobs; and
- total tourism related LCR/UK impacts sum to £17 million / £21 million GVA and 275 / 313 jobs.

Table 3.8: University of Liverpool Domestic/Overseas Tourist Impacts			
	LCR Direct	LCR Indirect/Induced	Total LCR
Domestic Tourist GVA (£m)	7	6	13
Domestic Tourist Jobs	106	93	199
Overseas Tourist GVA (£m)	2	2	4
Overseas Tourist Jobs	37	39	76
Combined Tourist GVA (£m)	9	8	17

Combined Tourist Jobs	143	132	275
	UK Direct	UK Indirect/Induced	Total UK
Domestic Tourist GVA (£m)	7	9	16
Domestic Tourist Jobs	107	110	217
Overseas Tourist GVA (£m)	2	3	5
Overseas Tourist Jobs	44	46	96
	UK Direct	UK Indirect/Induced	Total UK
Combined Tourist GVA (£m)	9	12	21
Combined Tourist Jobs	151	156	313

3.9 Total impacts

Taking all components together, Table 3.9 reports that the estimated total combined impact of the University's related activities in 2022/23 is:

- LCR Impacts:
 - Up to £1.2 billion GVA and 15,869 jobs in the LCR economy.
- UK Impacts:
 - Up to £2.1 billion GVA and 26,629 jobs in the UK economy.

Table 3.9: University of Liverpool Total Impacts (Differential Research Impacts)			
	LCR Direct	LCR Indirect/Induced	Total LCR
Total Impact GVA (£m)	754	442	1,196
Total Impact Jobs	9,590	6,279	15,869
	UK Direct	UK Indirect/Induced	Total UK
Total Impact GVA (£m)	1,065	1,125	2,190
Total Impact Jobs	13,152	13,477	26,630

SECTION FOUR

WIDER IMPACTS

4 Wider impacts

4.1 Introduction

This section assesses the wider social and environmental impacts of the University of Liverpool. It reviews the broader impacts of its teaching, research and knowledge exchange activities. The University's role as a catalyst for change, and driver of culture and the visitor economy, are considered along with the wider contributions of the University's staff. In addition, the global impact and reach of the University is assessed and the social value of its activities valued, by monetising its benefits using the HM Treasury Green Book guidance on appraisal and evaluation in central government.⁹

4.2 Teaching and learning impacts

4.2.1 *High quality teaching and learning*

The University equips students with the skills and knowledge to become highly valuable employees post-graduation. Through research-connected curricula and teaching delivered by leading experts, the University ensures that students receive top-quality education. Offering over 400 undergraduate and postgraduate courses, the University provides a diverse range of learning opportunities.

Award-winning University

The University was awarded the highest Gold rating in the TEF 2023 following the most recent assessment by the Office for Students, which regulates UK higher education. It is ranked 19th in the UK by the Complete University Guide 2025 and 23rd in The Times and Sunday Times Good University Guide 2025. The University of Liverpool was also shortlisted for The Sunday Times University of the Year 2024.

⁹ The Green Book (2022), Appraisal and Evaluation in Central Government, Updated 16 May 2024

4.2.2 University experiences

There are over 28,680 students studying at the University across over 400 undergraduate and postgraduate programmes on its Liverpool and Leahurst Campuses.

In 2024, the University of Liverpool received positive feedback from its 4,200 students who responded to the National Student Survey, achieving high scores in learning resources (90%), academic support (87%) and assessment and feedback (76%).

Bespoke research for this impact assessment also revealed that alumni rated the University's impact on personal development highly, with over 81% rating the University's performance highly for preparing them for their current, or past, career. Specifically, students particularly valued the University's focus on mental wellbeing support as a key factor, demonstrating its dedication to improving student services. Students also noted the benefits of their education in areas such as analytical skills, effective communication, teamwork, and critical thinking, which they valued for both their career and personal growth.

Over the past decade, the University's student population has become increasingly diverse, encompassing a broad range of ages, ethnicities, sexual orientations, cultural backgrounds, and disabilities.

There is a growing presence of international students on campus from under 20% in 2012/13 to 28% in 2022/23, placing above the sector average of 25.8%.¹⁰

There has been a significant increase in the number of first-generation students entering higher education, alongside a notable rise in students identifying as LGBTQ+— (an 83.9% increase from 2016/17 to 2020/21).

Among UK-domiciled undergraduate students, those with a registered disability has steadily risen, with a 2.5% increase over the past five years. 18.5% of 2022/23 entrances were disabled, in line with the Higher Education Sector (18.3%) and Russell Group average (18.5%). The proportion of undergraduates from ethnic minority backgrounds has increased 3.8% from 2017/18 to 2022/23,

First Generational Student Quote:

"I found studying at the University of Liverpool eye-opening but also welcoming. I found my education and experiences prepared me well for my career."

University of Liverpool Graduate (2007)

¹⁰ <https://www.hesa.ac.uk/data-and-analysis/students/where-from>

now making up nearly 20% of all entrants, although this is below the Russell Group and Higher Education Sector averages of 36%.¹¹

This increasing diversity across the University's campuses has infused the University with fresh energy, enthusiasm, and a wealth of innovative ideas.

The University is committed to raising aspirations and improving education opportunity across LCR. The new Access and Participation Plan is ambitious, challenging and represents a dedication to ensure anyone with the potential to study at the University can do so, and receive the support they need to succeed during their studies. The promotion of equality of opportunity for underrepresented groups is core to achieving these commitments.

4.2.3 *International students*

The University is renowned for its strong international student community, which significantly enhances the academic and social environment. With over 7,700 international students on campus, the University is a melting pot of diverse cultures and perspectives, fostering a rich and inclusive educational experience.

The University's global influence is further evidenced by its impressive network of 270,000 alumni spread across 180 countries. These alumni exemplify its commitment to excellence, and serves as a powerful resource for current students, providing mentorship, networking, and career opportunities on an international scale, while also acting as global ambassadors for the University and for Liverpool.

To support its diverse student body, the University has a dedicated international support team. This team is instrumental in assisting international students with various aspects of their university experience, from visa requirements to cultural integration, ensuring that every student feels welcomed and supported throughout their time at the University.

The impact of international students extends well beyond the economic impact set out earlier in this report. There are additional economic and social benefits, including contributions to local businesses. For example, international students support translation or language services, and companies report that they can provide varied perspectives and solutions on commercial challenges.

¹¹ Office for Students data extracted by the University of Liverpool's Widening Participation team.

4.2.4 *Teaching and learning as a tool for social mobility*

Higher education serves as a crucial tool for enhancing social mobility and the University is a significant contributor to this effort. A recent alumni survey indicated that over half of respondents (60%) feel their university experience positively contributed to their own social mobility, underscoring the University’s role in facilitating upward social movement.

In the 2023-24 academic year, the University of Liverpool’s Widening Participation and Outreach team reached over 7,000 young people through campus visits and collaborated with 32 partners, including local charities and organisations, to deliver impactful events. The University also invested over £11 million in financial aid to support students. Additionally, engagement with 170 local schools and colleges highlights the University’s commitment to broadening access to higher education and fostering social mobility.

The University excels in widening access. A key measure of Widening Participation performance relates to the proportion of students successfully gaining a place from the most disadvantaged backgrounds. As measured against POLAR4 postcode data, the University consistently performs in the top three of the English Russell Group universities, with an average of 10.5% of entrants over the past 3 years living in the most underrepresented national Quintiles. This figure, as both a percentage and raw student numbers, has increased year on year since 2019-20.

The widening participation team runs a wide range of programmes. The objectives of the schemes are to encourage students from disadvantaged backgrounds to apply for university and provide support to these students in succeeding during their studies, including paid mentorship opportunities, scholarships, and coaching. These programmes are detailed in the case studies (Section 5).

Around 9,000 undergraduate and postgraduate students graduate from the University of Liverpool each year.

Future Goals

Future Goals is a **£3 million initiative** involving the LFC Foundation, Everton in the Community, the Steve Morgan Foundation, IntoUniversity and the University of Liverpool. The project aims to enhance educational opportunities for young people across Merseyside, preparing them for future academic and career success, including higher education. Together, the Future Goals partnership launched an IntoUniversity education centre in Kirkby in October 2023. The centre is the second in the LCR, with the Anfield centre launched in 2017 with support from the University of Liverpool and LFC Foundation. Since 2017, both centres have supported a total of **5,100 pupils across Year 3 to 13 from disadvantaged neighbourhoods**.

The teaching and wider student experience delivered by the University plays a crucial role in enhancing students' skills, which benefits both the individuals and society as a whole. Graduates have greater human capital, which in turn boosts their productivity and labour market outcomes.

The University contributes to the UK economy by improving students' skills through formal education, work experience opportunities, and other sought-after activities. The latest data shows that 88% of recent graduates from the University are in work or further study¹².

“It is an honour to be an alumni of this splendid community, and I am proud and grateful for overall University of Liverpool experience”
 University of Liverpool Graduate (2001)

Figures around graduate retention are complex due to origin and destination data and movement of people, but varied research on the topic has shown that many graduates remain in Liverpool post-graduation¹³. Studies suggest that 20-30% of the University’s graduates

remain working in the LCR six months after completing their courses of study, higher than in some comparable cities¹⁴. This is particularly important for key sectors of the economy, including the health sector; many of the University's graduates enter the local NHS workforce as newly qualified doctors, nurses and allied health professionals, and the University enjoys close relationships with NHS trusts across the region where students are involved in delivering patient care during their studies. This strong relationship between the University and local NHS extends to a variety of other positive impacts; for example, as of the 2023-24 academic year there were 102 medical and dental clinical academics on teaching and research contracts, splitting their time 50:50 between work at the University and the local NHS trusts. Additionally, 108 General Medical Council (GMC) registered medics were studying and researching at the University for

¹² <https://www.hesa.ac.uk/data-and-analysis/graduates/table-6>

¹³ LCR CA, LEP past research, Industry papers.

¹⁴ See for example, Centre for Cities series on the Graduate Movement, here: <https://www.centreforcities.org/wp-content/uploads/2016/11/16-11-18-The-Great-British-Brain-Drain.pdf> although dates, other studies cite figures for the City Region and analysis depends on student origin, inclusion of international students and available data.

either a PhD or a MD, and 372 clinicians from local Trusts had honorary clinical academic affiliations with the University. Alongside a range of specific research collaborations and strategic initiatives, this help to ensure that the University's research strengths help the local NHS to offer patients access to clinical trials and other innovations in healthcare.

4.2.5 *Enterprise impacts from Graduates*

Graduates do not only end up as employees, but they are entrepreneurs and innovators. The University fosters an entrepreneurial spirit with students. Many students and graduates have established successful businesses. In the 2022/23 academic year alone, 32 UK start-ups were founded by University of Liverpool students in 2023 over £55,000 was allocated from the Design Your Future Programme Enterprise Fund, directly supporting 28 student and graduate start-ups.

The University's enterprise initiatives have also had a broad impact, with:

- more than 830 participants engaging in enterprise challenges, competitions and internships with 460 employers, including major firms, such as Amazon, Kellogg's, and IBM, as well as public-sector employers such as the Civil Service;
- Start-up Schools introduced for ages 15-18 and 19+, in partnership with the LCR Careers Hub, local entrepreneurs and industry experts. These programmes offered practical insights into starting and running successful businesses, resulting in 32 participants earning industry-recognised accreditation;
- the University hosting eight Entrepreneurs Monthly Meet-ups in 2022/23, attended by 520 participants. These events connected students and graduates with leading entrepreneurs and independent businesses;
- the University launching new programmes for students in Years 7-11 to further support local students and graduates in creating impactful commercial and social ventures; and
- the delivery of the LCR Founders programme, in collaboration with Liverpool John Moores University. This is helping to grow a thriving co-founder ecosystem by matching up student and graduate talent at both

organisations to form new business start-ups. 480+ individuals have participated since 2020/21.

4.3 Research and Knowledge Exchange Impacts

4.3.1 *Impact of research partnerships and collaborations*

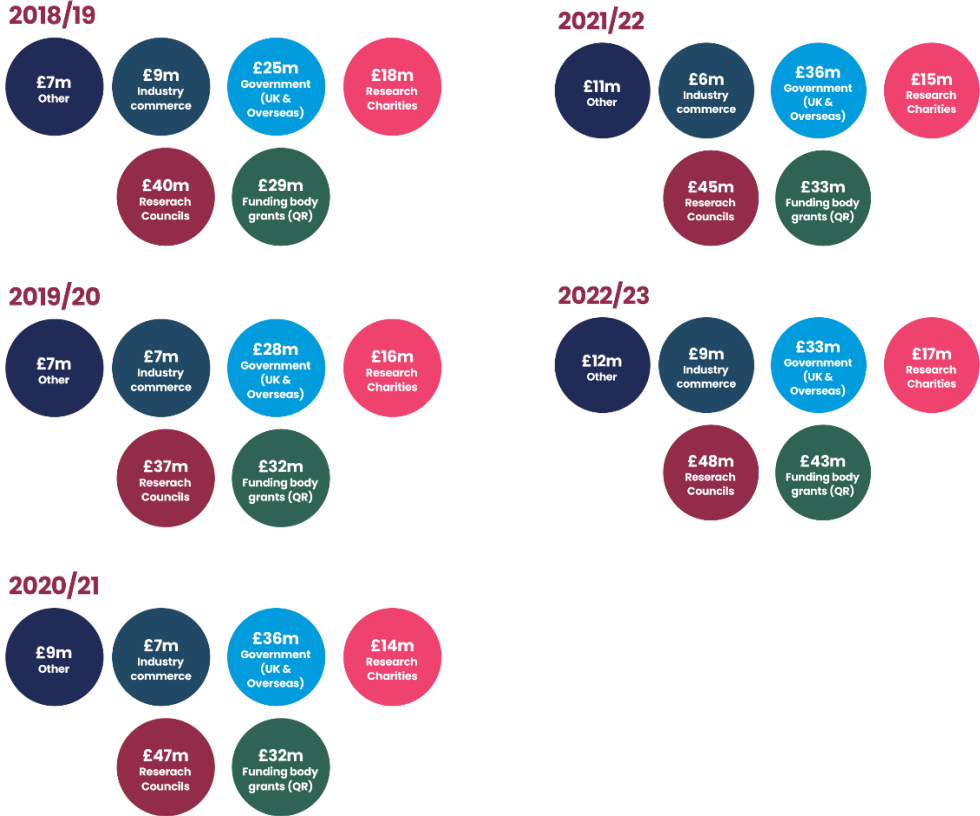
The University has 1,300 collaborations with external organisations. It has 322 collaborative research projects with businesses, third sector, and public sector, across 40 countries.

The 2024 KEF results placed the University of Liverpool in the top quintile (Quintile 5, representing very high engagement) for Research Partnerships, Intellectual Property (IP) and Commercialisation, Working with Business, and Working with the Public and Third Sector.

The University of Liverpool's research grants and contracts income amounted to £118million in 2022/23¹⁵ (Figure 4.1).

¹⁵ Excluding Research England funding

Figure 4.1: University of Liverpool Research Funding



Source: University of Liverpool Financial Accounts

The University has 10 established, and many more emerging, strategic partnerships with a range of organisations, working on aligned goals and projects that foster innovation, R&D, skills development, and knowledge exchange for mutual and societal benefit. Among these, the University’s longest-standing partnership is with Unilever, which has developed over nearly 100 years. This collaboration has involved decades of joint research, facility investment and expertise rooted in chemistry and led to the creation of the £81 million Materials Innovation Factory (MIF), which opened in 2017. The partnership continues to expand, including integrated appointments focused on the microstructure and characterisation of complex soft matter systems and areas such as heritage, microbiome research including soft matter systems characterisation. In addition to Unilever, the University maintains

strategic partnerships with SciTech Daresbury, National Museums Liverpool, CPI, NSG Pilkington and Baker Hughes among others reflecting its commitment to fostering innovation and collaboration across a range of fields.

The Higher Education Innovation Fund (HEIF) further bolsters partnership working efforts by supporting joint interactions and partnerships managers that lead on partner engagement. The University of Liverpool uses a small part of its HEIF allocation to hold an annual open competition for projects with non-HEI partners, promoting collaboration and addressing UKRI challenge areas. The projects supported in 2022/23 helped to strengthen and catalyse partnerships with 22 commercial and non-profit organisations both in the UK and internationally. The University of Liverpool aligns this funding with UKRI priorities and an investment of £852,000 over five years has leveraged £26 million in further collaborative funding from business and grant sources.

4.3.2 *Services to businesses and consultancy*

The University generates significant economic value by offering a range of services to businesses. Collaborating with the University grants companies access to cutting-edge research and academic best practices, which can enhance their productivity and profitability. This, in turn, contributes to a more productive workforce and potentially higher wages, further stimulating the economy through increased consumer spending. In recent years, the University has seen a rise in its contract research and consultancy services income. In 2022/23, it supported over 300 consultancy projects, working with partners as varied as the producers of the TV series *Frozen Planet II* and Leeds Community Homes, demonstrating its wide-ranging expertise in areas from ice sheet dynamics to policy recommendations for community-led housing.

The University's contract research activities alone generated £23.5 million from 479 contracts, while its consultancy services brought in £14.9 million. Between 2019/20 and 2022/23, there was a notable 38% increase in annual contract research income and a 20% rise in consultancy income.

4.3.3 *Commercialisation, Licensing and IP Impact*

Supporting intellectual property (IP) commercialisation remains a central focus for the University, with significant growth in this area over recent years. The

University's IP income has grown from £2.9 million in 2020/21 to £4.9million in 2022/23.

The University has a patent portfolio of 355 patents, and 24 spin-out companies have been supported in the last six years along with 115 jobs created. Since 2018 the University has committed a total of £5.6 million in Enterprise Investment Funding (EIF), which has levered a further £24 million of investment, industry, and grants funding. In 2023, the University moved into the top 20 nationally and the highest in the North West based on the Octopus Ventures Rankings that measured universities' success at turning their academic achievements into thriving companies.

Notable examples of the University's success include the Innovate UK funded Microbials Accelerator Programme, which supported 24 SMEs with expertise and commercialisation assistance. Additionally, prototype testing of cold plasma decontamination technology led to patents and the creation of the new spin-out company PlasmaFresh, which has secured £570,000 in investment from Innovate UK and the UoL Enterprise Investment Fund. Robotiz3d, a spin-out from 2020 specialising in autonomous pothole detection and repair, benefited from HEIF funding for the development of their ARRES EYE technology. This support not only facilitated the launch of a pioneering product but also helped them expand their client network and secure £3 million in planned investment.

4.3.4 *Start-ups and spin-outs*

The University is at the forefront of nurturing start-ups and spin-outs through dedicated support programmes, incubators, and partnerships. By facilitating the growth of new ventures and translating academic research into viable business opportunities, the University not only stimulates economic activity but also fosters a culture of entrepreneurship within its community. Retaining these spin-outs within the region enriches the local economy, keeps graduates as part of a skilled workforce, and generates jobs.

The University's IP Enterprise team has significantly contributed to this success by leveraging initiatives such as the EIF, which de-risks technology projects and provides crucial start-up capital. Complementing this, the University offers a professional development framework for new academic founders and supports access to external accelerator programmes.

4.3.5 *Making an impact with research locally*

The University is at the heart of the Liverpool Innovation landscape creating local impact through its research, knowledge exchange and partnerships with employers and the public sector.

These interactions include policy advice and data analysis, world-leading research specialisms (such as Infection Prevention and Control, Materials Chemistry, AI solutions and emerging technologies) and practical steps towards achieving net-zero that are relevant for enhancing productivity¹⁶.

Figure 4.2 (overleaf) illustrates these and other examples, highlighting the University's local economic connections.

¹⁶ For an overview see here: <https://youtu.be/bJneCuLZUXs>

THE UNIVERSITY IS AT THE HEART OF THE LIVERPOOL INNOVATION LANDSCAPE

Liverpool City Region Map



CITY CENTRE CAMPUS



THE UNIVERSITY OF LIVERPOOL'S VIRTUAL ENGINEERING CENTRE (VEC) AT SCI-TECH DARESBUURY



Knowledge Quarter

The University is part of the Knowledge Quarter Liverpool, a world leading innovation district that occupies over 50% of Liverpool City Centre, and has overseen £1bn of new developments, with a further £1bn pipeline. KQ Liverpool is home to some of the world's most influential players in science, health, technology, culture and education.

Digital research and innovation

Digital research at the University of Liverpool is transforming lives, industries and society through ground-breaking research solutions and innovation. Our world-class digital labs and facilities, the Digital Innovation Facility (DIF) and the Virtual Engineering Centre (VEC) are located in the university's city centre campus and at Sci-Tech Daresbury.

These centres provide companies with access to state-of-the-art facilities, expertise and support, acting as a platform for the development and industrial application of next-generation digital technologies for industry and the public sector.

Through our partnerships and networks, we also inform future government policy in the area of applied digital technology to support future research for impact.

Advancing health and life sciences

The University is a major contributor to the local health eco-system through our 2,300 staff and 8000 students in our Faculty of Health and Life Sciences and partnerships with the NHS Trusts. For example, our teaching programme has trained 80% of GPs in the Liverpool City Region. We collaborate with a wide range of academic, NHS, civic and industry partners, through world-leading health centres such as the Pandemic Institute, National Biofilms Innovation Centre, Civic Data Cooperative, and iiCON.

The University is forming ambitious plans as part of the Liverpool Health and Life Sciences Campus developments working with Knowledge Quarter Liverpool and regional and national partners to establish an integrated model for skills and education, research and innovation. An indicative university investment of £200m over the next 10 years is envisaged to deliver these plans and will be integral to the Investment Zone programme and ecosystem.

Our top-ranked veterinary school offers specialist level veterinary care across a range of species including small animals, exotics, horses and farm animal species. We have state-of-the-art facilities and equipment and have a wealth of clinical expertise led by veterinary teams in our teaching practices and referral hospitals working closely with Chester Zoo and local farms.



VETERINARY SCIENCE IN LEAHURST (CHESHIRE)



Material Chemistry

The University of Liverpool is a leader in materials chemistry, with expertise spanning digital materials discovery and formulation, intelligent antimicrobial surfaces, and lab robotics for accelerated research and product development. Central to this is our long-established strategic partnership with Unilever, which led to the creation of the £81 million Materials Innovation Factory (MIF), a global hub for digital R&D.

The University also collaborates with Unilever and the University of Oxford on the £8.8 million Cleaner Futures project, tackling net-zero challenges in the global chemistry supply chain. Additionally, we lead the £12 million AI for Chemistry Hub (AIChem) with Imperial College London, using AI, machine learning, and robotics to speed up chemical discoveries. Public policy

Heseltine Institute for Public Policy and Practice

The Heseltine Institute for Public Policy and Practice, focuses on addressing pressing regional and urban policy challenges. It aims to bridge the gap between academia and policy practice by conducting research and providing insights on economic development, urban regeneration, and social policy. The Institute collaborates with local, national and international stakeholders to support evidence-based policy making and enhance the effectiveness of public services and strategies.

Climate Solutions

The University is driving climate solutions through interdisciplinary research aimed at creating a sustainable future. This research often involves collaboration with other universities, industry leaders, and government bodies. Key areas of strength include, renewable energy, industrial decarbonisation, waste materials, energy and digital, climate change impacts on nature, and net zero.

The University co-leads an EPSRC Centre for Doctoral Training in Net Zero Maritime Energy Solutions, which involves key regional partners as the LCR Freeport, LCRA Combined Authority, Cammell Laird and Peel Ports Group, as well as several maritime energy sector partners. The Centre will play a vital role in delivering highly trained researchers to address net zero challenges currently facing the Northwest, the UK and beyond.

4.4 The University as a catalyst for change

This section highlights the impact the University has on sustainability, advancing students development, the University’s contribution to the culture and visitor economy, and its global reach and influence.

4.4.1 Sustainable development

“Universities play an important role in attracting talented people into the region, research investment as well as upskilling current residents.”
 Liverpool City Region

The University is deeply committed to sustainability, recognising its global academic influence and local impact as a major institution. It aims to achieve net zero carbon emissions by 2035, requiring significant changes in its operations, research, and student engagement. The University also

plays a crucial role in the economic and social development of the Liverpool City Region, fostering a diverse and inclusive environment that supports sustainability initiatives and community engagement. Through outreach programmes, collaborative research, and support for regional projects, the University addresses social issues, promotes local development and strengthens community ties.

Aligned with the United Nations Sustainable Development Goals (SDGs), the University conducts pioneering research in areas such as climate change, renewable energy, and public health. It has implemented sustainability practices on campus, including energy efficiency measures and waste reduction programmes, while offering educational courses that equip students with the skills needed for a more sustainable world. As a key partner of the Liverpool City Region Combined Authority (LCRCA), the University is instrumental in driving regional economic growth, particularly in health, materials, and culture. It also contributes to local resilience through initiatives, including the rapid testing pilot during the COVID-19 pandemic.

4.4.2 Advancing personal growth

“I have just emailed my friends from Liverpool about our next get together. We are now all 70. 1972 will always be the turning point in our lives and 3 years of magic memories.”

University of Liverpool Graduate (1975)

The National Student Survey 2024 shows that the University of Liverpool performs strongly on all measures, but particularly around student perception of assessment and feedback, academic support, organisational management, and learning resources.

Our own student survey commissioned for this report supports this and provides valuable

insights into student perceptions, with the results showing strong net promoter scores (NPS)¹⁷:

- **Academic and Professional Development:** out of approximately 1,200 respondents, the University received a positive NPS of 6.56, indicating that students feel positively about their academic and professional growth.
- **Social and Personal Development:** the University scored a positive NPS of 11.22 for students’ social and personal development, reflecting a favourable view of how the University supports students’ personal growth and social engagement.
- **Recommendation:** the highest score was achieved in the area of recommendation, with an NPS of 33.70. This suggests that a significant number of students would strongly recommend the University to friends and family as a preferred place to study.

These scores highlight strong overall satisfaction among students, particularly in their willingness to recommend the University.

4.4.3 Students’ work impact

Students at the University have an impact on the economy by working part-time while studying. This can provide businesses with the additional labour they require to deliver their services.

¹⁷ A NPS above 0 is considered positive and indicates that there are more students who would recommend the University than those who would not, which is a positive sign.

Students are more likely to work to pay for studies, living costs and other costs. According to 2024 survey data of students, up to 59% of students are working to supplement their income (on average around 11 hours per week). This includes working part-time or in the gig-economy.

Employers in LCR value motivated and intelligent staff. The city’s diverse economy and supportive community offer numerous opportunities for career development and integration into the workforce.

“Students are young, energetic, digitally savvy, enthusiastic, and willing to learn.”
Liverpool Food Network

4.4.4 *Student volunteering*

University of Liverpool students engage in various volunteering activities that benefit local charities and community organisations. Through initiatives coordinated by the Liverpool Guild of Students, students contribute their time to support causes such as mental health charities, helpline services, and homelessness assistance.

According to data provided from the Liverpool Guild of Students, between the start of September 2022 and the end of August 2023, students register on average one volunteering opportunity during their time at university.

Further data from the Liverpool Guild of Students, shows that a total of 1,911 applications were sent for University volunteering opportunities between September 2023 and July 2024, with an average of 14 applications per volunteering opportunity in that time.

“Without a doubt, the University of Liverpool students have made a huge impact. They have produced high quality work in a stressful environment, working to tight deadlines and far exceeding my expectations”
Volunteer Provider/Organisation

Survey data collected for this research found that around 13% of University students volunteer each week. The students who volunteer spend on average five hours volunteering each week. According to student survey data, the University students spend approximately 43 weeks in their accommodation per year and, therefore, on average, a student who volunteers spends 233 hours volunteering per academic year.

Once applied to the overall cohort of students, it is calculated that approximately **3,978 students volunteered around 925,549 hours** in the 2022/23 academic year.

4.4.5 Student activities

The University of Liverpool’s Guild of Students is over 100 years old and actively supports all students, including those from overseas so that they benefit from the full range of activities available. These include:

- **Volunteering:** as highlighted above, volunteering is a popular activity among students. The Guild supports the facilitation of volunteering opportunities through partnerships with local schools, community groups and charities. Opportunities include tutoring school pupils, befriending services with Age Concern, working with mental health charity ‘Be Free Campaign’ and sustainability champions with ‘Students Organising for Sustainability’ (SOS-UK).
- **Sustainability:** the Guild has partnered with the British Heart Foundation and Liverpool John Moores Student Union for the Leave Liverpool Tidy (LLT) campaign. LLT involves volunteers from the Guild staff and students collecting food, clothing, and household waste to be re-distributed away from waste in landfill or on the streets when students move out of private accommodation. As of 2024, to date the programme has saved 175,556 tonnes of waste away from land fill, the equivalent weight of 251 African male elephants, saving over 1,000 tonnes of CO₂ emissions and a donation value of £307,000 to the British Heart Foundation.
- **Societies:** over 220 student-led societies covering sport, religion, campaigning and activism, arts and culture, media, ethnicity/race, and subject disciplines. Since 2020–21, the Guild has not charged membership fees (previously £3 or higher), reducing barriers to involvement. In 2022/23, there were nearly 27,000 society memberships and 10,400 unique members, amounting to 35% of students.
- **Life Experience:** the Guilds runs a popular “Give it a go” programme throughout the year that offers students opportunities to meet new people,

Whatuni? **Student Choice Awards 2024** ranked the University of Liverpool 2nd for Student Life, and Liverpool Guild of Students in the Top 20 Student Unions nationwide.

get to know the city and learn new skills. Experiences are low or no cost with a 100% recommend to a friend rate among those who take part in the programme's events.

- **Employment Opportunities:** over 200 students are employed by the Guild of Students, being paid at least the Real Living Wage. Student employees have praised the Guild for understanding the flexibility and support needs of students working and studying at the same time.
- **Training:** over 1,400 student leaders undertake Bystander Intervention training per year, facilitated by the Guild. The training teaches students' techniques in tackling harassment witnessed in public.
- **Events:** the Liverpool Guild of Students is the second largest indoor music venue in Liverpool after the M&S Bank Arena. It is a frequent host live music events open to students and the public. Notable artists in recent years include Fatboy Slim, The Libertines, KSI, The Streets, Happy Mondays, and The Wombats.

4.5 Driving culture and the visitor economy

Liverpool is a city renowned for its vibrant culture and rich history. The University collaborates with the city's cultural sector, offering students valuable opportunities through partnerships, access to key venues, and contributions to the visitor economy.

4.5.1 Student experiences magnified by Liverpool's cultural strengths

Liverpool's status as a modern cultural capital is evidenced by its 54 million annual visitors, drawn to its World Heritage skyline and famous landmarks such as the Royal Albert Dock, the Liver Building, and the Beatles' legacy. The city's football culture is a major part of its identity and sporting passion permeates the city's social fabric. The city hosts mega-events and is

Unusual Olympic Gold Medals

From 1912 to 1948, the Olympics awarded medals for arts including architecture. In 1932, Liverpool University School of Architecture graduate John Hughes won gold for his thesis project, "**Design of a Sports and Recreation Centre with Stadium for Liverpool.**" **Despite the design never being built, Hughes had a notable career, ending as Principal Architect for Wales.**

committed to cultural events which was highlighted when it hosted Eurovision 2023 on behalf of Ukraine.

The student population at the University reaps significant benefits from the city's rich cultural landscape, which extends beyond mere consumption of cultural offerings to include experiential learning and collaborative projects. The University has key collaborations with LCR's creative and cultural sector through collaborations with cultural partners such as National Museums Liverpool, Tate, Everyman and Playhouse, Liverpool Philharmonic and FACT.

4.5.2 *University of Liverpool as a cultural venue*

The University plays a distinctive role within the culture sector, attracting visitors to the city for both leisure and business:

(i) Conferences and events

The University hosts a range of conferences and events at its distinctive venues, such as the Victoria Gallery & Museum and the Guild of Students. These events attract visitors who contribute to the local economy. In 2022/23, over 21,800 attended public conferences and 5,200 people attended public lectures. The University also contributes to the city's broader appeal as a host city for national and international events, helping to attract a range of academic and professional conferences and exhibitions. The Club Liverpool initiative – in partnership with neighbouring universities, Marketing Liverpool, Knowledge Quarter Liverpool and ACC Liverpool – puts academic ambassadors at the heart of a collaborative approach to securing events that benefit the region's economic while further strengthening its reputation for research and innovation.

(ii) Visits to museums and events

Liverpool also has a remarkable collection of museums and galleries, with more outside London than any other UK city. The University's museums, galleries, and art play a crucial role in the cultural and social fabric of the Liverpool City Region.

The city centre campus hosts three open public destinations; Victoria Gallery & Museum, the Garstang Museum of Archaeology, and the Yoko Ono Lennon Centre, which houses a 400-seat Tung Auditorium that can host live events and had 24,000 people attend events last year. In 2022/23, the University welcomed 56,400 visits to

“It is an honour to be an alumni of this splendid community, and I am proud and grateful for overall University of Liverpool experience”

University of Liverpool Graduate (2001)

exhibitions and 4,600 to Performance Arts events on campus.¹⁸ The Ness Botanical Gardens site on the Wirral attracted over 70,800 visits.

By fostering trusted and sustainable relationships with the surrounding community, the University supports the wellbeing and sense of belonging of students, visitors and neighbours.

4.5.3 *An important part of the visitor economy*

The University also contributes to the regional tourism sector by attracting visitors, including friends and family of students and staff, as well as attendees of conferences and events held on its premises.

(i) Visiting friends and relatives

The University enhances the local tourism economy by attracting visitors, including friends and family of students and staff. Visitors spend on local tourism, retail and hospitality, thus boosting local businesses and employment. On average students welcome approximately three visits by friends and family per year, with 22% of students surveyed welcoming family and friends visits six times over the course of the academic year.

The activities undertaken by visitors to students, such as sightseeing, dining out, and shopping, provide a boost to the local economy. As illustrated in the graph below in Figure 4.4, sightseeing is the most common activity, demonstrating how these visits support local tourism, retail, and hospitality sectors.

¹⁸ Performance Arts attendance is taken from data submitted to HESA with a wider programme of events happening across the year at all Uni of Liverpool facilities, including the TUNG Auditorium.

Figure 4.3: Activities that visitors undertake with students



Source: AMION Survey 2024

The concentration of students in the LCR area presents opportunities for increased visitor activity. Data from primary research shows visit patterns which revealed that, on average, each domestic student receives 2.8 visitors, while each overseas student receives one visitor over the course of an academic year. The length of stay for both domestic and overseas visitors is typically one night. This results in an average tourism spend of £11.8 million from domestic visitors and £4.2 million from overseas visitors.

The visitor economy is also bolstered by returning graduates who visit the city for a range of reasons, such as nostalgia, social, or specific events.

4.6 Wider staff contributions

(i) Staff volunteering

The University of Liverpool promotes staff involvement in sustainability through various initiatives such as volunteering and professional development opportunities, with an active programme of volunteering available. Staff are encouraged to engage in activities connected to Crisis/Poverty, Culture, Education and Learning, Fundraising, Health, Wellbeing & Social Care, and People and Communities. The University is supportive, offering resources, events, and training to help staff contribute to its long-term sustainability strategy.

Using available data on volunteering at the University it is estimated that the University staff volunteering provides over 18,000 hours of volunteering in 2022/23 to local community groups, schools, charities and other organisations.

(ii) Spillovers from the University’s highly educated workforce

The University Campus is part of the LCRs Knowledge Quarter. The employment of the University contributes to a cluster of highly qualified individuals clustered. and this contributes to enrichment in society, fostering a vibrant, well-connected community. University staff also contribute significantly to the social and cultural life of their communities by serving on the boards of charities, companies, and community groups. Their expertise and leadership help shape organisational strategies, promote innovation, and address local challenges, fostering stronger community ties and enriching cultural development.

4.7 Global impact and reach

The University combines excellence in research, education, and global engagement to make a significant impact, with over 28,000 students, and a dynamic learning environment enriched by global exchange opportunities. It also has international partnerships with universities in Europe, North America, India, and China. These collaborations, along with its extensive online education reach, demonstrate its commitment to advancing knowledge and fostering global connections:

(i) Collaboration, policy and strategy

The University's global reach is significantly bolstered by its extensive network of international partnerships and collaborations. These connections enable the University to engage in groundbreaking research and innovative projects with institutions around the world. By working together with global partners, the University enhances its educational and research capabilities, fostering mutual growth and development. Global Partnerships: Liverpool's international collaborations, such as those with ACU, RENKEI and the Jiangsu 2020 World Class Universities Forum, address global challenges and promote sustainable development through research and education.

The University is committed to advancing its global impact through strategic policies that emphasise internationalisation and excellence. Its strategic framework focuses on expanding global research opportunities, enhancing the quality of education, and fostering impactful international collaborations. The University influence extends well beyond the UK and research has impacted in the UK and abroad around numerous areas from public policy (for example: gambling, unhealthy food, or youth crime) to foreign trade (with the UK and investment decisions) and hazard decision making (volcanoes).

(ii) Foreign Direct Investment

Foreign Direct Investment (FDI) plays a significant role in the economic landscape, with universities emerging as key contributors to attracting international business investment. Each year, universities contribute over £1 billion to the UK economy through their R&D activities, aligning with the government's economic growth agenda. The 2022 EY Attractiveness Survey underscores that 'talent' is a principal factor for investors, highlighting the importance of education, technology, and innovation. Universities create a conducive environment for FDI by generating a highly skilled workforce and fostering an ecosystem of innovation that appeals to global investors.

The University exemplifies how academic institutions can drive inward investment. As a prominent player in the LCR Investment Zone, it, has significantly contributed to regional economic development. The University's collaborations with major international firms, such as Unilever and IBM, further illustrate its role in enhancing the attractiveness of the region for foreign investment. By leveraging its research capabilities and industry partnerships,

the University not only boosts local economies but also reinforces the strategic importance of universities in the FDI landscape.

(iii) Online and physical presence

In addition to its campus-based offer, the University is recognised as a European leader in 100% online postgraduate education. Aligned to its global mission, the University's online provision aims to help make high quality education available everywhere in the world. Since launching its first online degrees in early 2000, more than 20,000 students have graduated from its fully online master's and doctoral programmes, extending the University's reach and facilitating a dynamic exchange of ideas across borders.

4.8 Social value of the University

The social value of the activities undertaken by students at the University has been assessed using Green Book and other government department guidance, such as the Department for Digital, Culture, Media and Sport (DCMS) evidence base. The calculations are provided as per annum figures, based on University of Liverpool's contribution in 2022/23.

4.8.1 Education and Skills – wage premium

The University delivers undergraduate and postgraduate courses in a wide range of subjects, and undertakes sector specific Continuous Professional Development (CPD) courses with local employers. The University also attracts high calibre students from across the UK and globally, while also fulfilling the skills required within local sectors.

There is a wealth of existing evidence showing the generally positive impact of training and qualifications on employment and earnings. Utilising publications from the then Department for Business, Innovation and Skills¹⁹, it is evident that studying at the University will lead to wage premium benefits for its graduates. Table 4.1 demonstrates the substantial marginal earnings return (above typical Level 3 qualifications) for the attainment of undergraduate, master's and PhD qualifications in 2024 prices.

¹⁹ Department for Business, Innovation, and Skills (BIS), (2011); The Returns to Higher Education Qualifications

Table 4.1: Expected wage premium from delivery of University courses

	Average wage (2024 prices)	Marginal premium above Level 3 qualification	Marginal premium above preceding level
Provider based Level 3	£36,150	-	-
Undergraduate degree (RFQ6)	£45,911	£9,761	£9,761
Master's degree (RFQ7)	£49,164	£13,014	£3,254
Doctorate degree (RFQ8)	£51,695	£15,545	£4,157 ²⁰

Source: Department for Business Innovation, Skills and Business (2011); AMION Analysis 2024

These marginal premium effects have been applied to the student numbers at the University. Reflecting that not all individuals who register for a degree-level course obtain their qualification, course completion rates have been applied at 96.0% for undergraduate courses and 91.7% for post-graduate.

The University delivered 16,689 days of CPD courses over 2022/23. BIS research indicates that the education wage premium associated with provision of ongoing CPD over a year is £831 per individual. It has been assumed that 12 days of CPD is required to receive this benefit.

Based on the application of these marginal premium effects, the University is expected to lead to wage uplift benefits of £230.8 million per annum (2024/25 prices) from the 2022/23 uptake. This equates to an average wage premium per graduate/postgraduate of £8,424 per annum.

Table 4.2: Expected wage premium from university 2022/23 learning activities (once complete)

	2022/23 students	Expected number of completions	Marginal annual premium	Wage premium per annum (£m)
Undergraduate degree (RFQ6)	22,265	21,374	£9,761	£208.6m
Master's degree (RFQ7)	4,155	3,810	£3,254	£12.4m

²⁰ Note that marginal analysis for Doctorate level qualification assumes that half of new entrants qualified to Undergraduate degree level and half qualified to Master's degree level

Table 4.2: Expected wage premium from university 2022/23 learning activities (once complete)

	2022/23 students	Expected number of completions	Marginal annual premium	Wage premium per annum (£m)
Doctorate degree (RFQ8)	2,260	2,072	£4,157	£8.6m
University of Liverpool – student wage premium impacts	-	-	-	£229.6m
CPD	16,689	1,391	£831	£1.1m
University of Liverpool – total wage premium impacts	-	-	-	£230.8m

Note: Numbers may not add due to rounding

4.8.2 Volunteering

The Green Book Wellbeing Guidance shows that life satisfaction improves based on undertaking volunteering activities with local charities and communities, with an annual value of £1,093 (2024/25 prices) for an individual undertaking regular volunteering. Guidance suggests that regular volunteering relates to 2 hours per week over the year. Once this has been applied, there is a volunteering wellbeing value of £10.50 per hour²¹.

This monetary value has been applied to the amount of volunteering undertaken by University of Liverpool students in 2022/23. Based on this, **the volunteering activities by the University’s students deliver a social benefit of £9.7 million per annum (2024/25 prices).**

²¹ This figure aligns with an alternative shadow wages approach, which considers the foregone income that would have been achieved based on this level of work. This £10.5 figure aligns with minimum wage figures for student age groups

Table 4.3: Expected wage premium from University 2022/23 volunteering activities

	Number of volunteers	Total hours over the year	Social wellbeing benefit per hour (£)	Social wellbeing benefit per annum (£m)
Student Volunteering	3,978	925,549	£10.5	£9.7m

4.8.3 Cultural engagement

The Green Book Supplementary Guidance for Wellbeing shows that engagement with culture and heritage has wellbeing benefits for both users and non-users. To be prudent, only the benefits arising from the users have been considered as part of this assessment.

DCMS guidance, such as their Rapid Evidence Assessment: Culture and Heritage Valuation Studies and its supporting Culture and Heritage Capital Evidence Bank²², has been utilised to capture the social value arising from the engagement with culture in Liverpool by the University students. A benefit transfer approach has been used, applying the most appropriate values from the range of studies in this Evidence Bank as follows:

- **Public conferences and lectures:** a value of £4.70 per attendee (2024/25 prices) has been applied based on a study into historic libraries as part of Historic England’s ‘Heritage and the value of place’ report in 2021.
- **Performance arts:** a value of £6.30 per attendee (2024/25 prices) has been applied based on research into art galleries within the Arts Council’s ‘Regional Galleries and Theatres Benefit Transfer Report’ in 2021.
- **Exhibitions and museum education:** a value of £6.30 per attendee (2024/25 prices) has been applied based on research into regional museums within the Arts and Humanities Research Council’s Measuring Economic Value in Cultural Institutions in 2015.
- **Ness Botanical Gardens:** a value of £9.60 per attendee (2024/25 prices) has been applied based on research into gardens within a ‘Measuring the

²² DCMS (2022), Rapid Evidence Assessment: Culture and Heritage Valuation Studies and its Culture and Heritage Capital Evidence Bank

economic, environmental and ecosystem services value of heathland and woodland’ report in the UK in 2011.

- **Other events:** a value of £3.50 per attendee (2024/25 prices) has been applied based on a study into historic town halls as part of Historic England’s ‘Heritage and the value of place’ report in 2021.

Based on these values and the attendances at university-based cultural events, it is estimated that the **University delivers an additional social value of £1.3 million per annum through attendees at its cultural activities.**

Table 4.4: Social value from university 2022/23 cultural activities			
	Number of attendees	Cultural value per visits (£)	Cultural benefit per annum (£)
Public conferences and lectures	27,059	4.7	£126,450
Performance arts	4,576	6.3	£28,686
Exhibitions	56,474	8.2	£464,861
Museum education	1,451	8.2	£11,944
Ness Botanical Gardens	70,800	9.6	£679,325
Other	3,042	3.5	£10,575
Total cultural benefit			£1,321,840

SECTION FIVE

CASE STUDIES

CASE STUDIES

The University of Liverpool is a civic leader:

The University of Liverpool is a civic leader in Liverpool City Region (LCR) and driving change through policy innovation and research excellence.

The University is a major driver of local change, spearheading innovations that improve wellbeing, standards of living, and economic opportunities in the region. Members of the University of Liverpool are present and active in key institutions and bodies that influence policy in the region, such as the Liverpool City Region Combined Authority's (LCRCA) Business and Enterprise Board, the Innovation Board, and the new three Cluster Boards covering Advanced Manufacturing, Digital & Creative, and Health & Life Sciences.

The extensive collaboration the University undertakes with local and regional partners is illustrated by its contributions around policy and innovation.



Liverpool City Region Policy Partnerships

A key part of the University's civic leadership in LCR is the Heseltine Institute. The Heseltine Institute (HI) is a public policy research institute focusing on the development of sustainable and inclusive cities and city regions.

HI sits at the crossroads of research, policy and practice by bringing together academic expertise with policy-makers, practitioners and communities to inform and impact policy challenges in place. The academic partner of the Liverpool City Region All Party Parliamentary Group (APPG), the HI taps into ground-breaking work happening University-wide across all faculties and disciplines and translates it into analyses, and recommendations that decision-makers can digest.

The HI is uniquely placed as a facilitator of knowledge exchange, that places it and the University at the forefront of policy innovation and is a civic leader. Research and policy engagement revolves around three interconnected themes of urban policy making: the future of cities and city-regions, regional inequalities, and public service reform.

The HI considers global policy challenges but aims to address these by applying a distinct LCR lens to shape and influence policy solutions. Activity includes a policy briefing series generating over 80 publications since its launch in 2020, a diverse portfolio of research, events and thought leadership that range from convening stakeholders to high profile lectures (with noticeable recent speakers such as Lord Heseltine), and boundary-pushing publications. In Spring 2024, the HI launched a Manifesto for the LCR and a Net Zero Manifesto for the LCR.



Supporting the Liverpool City Region to become an “Innovation Superhub”

The LCR has an ambitious target to invest 5% of Gross Value Added (GVA) in Research and Development (R&D) by 2030. This is nearly double the national target of investing at least 2.4% of Gross Domestic Product (GDP) in R&D by 2027.

In 2022 the LCRCA published an Innovation Prospectus that identified three world-leading specialisms (Infection Prevention & Control, Materials Chemistry, AI Solution & emerging technology) with the addition of net-zero innovation as key drivers for increasing productivity in the LCR and for the whole of the UK. The University of Liverpool plays a central role within all four of these clusters:

The University of Liverpool plays a central role within all four of these clusters

• Health

Hosts to, or is a key partner in, several world-leading health centres that include: the Pandemic Institute, National Biofilms Innovation Centre, the Civic Health Innovation Labs, and the Centre for Long-acting Therapeutics. The University is a central pillar of the LCR Life Sciences Investment zone that will expand public and private cross-sector collaboration, expanding existing relationships with players such as AstraZeneca. (Detailed in the Health Sector case study)

• Materials Chemistry

The University of Liverpool is home to a unique industry-academia partnership model with a long-running institutional partner Unilever and home to the Materials Innovation Factory. (Detailed in the Collaborative Research case study)

• Digital Technologies

The University of Liverpool is host to the Institute of Digital Engineering & Autonomous Systems (IDEAS), which combines the existing Virtual Engineering Centre (VEC) with the new Digital Innovation Facility (DIF). (Detailed in the Collaborative Research case study)

• Net Zero

Research contributing to net-zero runs throughout the University of Liverpool, including the above specialisms. (Detailed in the net-zero research case study)

The work within each of these sectors is detailed in the subsequent case studies.

“I am determined to make our Region the Country’s Innovation Engine”

**Steve Rotheram,
Mayor of Liverpool
City Region**

Supporting the innovation ecosystem

The University is fostering an innovation and entrepreneurial ecosystem both on- and off-campus. The Enterprise team helps academics translate their research for wider society by supporting licensing and spin-out activities. Innovators can access financial support through the Enterprise Investment Fund, and leverage the University's connections with consortia such as the North by North West (NxNW) Consortium, securing over £1 million of Innovate funding as start-up capital into their spinouts.

In the 2022/23 academic year alone, 32 UK start-ups were founded by University of Liverpool students in 2023 over £55,000 was allocated from the Design Your Future Programme Enterprise Fund, directly supporting 28 student and graduate startups.

Spin out companies from the University cover a wide range of sectors and address global challenges, including development of a point of care diagnostic for urinary tract infections (UTIs), medical diagnostics to reduce vision loss, and developing novel materials for carbon capture and renewable energy.

Driving Innovation through collaborative research with industry

Where Cutting-Edge Research Meets Practical Impact:
Transforming Industries through Collaboration.

The University of Liverpool works closely with a range of commercial and industrial partners to facilitate cutting-edge research meeting practical application. The University has long-running collaborative relationships with industry giants such as Unilever and BAE Systems, cemented with joint-built facilities such as the Materials Innovation Factory (MIF) and the Virtual Engineering Centre (VEC), complemented with a wide range of project-based relationships working with a range of enterprises from multi-nationals to small- and medium-sized enterprises (SMEs). The below table illustrates examples of this work.



CASE STUDIES

RESEARCH:

Injectable drugs for treatment:

Providing better treatment options for chronic diseases with long-acting, easy-to-administer drugs, improving patient compliance.

The University's Centre of Excellence for Long-acting Therapeutics (CELT) has developed an injectable implant composed of responsive polymer and drug nanoparticles. This implant provides a controlled, long-acting release of medication, which improves treatment adherence for chronic disease patients. Once the drug is released, the materials degrade safely, leaving no toxic residue in the body. This innovation represents a significant advance in drug delivery systems.



IMPACT:

Enhanced treatment:

Improves patient compliance and reduces frequent dosing.

RESEARCH:

A Century of Innovation: Shaping the Future with Unilever.

The University of Liverpool's long-standing partnership with Unilever, dating back to 1917, has driven significant advancements in product development

Materials Innovation Factory (MIF) is a world-class facility launched in 2017, hosting over 200 Unilever R&D staff, focused on materials chemistry. It has made a tangible impact by supporting Unilever's product sales by over €500 million annually since 2018. Investments in cutting-edge technology have led to innovations including Dove's Fibre Repair Active technology and Hourglass's Vegan Confession Red Zero Lipstick, enhancing both performance and sustainability.



IMPACT:

Revolutionising Markets:

The University's collaborations with Unilever are transforming the global chemical supply chain towards Net Zero by 2050.

CASE STUDIES

RESEARCH: **Digital car production:**

Accelerating the production process in the automotive industry, leading to quicker product development and job creation.

The University's Virtual Engineering Centre (VEC) collaborated with Bentley Motors and local SMEs to develop new digital tools for the automotive industry. By sharing engineering data and working closely on Bentley's flagship model, the Mulsanne, the VEC helped create a framework that significantly reduces product development time. This collaboration not only streamlined Bentley's processes but also led to the creation of highly skilled roles to support the ongoing digitalisation of their manufacturing processes.



IMPACT: **Economic growth:**

Speeds up production and creates new jobs.

RESEARCH: **Biofilm:**

Addressing global challenges such as antimicrobial resistance, food safety, and water security.

The University of Liverpool, a key partner in the National Biofilms Innovation Centre (NBIC), is at the forefront of pioneering medical innovations. The NBIC has a network of over 260 companies, working collaboratively with. Liverpool researchers have led research projects that included developing self-cleaning surfaces for surgical tools with Genoca Ltd, and cool plasma technology for wound dressing with 5D Health Protection Group Ltd. With this work, the University is addressing critical health challenges, enhancing infection prevention and wound healing in medical settings.



IMPACT: **Improved Safety:**

Advances strategies for managing resistance and ensuring safety.
Net Zero by 2050.

CASE STUDIES

RESEARCH: **Understanding markets:**

Improving public services, travel policies, and arts promotion through advanced the classification of people.

The University's Geographic Data Science Lab (GDSL) applied cutting-edge machine learning techniques to create detailed and reproducible geodemographic classifications from large spatial datasets. These classifications are being used by organisations such as Hull City Council, Transport for London, and the Office for National Statistics to improve service delivery, develop sustainable travel policies, and support cultural initiatives. The classifications are also utilised by private companies, including CARTO, to enhance user experiences on their platforms.



IMPACT: **Informed decision-making:**

Enhances public services and policy.

RESEARCH: **Protecting our pets:**

Enhancing the health and safety of pets by monitoring disease outbreaks and improving vaccination rates.

The University developed SAVSNET, the world's first comprehensive active surveillance system for pets. SAVSNET collects and analyses electronic health records from UK veterinary practices and diagnostic labs, providing critical data to detect outbreaks, improve vaccination coverage, and influence antimicrobial practices. This research is instrumental in shaping national policies for animal health.



IMPACT: **Better Pet Health:**

Improves disease management and vaccination rates.

CASE STUDIES

RESEARCH:

Aircraft safety and costs:

Making air travel safer and more affordable by reducing development time and costs for aircraft structures.

The University has pioneered technology that integrates physical tests with advanced simulations, enabling more accurate predictions and reducing the need for extensive physical testing. This has led to a 30% reduction in aircraft development time, and cost savings of £10 million per cycle. Their methodologies are now being incorporated into international airframe manufacturing standards by leading aerospace companies such as Airbus, Boeing, and Bombardier.



IMPACT:

Cost savings & efficiency:

Reduces development time and costs.

RESEARCH:

Researching the Past:

Allowing people to explore and understand historical criminal records, influencing public perceptions of criminality.

The University created the Digital Panopticon, a powerful online resource that links together over 50 digitised datasets, offering access to the most complete records of 90,000 convicts tried at the Old Bailey between 1670 and 1925. The platform supports research for family historians, educators, and students, and has been pivotal in changing public understanding of criminality in the UK, Australia, and the US. The project has also led to exhibitions, public talks, and media features that disseminate these findings widely.



IMPACT:

Historical insight:

Enhances understanding of historical criminal justice.

CASE STUDIES

RESEARCH:

Advancing Medicine Development:

The University of Liverpool is a lead of the £8.2 million Medical Research Council funded medicines carer development partnership, with academic and industry bodies that include Queen Mary University London, The University of Glasgow, the University of Manchester, GSK and AstraZeneca.

The Medical Research Council (MRC) Medicines Development Fellowship Programme will strengthen interactions between academia and industry to deliver world-class medicines development. It will support four pre-doctoral Fellows and the development of four new, five-year Clinician Scientist Fellowships.

The programme is co-funded and supported by two major pharmaceutical companies, GSK and AstraZeneca, in addition to Optum and Hammersmith Medicines Research, the UK's largest clinical research organisation for early clinical trials.

It will cover several disease areas as core themes, including infection and inflammation, cardiac, and respiratory disease. These align with key strengths of the four Universities, such as experimental medicine, artificial intelligence and data science, and product development areas for industry partners, ecology and neuropsychiatry.



IMPACT:

Innovation through multi-sector mobility.

The unique scheme will foster a seamless working environment which robustly addresses multi-sector mobility and porosity between academia, industry and the NHS.

RESEARCH:

Harnessing the digital revolution for local benefit.

The VEC has been a key contributor to a series of business support digital adoption programmes.

The VEC has worked with regional entrepreneurs and SMEs to raise awareness of and build the capability to capture opportunities, provided by digital technologies, such as new markets and productivity gains, as well as support them in overcoming any challenges they face in the process. The VEC received over £10 million of funding and supported 586 businesses/enterprises. One of the projects delivered with traditional valve manufacturer Heap and Partners received the Collaboration Award at the 2019 Made in the North West Awards



IMPACT:

A digitally innovative, competitive and leading LCR Economy.

This work ensures that the LCR economy benefits from the latest digital innovations, creating opportunities locally and beyond.

A Health and Life Sciences Supercluster

The University of Liverpool is a boundary-pushing health and life sciences leader.

The Liverpool City Region (LCR) is home to a rapidly expanding Health and Life Science supercluster. The sector is worth £5 billion per annum to the city-region economy and 14.2% of gross value added (GVA), nearly double the national average. This has been recognised by the designation of Liverpool as a Life Sciences Investment Zone, with the potential to drive up to £800 million of government and private investment to create 8,000 jobs, deliver new state-of-the-art facilities and business and innovation support, while training a new generation of talent.

Informing Health Policy

The University is a key partner in The Pandemic Institute (TPI), a 7-way collaboration between local Liverpool academic, health and civic partners. TPI aims to develop our ability to predict pathogen emergency, prepare for likely threats, prevent spreading, develop appropriate clinical and behavioural response, and recover and re-open. The Institute notable early research includes: understanding public perception through healthcare communication and information distortion of COVID-19, mitigating Monkeypox transmission through surfaces, and modelling drug knowledge libraries for pandemic /avian flu.

The University of Liverpool is a crucial part of this cluster, and is instrumental in pioneering innovations that transform health care from public policy to bed side, and everything in between.

In 2019, the Facility of Health and Life Sciences, with funding from the Liverpool City Region Combined Authority (LCRCA), established the Civic Data Cooperative (CDC). The CDC connects civic organisations, industry experts, and community voices to mobilise data from across public sector organisations in the LCR. The CDC was instrumental in navigating our way through and out of the COVID-19 Pandemic, the existence of the CDC meant that a linked record system to enable trialling of lateral flow mass testing could be created in 90 days instead of 4 years. The data records are also crucial for the ground-breaking C-GULL study, following the lives of 10,000 first-born babies in the LCR.

The work of CDC made Liverpool the perfect host for the trailing of post-lockdown live events.

CASE STUDIES

Leading the focus upon preventative medicine

The University has a long and successful history of vaccine research, improving their effectiveness, and developing new formulations to fight against devastating infectious diseases. Areas of success include: the testing and mass roll out of a Rotavirus Vaccine for Infants in Malawi, discovering that longer interval between COVID-19 vaccine doses boosts immunity, the development of a novel Zika vaccine that enter clinical testing in 2022, and the development a new generation of typhoid vaccines.

The combination of the University of Liverpool's vaccine and materials chemistry expertise makes Liverpool an attractive area for investment and collaborative research. In 2024, AstraZeneca announced a £450 million investment in a new vaccine manufacturing and research centre in Speke. In 2022 the Pandemic Institute and CSL Seqirus signed a £5 million 5-year flu prevention.

Successful trialing of the Rotavirus Vaccine in Malawi has led to 38 additional African countries rolling out infant vaccination programmes, preventing over 170,000 deaths since 2013.

Transforming Clinical Practice

The University has strong collaborations with local NHS Trusts, with 102 joint medical and dental clinical academics, 108 GMC registered medics completing PhD or master's study, and 371 local trust clinics with honours academic affiliations. This ensures that research conducted at Liverpool is inspired by the challenges Liverpool also faces in local hospitals. Merseyside has extremely high rates of lung, trachea, and bronchus cancers, 44% higher than the English average. The University's Liverpool Lung Project (LLP) constructed a lung cancer risk model, enabling a clinically efficient, cost-effective method for targeted referral of high-risk individuals. Using this model, NHS England began a lung screening programme in 2019. As of 2023, the programmes had sent over 1 million invites, detected 3,000 lung cancers, and reduced lung cancer mortality by 26% in men and between 39% and 61% in women. The programme is now being extended across more areas by NHS England.

CASE STUDIES

Revolutionising drug and medical treatment

The University co-directs the National Biofilms Innovation Centre (NBIC), working to deliver breakthroughs needed to prevent, detect, manage and engineer biofilms caused by microorganisms like bacteria colonising surfaces. Biofilms are implicated in more than 70% of infections and are incubators of Antimicrobial Resistance (AMR) and have an estimated economic impact the equivalent of \$5trillion globally. NBIC partners with more than 250 industries, and collaborative research by the University of Liverpool in this field includes preventing biofilms from spoiling medical equipment, developing infection-control wound dressing, and enhancing domestic hygiene and cleaning products to prevent biofilm formation with Unilever.

Established in 2020, the University's world-first Centre of Excellence for Long-acting Therapeutics (CELT) is an exemplar of collaboration, in which existing pill treatments are transformed into long-acting medicines, making vital drugs much easier for patients to take and for clinicians to administer. Research areas include developing long-acting treatments for hepatitis C, products that control Tuberculosis, and expanding on the success of anti-infection drugs utilised for HIV.

The University is home to the Microbiome Innovation Centre. Advancing microbiome research enables us to understand how microbial communities impact human health. Research in this area is advancing treatment for life-long conditions such as Cystic Fibrosis and Inflammatory Bowel Disease.

In the Research Excellence Framework (REF) 2023, 97% of the University of Liverpool's Public Health, Health Services and Primary Care research was rated as world-leading (4*) or internationally excellent (3*), ranking it joint 3rd in the UK. 100% of the University's impact and environment is world-leading (4*) or internationally excellent (3*) in this area.



Leading the Way Towards a Sustainable Future

The University of Liverpool is helping create a sustainable society.

Sustainability is a cross-cutting theme in the University's strategic framework Liverpool 2031, which sets out a vision to foster a net zero society and economy by changing operational practices and policies, supporting decarbonisation in the LCR. It is also contributing to social and environmental impact through its ground-breaking research aligned to the United Nations Sustainable Development Goals (SDGs). The University's efforts are recognised in the in the QS Sustainability Rankings; in 2024 it was ranked 50th out of 1000 institutions globally.

Enhancing social and environmental impact through its operations

The University of Liverpool is adapting its policies and practices to improve the impact the University has on people and the planet:

- **Pledge to reach net zero carbon emissions in line with the city region** utilising the Standardised Carbon Emissions Framework (SCEF) for Higher Education institutions covering scopes 1, 2 and relevant scope 3 categories.
- **Increasing biodiversity on campus** by enhancing green spaces and protecting habitats across all campuses. The University has been awarded gold accreditation in the national Hedgehog Friendly Campus scheme.
- **Ethical Investment Policy** that aligns with the United Nations Principles for Responsible Investment and the United Nations Global Compact. Exclusions cover companies in which a significant source of revenues is from fossil fuels extraction, arms sales, animal-tested products, and tobacco products.

- **Reducing wastage** by 443 tonnes (33%) compared to the 2009–2019 10-year baseline of 1354 tonnes. 66% on the way to hit the 2025 target of 50% reduction.
- **Encouraging sustainable travel** through initiatives such as a season ticket loan scheme, in which staff can be compensated for taking public transport to work.
- **Localising food and beverage** procurement by purchasing from local companies, such as Crosby Coffee, and preparing food in-house for all campus café bars.

The university has been nominated for a Green Gown Award 2024 for its work implementing a sustainable food policy.

CASE STUDIES

Staff and student contributions to sustainability

Liverpool 2031 commits to redesigning curriculums by including sustainability as a key competency and ensuring that all taught programmes connect to the SDGs.

This builds on the existing Sustainability in Action module, which provides students with knowledge on sustainability and how they can apply it to their studies, personal lives and future careers. The module has been nominated for awards including the Association of Graduate Careers Advisory Services (AGCAS) Sustainability Impact Award 2021, and it was a finalist at the 2021 Green Gown Awards.

Staff are also provided with a range of opportunities to develop their sustainability knowledge and skills, with sustainability now built into all new-starter inductions. Lecturers are provided with access to a range of resources and support to help them embed sustainability into their teaching.

In February every year the University hosts Sustainability Week in which nearly 40 educational, wellbeing and creative activities and events take place, covering a range of sustainability topics.

“We are excited to launch our new Sustainability Strategy in early 2025, building on the commitments set out in Liverpool 2031. We have ambitious plans to drive forward change locally, whilst supporting the implementation of the UN SDGs across the LCR and globally”.

Sally Shaw, Head of Sustainability Programmes



CASE STUDIES

Climate Solutions Research

The University is driving climate solutions through research aimed at creating a sustainable future.

Research from the University is pivotal in deepening our understanding of climate change and environmental degradation, assessing their societal impacts and developing innovative solutions for mitigation and adaptation. This interdisciplinary research often involves collaboration with other universities, industry leaders, and government bodies on both local and global scales. Key areas of strength include:

- **Renewable energy:** The Stephenson Institute for Renewable Energy spearheads transformative research with approximately £18 million in active projects. Producing over 60 scientific papers annually, the Institute drives advances in solar chemical technologies and chemical recycling methods, such as polystyrene degradation via aerobic digestion, significantly impacting the future of sustainability and natural sciences.
- **Industrial decarbonisation:** The £8.8 million Prosperity Partnership between the University of Liverpool, Unilever, and the University of Oxford, focuses on reducing the carbon footprint of consumer products. The collaboration is developing sustainable chemical solutions by leveraging waste products, including carbon dioxide, to create eco-friendly alternatives for everyday items, such as shampoos and detergents.
- **Waste materials:** Research is underway to transform industrial waste sulphur into an alternative to plastics. With over 70 million tonnes of waste sulphur available, this research explores its potential as a cost-effective, biodegradable material when combined with suitable organic cross-linkers.
- **Energy & Digital:** The Virtual Engineering Centre has created a mixed reality simulator training tool for Sellafield, the UK's largest nuclear waste site. This innovative tool trains operatives on equipment before its physical arrival, enhancing safety and saving £20 million by optimising training infrastructure.
- **Climate change impacts on nature:** The University of Liverpool, in partnership with the University of Sheffield and Lancaster University, manages the Buxton Climate Change Impacts Lab (BCCIL). BCCIL is dedicated to investigating the impacts of climate change on the UK grassland ecosystems. Established in 1993, it is the longest running climate change experiment globally.
- **Liverpool City Region Net Zero:** Research at the University of Liverpool focuses on reducing carbon emissions for National Museums Liverpool and the Everyman Theatre. By assessing energy and carbon profiles, this supports these organisations in creating action plans to achieve Net Zero Carbon, marking the start of long-term environmental partnerships.
- **Homes:** Research from University of Liverpool is innovating with thermo-regulating paint additives designed to save energy and reduce CO2 emissions. This research focuses on using encapsulated phase-change materials to enhance thermal efficiency in buildings, particularly older homes, by storing and releasing heat effectively.

The ongoing research around the environment and carbon emissions underscores the University of Liverpool's contribution to addressing climate challenges and advancing sustainable solutions.

Culture & Heritage

The University plays a significant role in contributing to Liverpool's culture and heritage

Liverpool has a strong arts, culture and heritage sector that is a key asset to the city-region. This is recognised by the Liverpool City Region Combined Authority's (LCRCA's) commitment to spend the equivalent of 1% of its annual devolution funding from the government to support cultural activities, the first in the country to do so.

Digital Heritage and Modernising Preservation

The £1 million Centre for Digital Heritage Research, was funded by the UK government's World Class Laboratories Fund. This Centre, which opened in May 2024 at VEC's Sci-Tech Daresbury base, is the UK's first National Centre for Digital Heritage. It aims to position the UK as a global leader in heritage research, conservation, and SMEs.

Virtual Engineering Centre (VEC), in collaboration with St George's Hall Trust, is developing a proof-of-concept heritage blockchain platform called Heritage Blocks. This open-access platform aims to revolutionise heritage preservation and accessibility through collaboration with SMEs, galleries, museums, and charities, leveraging VEC's advanced technologies. In a pioneering pilot project, VEC created a 360-degree digital scan of St George's Hall's historic Minton Tile floor. This simulation technology allows for remote access to the tiles, enhancing the visitor experience and showcasing the hall's beauty. Additionally, it has practical applications for the maintenance and repair of the tiles.

CASE STUDIES

Partnerships with Cultural Institutions

National Museums Liverpool (NML)

Since 2019, the University has had a memorandum of understanding with National Museums Liverpool (NML), formalising a collaborative relationship. This partnership includes joint research, shared use of collections, and the curation of bespoke University courses such as the International Slavery Studies MA and Sustainable Heritage Management MA.

International Slavery Museum and Maritime Museum Redevelopment

The University's School of Architecture is collaborating with the renowned design firm Feilden Clegg Bradley Studios (FCBStudios) on a £58 million redevelopment project for the International Slavery Museum and Maritime Museum as part of the Waterfront Transformation project.

Collaboration with Tate Liverpool

Since 2016, the University has worked closely with Tate Liverpool to engage academics, students, artists, and the public with pioneering research and Tate's world-class collections. This partnership has led to support for exhibitions such as Lucy McKenzie and Radical Landscapes, and collaboration on an Arts and Humanities Research Council (AHRC) Collaborative Doctoral Award (CDA) Doctoral studentship titled "Migrant Eye: Reactivating the Photogenic Past Through Archives and Exhibitions in Liverpool and North West England."

Both the University of Liverpool and Tate are now recruiting for a second collaborative AHRC doctoral award titled "Adrian Henri – Early Happenings in Britain in the 1960s and 1970s." The support from the University of Liverpool has been praised by Tate as "invaluable," enhancing the scope of exhibitions through co-curated programmes led by University PhD students and academic staff. The exhibitions attracted 6,673 and 11,285 visitors respectively, with workshop series for all projects drawing hundreds of attendees.

Liverpool as a city region stands out as a dynamic cultural and heritage destination, bolstered by significant contributions from the University of Liverpool and its

Open Eye Gallery:

During Eurovision 2023, the University was part of creating the city-wide app that lead EuroFestival. In collaboration with the Open Eye Gallery, the University campus joins other city-centre public realm sites to display a selection of six Ukrainian photographers who tell their stories about home through images. Displayed alongside the images are responding poems written by six UK poets including Professor Deryn Rees-Jones from the University's Department of English.

"Tate Liverpool's continued work with University of Liverpool is important as we work towards a shared goal of broadening participation in art and culture and increasing impact among diverse audiences"

Melissa Bell, Development Officer at Tate Liverpool

Uplifting local communities

The University of Liverpool is a place-based institution that uplifts the surrounding communities.

This case study highlights several ways in which the presence and activity of the University have a profound social impact on the residents of the Liverpool City Region (LCR). In particular, we focus on the University's role in being a venue of informal education, a host for public events, and providing support services.

Legal Services

The University's Law Clinic, established in 2007, offers free legal advice and representation to Liverpool residents who cannot afford it. Staffed by six solicitors specialising in immigration, family, and Special Educational Needs (SEN), the clinic also involves Law Students in live client cases.

A notable project of the Law Clinic is the Special Educational Needs Judicial Review. This initiative helps families of children with SEN access justice when they cannot enforce their legal rights. Students, under supervision, conduct client interviews, legal research, and draft letters of claim. These letters often lead to quicker resolutions compared to the lengthy Tribunal appeals or complaints processes.

The project's importance is underscored by widespread non-compliance with SEN laws. The Local Government and Social Care Ombudsman reported high fault rates in education-related complaints (LGO, 2022-23). Many families cannot access legal aid due to eligibility criteria, and even those who qualify may struggle to find a solicitor due to a shortage of legal aid contracts.

Since March 2023, the project has achieved various successes, including securing school transport, preventing school terminations, and obtaining funding for special school placements. It was highly commended at the Attorney General National Pro Bono Awards in May 2024.

In 2023/24, the Law Clinic assisted 485 clients, 93% from Merseyside, with support from 375 students.

CASE STUDIES

Dental Care Services

Merseyside residents are eligible for high-quality, free dental treatment, provided by University of Liverpool Students under the supervision of staff as part of the University's dental clinic.

In 2023-2024 provided care to 6,709 patients over the course of approximately 20,000 appointments. This is around 100 patients per day with around 500 appointments in a single week.



Informal Education

Pint of Science Festival

The University is a key organiser of the annual Pint of Science festival. Pint of Science is a global festival celebrated in cities worldwide, providing a unique platform to share the latest issues being tackled and questions being answered in labs and universities, in an interesting and accessible way. The Pint of Science Festival runs over 3 days in Liverpool pubs, and the events regularly draw over 400 attendees, creating an excellent opportunity for researchers to connect with the community.

Ness Botanical Gardens

The Ness Botanic Gardens, located on the Wirral Peninsula, were established in 1898 and donated to the University in 1948. Covering 64 acres, it includes the National Collections of Sorbus and Betula. Credit: Yvette Marks

The gardens serve as both a research resource and a public educational venue. They host a learning and engagement programme, offering school visits, family activities, outreach sessions, and adult learning topics like Birdsong and Forest Bathing. In 2023/24, this programme engaged over 6,000 people, including 2,857 pupils from 40 schools.

Research at Ness Gardens involves academics from the University of Liverpool, Liverpool School of Tropical Medicine, and Liverpool John Moores University. Notably, the Experimental Archaeology Research and Teaching Hub (EARTH), established by Dr Peter Homell in 2022, allows the public to engage in hands-on learning about early human methods for controlling fire and making clay pots.

CASE STUDIES

Community Events

The University of Liverpool's Leahurst veterinary campus is located in rural Cheshire. On the campus is clinical and education facilities, such as a Small Animal Hospital and an Equine Hospital, as well as on-site farm animals. In 2024, the campus hosted its first Leahurst VetFest Open House. Open to all University staff, students and the general public, the day gave local people to explore the amazing world of veterinary medicine, get a glimpse behind the scenes at Leahurst and meet some of the animals.



A vibrant student destination

The University is home to around 19,000 domestic students and 7,000 international students from over 130 countries, offering a diverse and enriching environment that complements the city's vibrant cultural scene

Liverpool: A city of diversity and culture

Liverpool is known for its rich history, dynamic cultural life, and affordability, making it a top choice for students. The city boasts the most national museums and galleries outside London, and is a UNESCO City of Music, offering a unique blend of heritage and modern attractions. It was also rated the best night out in 2023 by Student Crowd, with diverse nightlife options and a thriving city centre.

The city is a cost-effective option for students, with living costs significantly below the UK average. The NatWest Student Living Survey reported Liverpool's monthly student expenditure to be £230 below the UK average and £772 below London.^[1]



CASE STUDIES

Academic and Professional Development Opportunities

The University of Liverpool holds a Gold award from the Teaching Excellence Framework (TEF) (2023) for its high teaching standards and outstanding student experience. Through its Liverpool Curriculum Framework, students benefit from research-connected teaching, active learning, and authentic assessment. Key examples include:

- **'Insider Imprint':** Life Sciences students submit articles showcasing skills and exploring research careers.
- **Law Clinic:** Provides real-world legal support, winning commendations for its SEN Judicial Review Project.
- **Maths with Industry Partners:** Projects with industry partners address real-world issues, from pensions to international social security.
- **Veterinary Clinic:** Offers hands-on experience with thousands of animal cases, with top rankings in the National Student Survey 2024.
- **Parliamentary Placement School:** Politics students gain experience as assistants to local MPs.
- **Career and Employability team support services:** An award-winning service, with an on-campus Career Studio, with 20 students trained as career coaches. Working within the curriculum, they help students connect their academic learning the workplace, utilise digital tools to practice CV writing and interviews, and have a huge range of other events, such as the career fairs, regularly attended by over 100 employers.

CASE STUDIES

Personal development and Student Life

The University provides ample opportunities for personal growth, including:

- **Study abroad:** Offers a range of supported study abroad programmes, with unique options like the “Year in China,” available to most undergraduate students. Around 15% of students graduate having undertaken a year abroad opportunity.
- **Guild of Students and Societies:** All 220 student-led societies are free to join, with the “Give it a Go” programme encouraging students to try new activities.
- **Volunteering:** Supported by the Guild of Students, volunteering opportunities range from local community projects to sustainability initiatives.

- **Wellbeing support services:**

The University, alongside John Moores University, Mersey Care, the Innovation Agency, Brownlow Health, and the student unions, developed an integrated model of support for student mental health, known as the Liverpool Model. It includes Liaison Service to help students access support, U-COPE on-campus therapy services, and frequent clinical partnership meetings. The University has invested £4.75 million in mental health and wellbeing support over the past five years, offering robust assistance to students in need.

The University of Liverpool offers a culturally rich, affordable environment that promotes both academic excellence and personal growth, making it an attractive destination for students from around the world.

“Studying at XJTLU [the University’s sister university, located in China], making friends from across the world, and learning about China’s history, language and culture was an amazing experience. The journey of moving abroad pushed me outside of my comfort zone and has made me a more confident person today.”

Year in China Student

Fostering Social Mobility

“The University of Liverpool is a leader in widening access and striving to improve social mobility”

The University excels in widening access and enhancing social mobility among its students. It is a leading Russell Group institution in promoting participation and improving student outcomes.

Work by the University covers the entire student life cycle. This includes widening participation by raising aspirations and providing enrolment support for those from underrepresented groups, otherwise known as “Getting In”. In addition, the University supports students once started University and preparing them life after, known as “Getting on”.

CASE STUDIES

Getting In

A key measure of Widening Participation performance relates to the proportion of students successfully gaining a place from the most underrepresented backgrounds. As measured against POLAR4 postcode data, the University of Liverpool consistently performs in the top three of the English Russell Group universities, with an average of 10.5% of entrants over the past 3 years living in the most underrepresented national quintiles. This figure, as a percentage and in terms of overall student numbers, has increased year-on-year since 2019–20.

Liverpool's strategic policy aims to enhance access for underrepresented students, with a particular focus on those from the Liverpool City Region. In the Liverpool city council area, 32.3% of children live in poverty, and GCSE attainment is lower than the national average.

Key programmes include the

- **Merseyside Young Health and Life Scientists** prepares students for higher education and careers through hospital visits and academic workshops. Benefiting 250 students in 2022/23, it expanded to 300 in 2023/24.
- **Future Goals Partnership:** the University, Into University and the LFC Foundation, have created a learning centre in Anfield; providing academic support, aspiration rising programmes, mentorships (from UoL students), and non-academic life skills sessions. The centre achieved a 60% University progression rate (compared to a 23% local average) in 2023. This success led to a £3 million expanded Future Goals partnership, with Everton in the Community, and the Steve Morgan Foundation, that included the opening of a second centre in Kirkby in October 2023. Since 2017, both centres have supported over 5,100 students, received 193 mentor volunteers from, and made 87 visits with over 2,000 students to the University

- **Liverpool Scholars:** A range of activities to Year 12 students to take part in that support their entry into higher education. Source: Intouniversity

- **Liverpool Advocates:** A programme of current students supporting widening participation. In total, the students have contributed 11,500 hours of work in 2022/23. Over 25% of students helping were previous outreach programme participants. Other success programmes include Student Guild volunteering, scholarships, Career, and Disability Coaches.

In 2023/24, the Widening Participation team worked with around 7,000 students, 1,650 of whom were on long term projects, such as Merseyside Young Health and Life Scientists, and Liverpool Scholars.

“Our children have learnt how to work effectively as a team – it was lovely to see how some of our quieter and less confident children came out of their shell during the Weeks. Our students have also been able to develop their debating skills. The questions they have asked about their futures shows how interested they are in university and what the future can hold for them.

**Year 6 teacher –
Millbrooke Community Primary School
on the work of Into University Anfield Centre**

CASE STUDIES

Getting On

The University supports underrepresented groups in succeeding in their academic and professional goals.

The Careers and Employability team at the University of Liverpool provides students with a range of support, tools, and activities that are designed to help them get the skills and experiences they need to be successful. Front and centre of their offer is the Career Studio; an accessible and friendly space on campus with twenty current students trained as Career Coaches. Working within the curriculum, they help students connect their academic learning into the workplace, utilise digital tools to practice CV writing and interviews, and have a huge range of other events, such as the careers fairs boasting over 100 employers.

Careers and Employability Service has won several prestigious national awards, including the AGCAS International Award for demonstrating an outstanding commitment and contribution to working with students, relevant employers, and promoting internationalisation.

In addition to this overarching employability offer, the Equality+ programme is specifically designed to help underrepresented students overcome barriers and access opportunities.

Equality+ has wide range of additional events, talks and experiences for students to take part in and highlights include:

- **The Digital Accelerator Programme** for 2023/24, aimed to enhance career opportunities for commuter students by addressing the digital skills gap. Commuter students were trained as “digital coaches”, that equipped them with an understanding of industry needs, and design their own digital skills session that were delivered to fellow students. 18 digital coaches delivered 104 sessions covering 13 unique topics.
- **Career Confidence for Women programme**, which supported female students from under-represented groups in their penultimate year of study until the end of their University studies. Programme initiatives included: employer-led masterclasses, speaker sessions by inspirational women, and mentoring support. 50 students benefit from the programme annually, with 80% from the 2019–2021 cohorts now in highly skilled jobs.
- **The Rise Programme**, delivered by the social mobility charity upReach, aims to provide 60 widening participation students with personalised, one-to-one career support throughout their University experience. The programme assists students in exploring career options, tracking their progress, and significantly improving their chances of securing graduate employment, especially in comparison to peers from similar backgrounds. upReach works closely with leading graduate recruiters to further enhance students’ employment prospects. If all 60 places become filled or a student is not eligible for Rise, students can still benefit from upReach’s additional support through its other programmes.
- **Enterprise Challenge programme** recruited 21 students from widening participation backgrounds to participate. The event took place in Berlin, where students collaborated with peers from two other universities. Throughout the challenge, participants were tasked with solving a real-world business problem designed to test their creativity, problem-solving, and teamwork skills. Industry professionals and employers were present to provide guidance, mentorship, and feedback, helping students refine their ideas and gain valuable insights into the professional world. Students also received financial support through the Employability Fund, which aimed to alleviate financial constraints and ensure that the students could fully engage in the challenge and maximize their experience.

CASE STUDIES

Additional programmes include:

- Employability Fund bursary, providing up to £500 to nearly 100 students to cover expenses related to work experience and employability boosting activities;
- Discovery Day events for students from underrepresented backgrounds;
- EQ+ award to recognise outstanding contributions of students in advancing equality, diversity, and inclusivity;
- “Strawberry Field Steps to Work” experience and training for young people with learning difficulties;
- “Exceptional individuals” tailored career support and consultancy for neurodiverse people;
- Catch22 Employment and Training;
- Change 100 that connection students and graduates with disabilities to summer placements.

The University offer the EQ+ programme as part of our inclusion efforts, but Careers and Employability (C&E) are committed to making sure that EDI is not just an “add on”. The C&E team work collaboratively to continuously review the University’s services for accessibility and inclusivity. However, without specific, targeted interventions, like EQ+, gaps will persist for students from underrepresented backgrounds.

Every year, the Career Studio sees around 2,500 widening participation students, in 2023/24, over 4,500 widening participation students attended at least one employability event.

“In the coming 2024/25 year, we aim to further develop EQ+ to continue to support students by providing them with the resources and tools needed to enhance their employability. A key initiative is the EQ+ Experience, an inclusive work experience programme being created in collaboration with our partner employers who share our commitment to diversity and inclusion.”

Ellie Roberts-Vick: Equality, Diversity and Inclusion Project Officer.

Global impact

Liverpool is a global city. The University is an institution of international influence, boasting a diverse student body, and excelling in academic innovation and research.

The University is at the forefront of addressing global challenges such as environmental sustainability, health disparities, and poverty. To address these challenges, a local to global and global to local flows of people, knowledge and perspective is needed.

Global Challenges tackled by the University of Liverpool

Research from the University is tackling a wide set of sustainable development challenges including:

- Preventing infection disease globally through vaccine development and roll out.
- Tackling environmental risks, such as air pollution and climate change vulnerability
- Industrial Innovation, particularly working with port cities.
- Promoting gender equality and empower all women and girls through research and opportunity creation.

The University of Liverpool is also at the forefront of global health challenges, including antiviral prototypes for future pandemics and innovations in sight-saving therapies. The University is also working to reduce infant mortality and combat poverty through research and advice on modern slavery and ethical supply chains.

Global staff and students

The University employs staff from over 100 countries, with 21% being non-UK nationals, and enrolls 7,500 to 9,500 international students annually from around 130 countries. Alumni are present in nearly every country worldwide.

CASE STUDIES

An outward facing and connected University

The University has a long-track record as an internationally outward-looking institution. Building upon the city's global recognition, the University of Liverpool is aligning with similar high profile and respected institutions.

The Pandemic Institute, established in 2021, exemplifies its collaborative spirit. The Pandemic Institute combines academic and health expertise to address ongoing and future public health challenges.

Intellectual property and spin-outs from the University are internationally recognised as exciting and high value on the world stage. Robitiz3d Limited is an example of such, with their pot-hole filling robotics technology attracting overseas investment from Hong Kong.

Research excellence

91% of The University of Liverpool's research is rated world-leading or internationally excellent.

"The Global Engagement pillar in our university strategy has been heartily embraced by colleagues through our research, teaching and partnerships, from the city to around the world."

**Tariq Ali, Pro-Vice-Chancellor
Global Engagement and Partnerships**

CASE STUDIES

Align goals with global challenges

The Liverpool 2031 strategy places the ambition “create a fairer, better world” in the University’s core purpose. The University’s research and strategic activities aligns with the UN Sustainable Development Goals (SDGs), with exciting future activities around global port cities, innovation ecosystems and transnational education.

Make Key Human Impacts

The University’s work makes a direct impact upon the global population. Research at the University of Liverpool’s is influencing global decision making, and has saved lives, preserved sight, and reduced injury risks. For example, research on cooking gas emissions is believed to save 28,000 lives in Cameroon, and health assessment tools have benefitted 400,000 children in Malawi.

From its historic roots, the University impacts the world through its research and education. By tackling environmental sustainability, health crises, and poverty, the University is contributing to a resilient and inclusive future for all.

Global Strategic Partners

Xi’an Jiaotong–Liverpool University is an international University formed in partnership between the University of Liverpool and Xi’an Jiaotong University (XJTU) in China.

Xi’an Jiaotong–Liverpool University (XJTLU) is a flagship transnational partnership founded in 2006. It is a real success story and is now an established, modern and innovative University based in China.

Global reach

The University has over 280,000 alumni in 187 countries around the world

“The University of Liverpool is committed to excellence in resources, reputation, impact, and influence, shaping the future through innovation and leadership.”

CASE STUDIES

The University of Liverpool has joined the University of the Arctic (UARctic) network, enhancing its capacity to address Arctic research challenges through global collaboration. This membership strengthens Liverpool's impact on critical Arctic issues such as glaciology, seabird ecology, and oceanography, fostering innovative research and educational opportunities.

The University of Liverpool's Zero Carbon Research Institute (ZCRI) is partnering with KFC to help the restaurant chain achieve net zero carbon emissions by 2040. This collaboration aims to decarbonise KFC's operations by adopting clean energy, sustainable materials, and reducing waste and supply chain emissions, setting a precedent for the fast-food industry.

Research at the University of Liverpool investigates the impact of cultural programming at the Olympic Games over two decades across diverse global contexts. This includes examining high-profile events like Opening ceremonies and the less visible Cultural Olympiad, exploring their role in shaping cultural policies and societal narratives beyond sports. The study employs interviews, media analysis, and observations to uncover lasting cultural legacies and societal influences of Olympic cultural initiatives worldwide.



The University of Liverpool's volcanology research has enhanced volcano monitoring practices in Guatemala, leading to improved real-time assessment of volcanic activity. This advancement helped INSIVUMEH to make informed decisions, resulting in the timely evacuation of 3,925 people during the Volcan de Fuego eruption in November 2018, preventing loss of life.

Research at the University of Liverpool led to the development of the Livelihood Enhancement Programme (LEP) in collaboration with India's national rural bank, NABARD, improving microfinance's impact on rural women's livelihoods. Implemented in Andhra Pradesh since 2009, LEP is set to benefit over five million women annually across India.

Memory, Victims and Representation of the Colombia Conflict project brings together an interdisciplinary team of experts working in the fields of Modern Languages, Media Arts, Computer Sciences, and Human Rights Law to address the issue of the representation of conflict and victims in Colombia's 60-year-long conflict.

The University of Liverpool's CLEAN-Air(Africa) study reveals that cooking with polluting fuels in sub-Saharan Africa leads to high PM2.5 and CO exposure, causing over 680,000 premature deaths annually. The study underscores the need for policies addressing both indoor and outdoor air pollution to enhance health outcomes in urbanising regions.

The University of Liverpool's has a partnership with the International Livestock Research Institute and the Kenya Medical Research Institute to explore joint research on zoonotic diseases and air pollution. A recent visit supports the university's 'Liverpool 2031' strategy to boost global impact and collaboration.

6 Conclusion

The evidence presented in this report highlights the significant role of the University of Liverpool in enhancing the economic and civic life of the LCR, while also establishing a strong presence on the national and international stage.

Economic impact

The University's activities in 2022/23 contributed between £1.2 billion GVA and supported 15,869 jobs in the LCR. This means that the University contributes one in 50 jobs in the LCR and contributes 3.4% of the total LCR economy's GVA.

Nationally, the impact is £2.2 billion GVA, and supporting 26,630 jobs across the UK. This demonstrates that the University functions as a crucial anchor institution. It is a major employer with substantial purchasing power, deeply embedded in the regional economy through its supply chains, capital investments, staff and student expenditure, and the contribution of its students to the local labour market.

Research excellence and application

The University's research is internationally recognised for its excellence, achieved through collaborations with both local and global partners. This research translates into practical applications across various fields including technology, manufacturing, healthcare, culture and national policy with products, services and processes created by the University used across the world. The University shows particular strength in areas such as advanced materials and infection prevention. The report highlights the substantial impacts of its research and innovation activities, including the creation of high-value businesses, the development of technologies addressing critical global issues and the support of regional businesses in innovating processes and products.

Graduates and workforce contribution

A key output of the University is its production of high-quality graduates. Each year, nearly 9,000 students complete undergraduate or postgraduate degrees. A significant proportion of these graduates remain in the UK, with a notable percentage choosing to stay within the LCR. These graduates contribute significantly to regional productivity and enhance the local skills base.

Community engagement and diversity

The University's impact extends beyond academia into the community. Student volunteers actively support local charities and visits from friends and family of staff and students boost regional tourism. Additionally, the presence of international students brings valuable diversity to the campus and the region.

A local and global University

The University's influence spreads well beyond regional borders, showcasing its global impact and international linkages. The University actively engages with global research networks, fostering collaborations that drive innovation and address worldwide challenges. Through partnerships with leading institutions around the world, the University contributes to groundbreaking research and technological advancements. Its global outreach also includes hosting international conferences and participating in global policy dialogue. These international connections enhance the University's ability to address global issues, while bringing global perspectives and expertise to the LCR. This interconnected approach not only strengthens the University's global reputation but also enriches its local impact, creating a dynamic environment where global and regional initiatives are seamlessly integrated.

APPENDICES

Appendix A – Methodological Note

Reference Year:

The analysis provides a snapshot of the University of Liverpool's impact for the academic year 2022/23, where possible, but utilises data from previous years (with uplifts or using underlying up to date data in the analysis).

Geography:

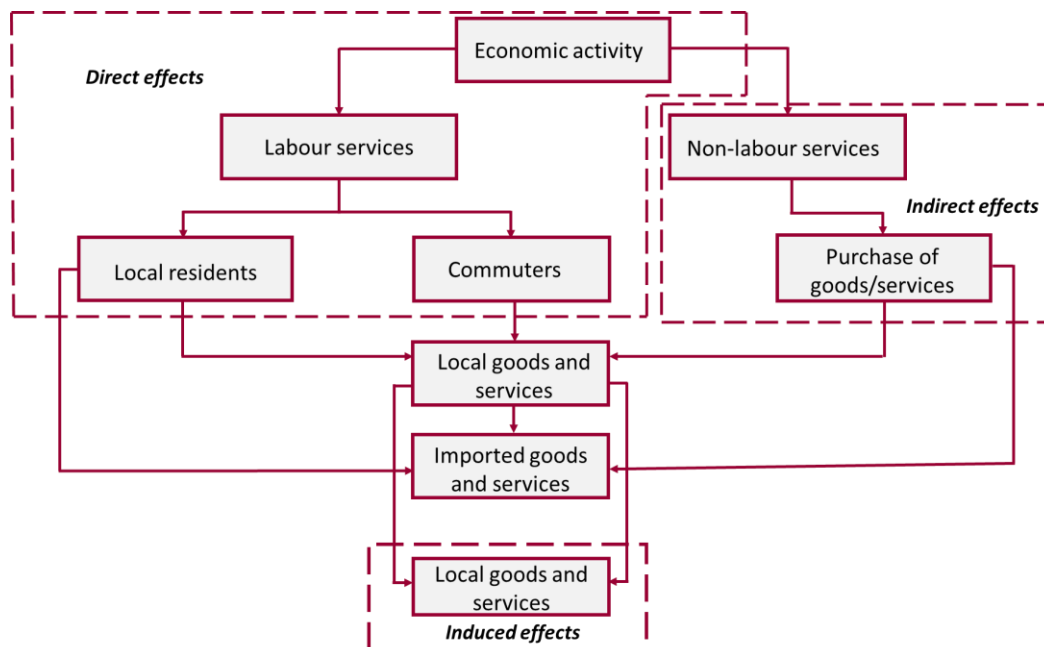
This study focuses upon Liverpool City Region and the UK. Liverpool City Region comprising the local authority areas of Liverpool City Council, Knowsley Borough Council, St Helens Borough Council and Wirral Borough Council.

Economic impact methodology

A key goal of this study is to demonstrate the scale and scope of the University of Liverpool's economic impact.

Most economic impact approaches have at their base, the evaluation of what are called the direct, indirect and induced effects of an economic activity. Figure A.1 can be used to illustrate the basic concepts involved and outlines the underlying framework used in the study.

Figure A.1: Impact Framework



All economic activities conduct business by purchasing inputs with which to produce outputs. There are essentially two types of inputs, labour and non-labour (goods and services).

Analysis of these elements is important in impact studies since the extent to which inputs are sourced within an economy is a primary determinant of impact in that economy. The larger the proportion of staff that live within the economy and the greater the share of other inputs purchases locally, the more extensive the impact of the activity will be. Conversely, inputs then are sourced from outside an area means that spending will bypass that economy.

These features broadly correspond to the notion of direct and indirect impacts. Direct effects are primarily the jobs and incomes that accrue to an economy owing to the construction/operation of a facility and the employment they generate. The indirect effects relate to flows of income (other than labour income) arising from the construction/operation of the activity. In most cases, these latter effects reflect the supply chain of goods and services and will cover items such as materials, supplies and business and professional services.²⁴

The final element in the impact structure focuses on the induced effect. This represents the process through which the spending of staff employed (i.e. both the direct and indirect income flows) helps to support other businesses in an economy, contributing to the wages and salaries of employees and covering material overheads. These employees and businesses, in turn, also spend a proportion of their incomes on goods and services and the process repeats itself over a number of rounds.²⁵

It is important to recognise, however, that not all the money being spent in each round will find its way into the wages and salaries of the next group of workers and businesses in the chain. Income tax (direct taxation), national insurance and VAT (indirect taxation) will all disappear from the flow. Some of the money will be saved and not all that is spent will be spent on 'local' goods and services. One would, therefore, expect the impact to decline in magnitude at each stage of the process. In addition (and in general) the smaller the economy in question, the larger will be the proportion of any spending on imports to that economy.

²⁴ The combination of direct and indirect effects is typically known as a Type 1 impact

²⁵ The combination of direct, indirect and induced is typically known as a Type 2 impact

LCR Input-output framework

The University of Liverpool impact assessment is undertaken within a multi-regional input-output (MRIO) framework. Input-output tables describe how products (and primary inputs) are used both to produce further products and to satisfy final use (consumption, investment, government and exports). In essence, IO tables provide a representation of economic interactions within an economy, detailing patterns of sales and purchases between sectors, sales for final use and profiles of related economic features such as GVA.

Input-Output tables are regularly constructed and published for the UK though, other than for Scotland, Wales and Northern Ireland, no additional tables are constructed for sub-national areas. While it is common practice to apply relationships from UK tables to lower-level geographies

There exists substantive and ongoing discussion of options to generate these approximations. At the heart of UK IO tables lie a series of coefficients that detail the (sectoral) pattern and value of inputs required to deliver one unit of sector output. Most approximations seek to modify the scale of these coefficients to reflect the structure of local economies.

Many of these approaches employ a variety of location quotient adjustments. Here, we apply the well-established Flegg Location Quotient (FLQ) mechanism. In essence, UK level (technical) coefficients are modified to reflect patterns of employment at sub-national level with different adjustments made for on/off diagonal matrix elements.

We model impacts in the context of the 2019 UK analytical tables published by ONS to avoid distortions connected to COVID. Modelling also operates in a MRIO setting whereby investment in LCR interacts with a second broader geography (the rest of the UK) through a series of import and export mechanisms. This allows feedback loops in both directions and typically enhances the scale of impacts (increases multipliers).

Finally, it is important to note that this exercise is intended to assess the ‘footprint’ or gross impact of University of Liverpool operations with no attempt to assess additionality. Impacts are also assessed from a baseline LCR model which matches the 2019 GVA and employment profiles of LCR reported by ONS. As such, impacts represent reductions in GVA and employment from this baseline, but adjusted to a 2023 price base.

Research impacts

University of Liverpool (UoL) research income amounted to £160.7 million in 2022/23. Research England research grants accounted for 27% of the total with UK Research Councils contributing another 30%. Other contributions came from the UK government (16%), UK charities (9%), UK industry (3%) and from overseas (14%). Subtracting contract research (assessed within knowledge exchange below) and netting out public research funding provides an estimate of net direct research in the order of £20m. We assume that 65% of this activity benefits funders in the LCR area, with 100% attribution within the UK.

We also account for productivity spillover effects that stem from research activity. With some evidence suggesting a rate of return on public sector research of approximately 20%, if we extract UoL Research Council and charity research income from total research income, the product of this (£98m) and the rate of return factor suggests a direct spillover impact of some £20m. We allocate a proportion of this element to LCR or UK through a 20%/80% attribution.

While assessment of impacts from Research Council and related activity is open to significant debate, we follow practice elsewhere and employ a factor of 12.7 to reflect the scale of productivity spillovers. As with public sector research we assign a nominal 20%/80% LCR/UK attribution.

Commercialisation

In terms of knowledge exchange, UoL reports IP licensing income of some £4.9 million with associated costs of £1.1 million. Turnover from spin outs is estimated at approximately £7.9 million, with consultancy turnover also reported at £14.9 million. Income from business courses is reported at some £2 million, with facilities and equipment hire generating close to £4 million. Contract research income is indicated to be £23.5 million

We attribute 65% to the LCR aligning with available information records with the remaining activity assumed to benefit organisations within the UK.

Student impacts

In assessing student impacts, we define numbers in accordance with the 2022/23 'Review of the Year and Financial Statements' which reports 19,123 home students (90% undergraduate) and 7,253 overseas students (59% undergraduate).

The 2023 Residential Services Report confirms University of Liverpool accommodation of approximately 4,400 rooms, most of which support first year undergraduates. In the absence of data on patterns of residency across student types and the residency locations of students not in University of Liverpool accommodation, we assume that:

- domestic/overseas residence in UoL accommodation reflects the distribution of the 2023 entry cohort. This implies a 73% domestic (3,212) and 27% (1,188) overseas allocation of rooms; and
- some 90%/100% of domestic students reside in the LCR/UK areas and that 100% of overseas students live in the LCR/UK.

Taken together, these assumptions define 13,999/6,065 domestic/overseas students living in non-University of Liverpool supplied accommodation in the LCR, alongside 15,911 domestic students in the UK as a whole.

The results of our student survey in terms of average weekly expenditure. In total, students spent, on average, £280 per week, with 46% of this going on accommodation and household bills, 19% on shopping (including food shopping) and 16% on going out (see Section 3.7 in the report).

Using an average 43-week residence attendance, our student survey estimates of average domestic/overseas (£236/£396) weekly non-fees spend, and assuming a nominal 10% of spend on campus, it is estimated that average annual domestic/overseas student spend in the LCR area amounts to £150.8m/£108m rising to £169m for domestic students in the UK as a whole.²⁶

Tourism spend

The primary source of data for visit patterns is the bespoke student survey, which reports an average of three visitors per domestic student, and one visit per overseas student, in the course of an academic year. The length of stay in both instances is reported as one night which, when considering average LCR tourism spend for domestic/overseas stays as £206/£572, defines total domestic/overseas tourism spend of £11.8 million / £4.2 million. Spend across consumption categories is allocated to sectors via Office for National Statistics (ONS) supply and use table profiles for tourism.

²⁶ All overseas students are assumed to reside on the LCR and there is no differential spend at UK level.

Benefit mapping

The analysis commenced with an examination of the University’s various activities to identify those likely to produce economic impact. Logic chains were constructed to describe how each activity generates economic value, which were then used to develop an economic model estimating the University’s economic impact.

Avoiding double counting:

To avoid double counting, adjustments were made, such as excluding licensing impacts from spin-out companies, as these are already included in spin-out impact calculations. Similarly, aspects of student spending included in the University’s direct impact were removed to prevent duplication. For example, student accommodation spending is excluded if it is in University-owned accommodation.

Data sources:

The findings presented are derived from multiple sources, ensuring a comprehensive analysis:

- **University submissions:** data includes submissions to key evaluations such as the Knowledge Exchange Framework (KEF), the Research Excellence Framework (REF), the Teaching Excellence Framework (TEF), submission to the HESA HE Business and Community Interaction (HE-BCI) survey data and rankings from the Times Education Supplement University League Tables. These submissions provide insights into various aspects of University performance and reputation.
- **Financial accounts and statements:** financial data from the University’s official accounts and statements offers an overview of economic health, budgeting, and expenditure.
- **Departments and teams:** contributions from various University departments and teams, with special acknowledgment to Finance and Human Resources (HR), provide detailed internal insights and operational data.
- **Student survey:** a bespoke survey conducted with approximately 1,200 students provides direct feedback on their experiences and satisfaction regarding academic, professional, social and personal development.

- **Alumni Survey:** feedback from alumni offers perspective on the long-term impact of the University on graduates' careers and lives.

Limitations of the study:

While efforts have been made to measure the University of Liverpool's economic contribution accurately, certain limitations must be acknowledged. GVA and employment metrics and the quantified cultural and social benefits do not capture all types of value created. Some of these were identified by the survey (for example, contribution from students as a workforce, sports and graduate revisits) and the research and have been reflected in the text. The University's economic contribution should be understood within this broader context.

