



TSU
.....

TRANSPORT
STUDIES UNIT

Research Agenda
2020-2025



“By advancing understandings of the systems, processes and practices that shape the way people and goods move, the TSU hopes to inspire and inform change towards a more sustainable, just and accessible transport system.”

Contents

- 3 From the Director
- 4 Oxford's centre for transport research excellence
- 6 TSU research: Thinking differently about transport
- 8 Energy, Climate & Environment
- 10 Politics, Power & Governance
- 12 Everyday Life & Justice
- 14 Health & Wellbeing
- 16 Making the Connection: Education and Outreach
- 16 Oxford Leadership Programme
- 17 PhD/DPhil research
- 18 Impact and Outreach
- 18 Public seminar series
- 19 Thank you to our funders



From the Director

Transport research that moves with the world



This is a definitive time for transport. We are faced with major challenges and developments, including climate change, rapid urbanisation across the planet, and the internet of things; how and where we move is changing fast. In response we need to start thinking differently: transformations in transport are not as linear or simple as is sometimes assumed. There are a range of complexities around the adoption of new transport practices, technologies and regulation which are not properly understood and need to be studied.

At the TSU I am proud to lead a dynamic team of mostly social science researchers who deliver a cutting-edge research programme, of which you can see many examples in the following pages. TSU research responds with agility to the very latest developments in transport: from seeking to understand the full impacts of transport innovation – dockless bikes, ride-sharing apps, e-wallet payment systems and electric vehicles – to analysis of the environmental, health and economic impacts of different modes of transport.

The governance of transport is not built to move as quickly as the technological and societal changes that we are now witnessing. This raises real challenges. This is one of the reasons why the TSU has made outreach and education a key part of its strategy.

As part of the TSU's executive education programme (page 16), researchers invite players within the transport system, such as urban planners, policy-makers, business leaders and tech innovators, to develop a holistic academic foundation from which to better understand and tackle the global challenges in transport today. Our alumni put what they learn into practice in the real world and right across the globe.

Through research, education, outreach and collaboration, the TSU is working to change how the world sees transport – as a way of understanding human inequality, justice and power, and a powerful means of impacting human and planetary health. I hope that you are inspired by our research agenda laid out in the ensuing pages and join us on our journey to inspire just and human-centred transport systems and urban design that radically reduce carbon emissions.

A stylized, handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right.

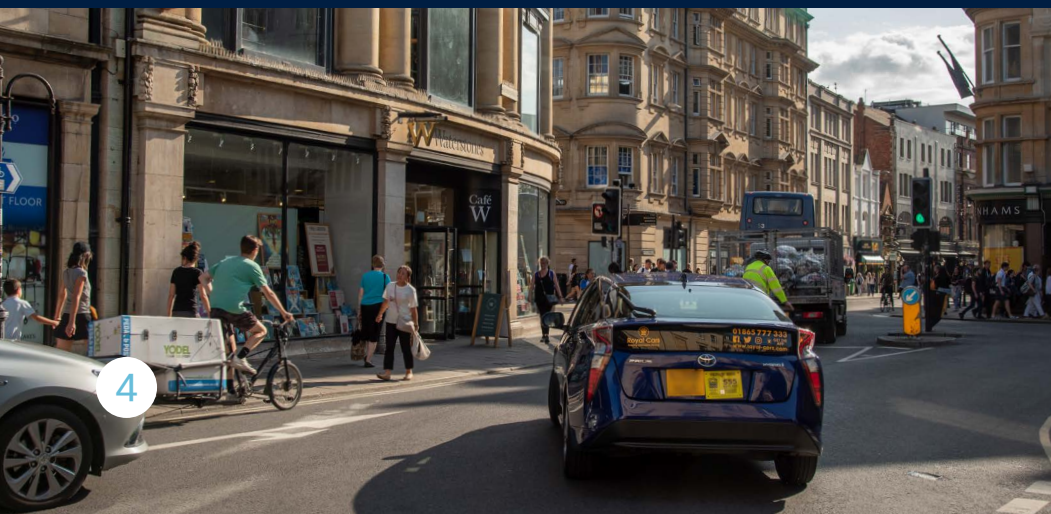
Tim Schwanen

Professor of Transport Studies and Geography
Director of the Transport Studies Unit

Oxford's centre for transport research excellence

Since 1973 the TSU has established an international research reputation in transport research.

Based within the world-leading School of Geography and the Environment at the University of Oxford, the TSU approaches global transport challenges from social science and holistic perspectives. This approach allows TSU researchers to ask questions that might not be asked in other sectors, building a comprehensive picture of the complex challenges facing transport today and in the future. Our position within Geography and the University fosters interdisciplinary collaboration with researchers in other parts of the University and based elsewhere.



A unit of interdisciplinary experts

From geography to sociology, urban studies to economics, and beyond, the TSU draws on the latest relevant developments in various disciplines and research fields.

Our core team of researchers come from various disciplinary backgrounds, bringing with them a range of insight and expertise which enriches our research practice.

To find out more about vacancies and opportunities to join our team go to www.tsu.ox.ac.uk/jobs and sign up to our quarterly TSU email newsletter at www.tsu.ox.ac.uk/newsletter

Collaborating to solve global challenges in transport

Outside Oxford the TSU works in partnership with colleagues in many UK universities, and has very active and well-established links with universities and research institutes across the EU, North America, Asia and increasingly Africa and Latin America.

The TSU researchers also work with partners from government and the corporate sector, for instance to monitor and evaluate technological innovations or to develop new forms of governing urban transport systems.

The TSU has an excellent track record in collaborative projects and is keen to develop new partnerships with research groups and funding agencies. We are always developing projects and ideas for future research.

Please get in touch at enquiries@tsu.ox.ac.uk if you would like to discuss any projects or collaborations with us

Publications

The TSU delivers world-class research as evidenced by the many high-standing academic publications in tier one journals across transport, geography, energy, sociology, urban studies and transitions studies.

In addition, research from the TSU supports national and local public policy and communities, through high-level accessible policy reports and policy briefings.

Discover TSU's published research papers online at www.tsu.ox.ac.uk/publications



Thinking differently about transport

Electric vehicles. Autonomous cars. E-scooters. New technological developments or big infrastructure projects are often sold as the silver bullet solution to our problems – whether those are carbon emissions and climate change; mobility for those who are elderly or disabled; or the need to increase access to housing, jobs and trade.

The TSU, however, believes that the answers to global challenges in transport lie not only with vehicles and technology, but also with people. Transport – the flow of information, goods and humans – is central to our society and affects each and every one of us. Transport is about getting the things done that you need to do, in your everyday life. It can be a cause of friction, stress and damage, but also brings social opportunity, access and wellbeing.

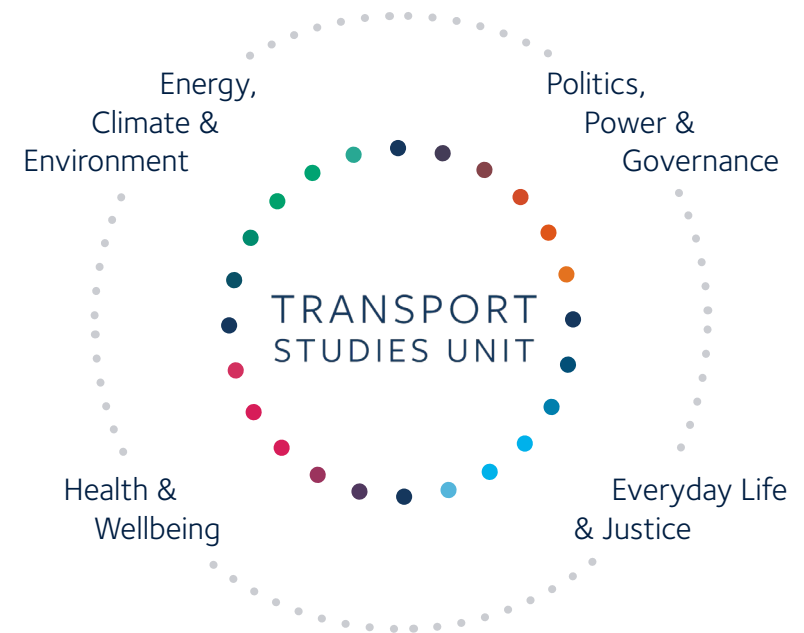


Research that moves us towards a sustainable and fair transport system

Transport has the power to transform lives for better and for worse.

From injustices to impracticalities, TSU research can often uncover the unforeseen consequences of transport innovation, investment and policy. By advancing understandings of the systems, processes and practices that shape the way we move, the TSU hopes to inspire and inform change towards a more sustainable, just and accessible transport system.

Combining qualitative and quantitative research methods – ethnography, interviews, surveys, data analysis, systems modelling – the TSU provides important insights into how people use and negotiate transport systems, as well scientific evidence and recommendations for the public and private sectors.



TSU research is organised within four broad themes, which you can read about further on the following pages:

Energy, Climate & Environment	8
Politics, Power & Governance	10
Everyday Life & Justice	12
Health & Wellbeing	14

Energy, Climate & Environment

Climate change is the greatest existential challenge of our time. As one of the largest sources of carbon emissions, transport is a crucial factor to consider. The TSU's research has shown that technological fixes such as electric vehicles will not solve the climate emissions conundrum on their own; more deep and meaningful change is required to the ways in which we live and move.





What is studied?

Energy use, greenhouse gas emissions and air pollution across all modes of passenger and freight transport are considered. The research focuses primarily on regions and cities in the UK and Europe, yet with a fast-growing strategic focus on the urban Global South.

The TSU approach

Research in this area is informed by theories from geography, social psychology, economics, innovation studies and engineering. Researchers develop and deploy quantitative methods such as simulation and optimisation tools and qualitative methods such as in-depth interview analysis, workshops and shadowing transport professionals in their daily business.

Research objectives

- Explore the nexus of travel demand, energy use, air quality and carbon emissions at the individual, household, city and national levels;
- Examine the emergence and development of innovations that are expected to reduce energy demand and carbon emissions in passenger and freight transport;
- Understand how transport systems and practices can be made more resilient to climate change;
- Explore different long-term futures for low-carbon and resilient transport systems;
- Develop and apply multi-scale decision support systems and modelling tools;
- Make a practical contribution to policy making in the transport, climate, air quality and energy domains.

Discover more Energy, Climate & Environment transport research at www.tsu.ox.ac.uk/environment

Politics, Power & Governance

The actions and decisions regarding transport by policymakers, businesses, community organisations and individuals inevitably privilege certain issues, concerns and interests over others, with due consequences for the environment, public health and the economy. Interventions to improve transport are also conditioned by existing designs, regulation and norms. TSU research explores the politics, power dynamics and forms of governance behind transport decision-making, as part of its mission to support effective, just and inclusive transport futures.





What is studied?

The processes through which travel patterns, infrastructure development and innovations in transport systems are governed are examined. As part of this, research considers questions about how transport systems are known and how factors like efficiency, accountability and inclusiveness are or should be valued and treated in governance processes. The potential of participatory methods in governance is also explored.

The TSU approach

Using a variety of methods and insights from geography, political science, planning theory, policy studies, economics and innovation studies, this research theme explores the institutional, governance and planning aspects of transport and the ways in which these shape our political economy, built environment and climate.

Research objectives

- Explore the political contexts of transport systems and understand how these are related to developments and sustainability transitions in transport;
- Understand the institutional domains of transport and develop methodologies for effective, just and inclusive transport decision-making;
- Examine and reflect on the politics around the creation of knowledge and expertise regarding transport through (big) data analysis, scenarios and risk analysis, and theory building;
- Make a practical contribution to transport policy-making, particularly at the level of cities and urban areas.

Discover more Politics, Power and Governance transport research at www.tsu.ox.ac.uk/governance

Everyday Life & Justice

Transport is a means to access jobs, healthcare, education, leisure sites and relatives and friends. It also offers freedom, generates many different feelings and emotions, and is a space where personal identities and social hierarchies are played out. For these reasons, transport shapes, and is shaped by, social inequalities. Questions of justice and inequity between individuals, social groups and places are at the heart of transport systems and infrastructure development.





What is studied?

How people travel, experience their travel, are prevented from travelling and organise their travel are key concerns under this theme. The consequences of transport on everyday lives, communities and cities are considered. Research also examines how inequalities and injustice in transport can be explained and addressed through government, the public sector and civic society.

The TSU approach

The work under this theme is strongly informed by thinking from human geography, urban studies, sociology, anthropology and cultural studies. Research often relies on qualitative methods, such as interviews, photography and ethnography. Analysis of survey and GPS data is also used.

Research objectives

- Understand the implications of long-term transformations in societies, such as population dynamics and changes in norms and values, for everyday travel;
- Examine how the use and design of transport systems reflect and shape social and economic inequality;
- Explore the links among use of transport systems, people's identity and norms and expectations regarding travel and social participation;
- Make active contributions to transport-related policies, community actions and other initiatives that redress inequalities and empower disadvantaged groups and communities.

Discover more **Everyday Life & Justice** transport research at www.tsu.ox.ac.uk/justice

Health & Wellbeing

Current transport systems, with associated emissions and lifestyle choices, have widespread adverse impacts on public health and wellbeing. Inactivity, emissions and accidents all are a growing source of public concern. Research in this theme examines the complex causal relationships among different forms of mobility, health and wellbeing.





What is studied?

Detailed information on travel patterns, time use and mobility experience is used to unravel behaviours and to evaluate policies, strategies and interventions that improve public health and wellbeing. Specific attention is given to the contributions that active travel can make to health and wellbeing, and to effective and efficient ways in which cycling and walking can be encouraged.

The TSU approach

Datasets are analysed to create integrated impact assessments of transport behaviours. Quantitative methods such as simulation and optimisation tools are developed and deployed. Research also makes use of interviews and methods that let research participants create data and capture their experiences.

Research objectives

- Examine how transport contributes to the wellbeing of individuals and communities;
- Develop and apply methods to evaluate the health impacts of transport use and transport-related policy;
- Understand how people whose abilities do not always conform to societal norms accomplish and experience movement around the city;
- Understand the processes of behaviour change in active travel and public health in order to refine theory and inform practice.

Discover more Health & Wellbeing transport research at www.tsu.ox.ac.uk/research/health-wellbeing

Making the Connection: Education and Outreach

Oxford Leadership Programme

The TSU's Global Challenges in Transport: Oxford Leadership Programme comprises four courses which can be taken independently or as a series. Each four-day course draws together transport professionals and researchers from around the world to share insights as they reflect on their own practice and wide-ranging experiences. Taught by numerous experts, participants explore the broader social, environmental and political questions around transport in a lively two-way dialogue.

The course content is regularly updated to focus on the most relevant complex issues and challenges around sustainable transport. **Find out more at** www.tsu.ox.ac.uk/course

Current Courses

Climate Change – How can transport policy and planning support the technological, behavioural and institutional transformation necessary to adapt and tackle climate change?



Smart Technologies – What do the current rapid changes in technology mean for the future of people's mobilities and everyday lives?

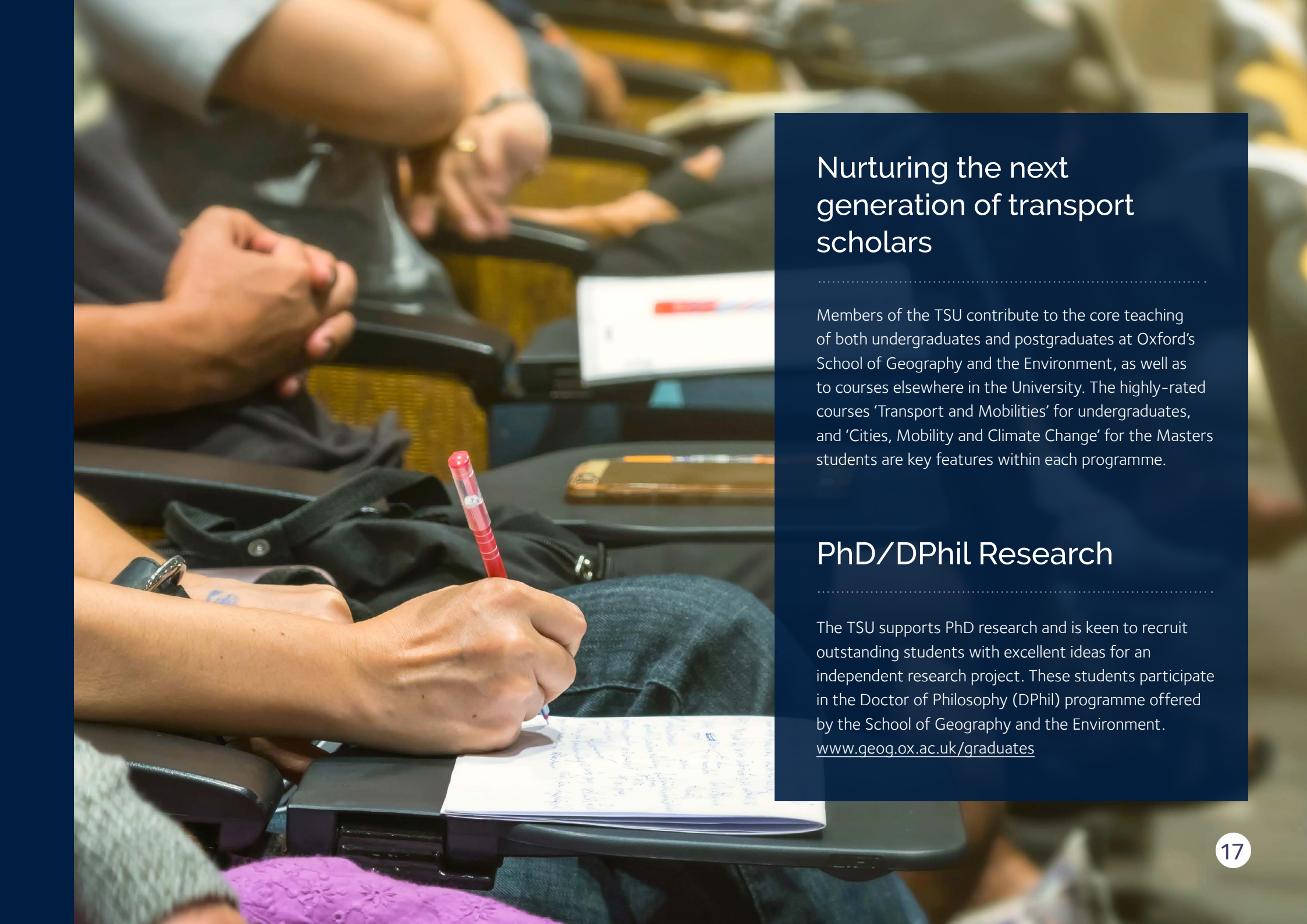


Infrastructures – What is the role and potential of transport infrastructure in supporting a transition to more sustainable transport futures?



Health and Wellbeing – What are the current and potential impacts of transport on health, wellbeing and social equity?



A close-up, slightly blurred photograph of a student in a lecture hall. The student is wearing a dark blue shirt and is writing in a white notebook with a red pen. Their hands are in the foreground, and the background shows other students and the structure of the lecture hall.

Nurturing the next generation of transport scholars

Members of the TSU contribute to the core teaching of both undergraduates and postgraduates at Oxford's School of Geography and the Environment, as well as to courses elsewhere in the University. The highly-rated courses 'Transport and Mobilities' for undergraduates, and 'Cities, Mobility and Climate Change' for the Masters students are key features within each programme.

PhD/DPhil Research

The TSU supports PhD research and is keen to recruit outstanding students with excellent ideas for an independent research project. These students participate in the Doctor of Philosophy (DPhil) programme offered by the School of Geography and the Environment.
www.geog.ox.ac.uk/graduates



Outreach and Impact

The TSU undertakes a range of other outreach activities targeted at local, national and international policy-makers, firms and corporations, as well as NGOs and other third sector organisations. Many of these activities are built into our research projects and include conferences, workshops, seminars, policy reports and policy briefings.

Some of our recent projects have had an impact on public policy and debate both locally in Oxfordshire and internationally.

Public seminar series

Every year we organise a public seminar series in Hilary Term, usually focused on a specific transport-related theme. Presentations and audio files for a selection of seminars are available on our website. Find out more at www.tsu.ox.ac.uk/events

Thank you to our funders

The TSU is a largely self-funded research institute and most members of staff are contract researchers funded through external grants.

The majority of the TSU's research grants come from UK Research and Innovation, including the Economic and Social Research Council (ESRC), Engineering, Physical Sciences Research Council (EPSRC) and Innovate UK.

Research projects are also funded by programmes and institutes within the University of Oxford; research councils in other European countries; organisations such as the WHO, British Academy, Rees Jeffreys Road Fund and the Wellcome Trust. A small part of our income is generated through activities other than research, including university teaching, executive education and consultancy.





Contact

Transport Studies Unit (TSU)
School of Geography and the Environment
Oxford University Centre for the Environment
University of Oxford
South Parks Road
Oxford, OX1 3QY
United Kingdom

T: +44 (0)1865 285066

E: enquiries@tsu.ox.ac.uk



www.tsu.ox.ac.uk



www.facebook.com/TSUOxford/



Twitter: @TSUOxford



www.linkedin.com/company/tsuoxford/

To receive information on TSU research activity and events, sign up to our quarterly email newsletter at www.tsu.ox.ac.uk/newsletter