STUDYING TRANSPORT AT LEEDS

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IMPORTANT INFORMATION

Information provided by the University such as in presentations, University brochures and the University website, is accurate at the time of first disclosure. However, courses, University services and content of publications remain subject to change. Changes may be necessary to comply with the requirements of accrediting bodies or to keep courses contemporary through updating practices or areas of study. Circumstances may arise outside the reasonable control of the University, leading to required changes. Such circumstances include, industrial action, unexpected student numbers, significant staff illness (where a course is reliant upon a person’s expertise), unexpected lack of funding, severe weather, fire, civil disorder, political unrest, government restrictions and serious concern with regard to the transmission of serious illness making a course unsafe to deliver. After a student has taken up a place with the University, the University will look to give early notification of any changes and try to minimise their impact, offering suitable alternative arrangements or forms of compensation where it believes there is a fair case to do so. Offers of a place to study at the University will provide up to date information on courses. The latest key information on courses, entry requirements and fees can be found at courses.leeds.ac.uk. Please check this website before making any decisions.

The Institute for Transport Studies (ITS) is the UK’s largest and most respected academic centre for transport teaching and research. We’re ranked in the top 10 for Transportation Science & Technology, according to ShanghaiRanking’s Global Ranking of Academic Subjects 2018.

Our mission is to develop the transport leaders of the future, which we do from a unique multidisciplinary perspective. Established in 1972, the Institute has grown into a recognised world leader in teaching and research. With over 70 staff, more than 100 Masters students and over 50 research students, our learning community is diverse and vibrant.

Taught by internationally recognised researchers, on a course designed in collaboration with leading figures in the industry, you will develop a range and depth of expertise that will equip you for a rewarding career – from private sector consultancy to developing public policy.

With the close support of the industry, a key feature of your course will see you collaborating with colleagues from other disciplines. You will experience how industry uses multidisciplinary teams to develop integrated solutions which tackle real-world problems.

With 97%* of our students securing a professional role or engaged in further study within six months after graduating, you can be confident of acquiring knowledge that is highly regarded and in demand.

www.its.leeds.ac.uk/courses

WHY TRANSPORT?

Transport is so much more than cars, trains and planes. Your skills will be needed to confront significant challenges of our time – climate change and environmental sustainability, securing economic growth, addressing social cohesion, and improving health and wellbeing.

The University of Leeds achieved a Gold rating in the Teaching Excellence Framework (TEF (2017))

In recognition of our strong and continued commitment to gender equality, we have received a prestigious Athena SWAN Bronze Award.

This is awarded by the Equality Challenge Unit, the national body that promotes equality in the higher education sector.
With so much of today’s policy being contradictory, muddled and complex, do we really need additional lanes on a motorway, and what funding arrangement would provide a new bus rapid transit system and make it affordable? How can these ‘solutions’ resolve problems of mass movement, increased car use, congestion and emissions?

These are the kind of questions you will be exploring and answering with robust, evidence based solutions. You will learn to think of transport not in isolation but how it shapes our wider world. One way you will do this is to think about the cities of tomorrow. What sort of places do we want to live in, and how can we make these places that both sustain a vibrant economy and provide an enriching quality of life for all?

These are profound and complex questions, which is why transport is such a stimulating area of research, and one that requires the talents, energies and perspectives from diverse but complementary disciplines.

DIVERSE AND MULTIDISCIPLINARY
Transport is at the intersection of so many academic disciplines. Whether your background is in geography or mathematics, physical or the social sciences, almost every journey crosses this busy intersection at some point.

Here is where engineers work alongside environmental scientists and behavioural psychologists to design solutions that are technically advanced but also socially acceptable. It’s the junction where the science of modelling and simulation meets the science of behaviour analysis and appraising policy to provide the evidence base for good policy-making.

Our objective is to help you become an effective and progressive transport professional. Our teaching will expand your horizons, open up new perspectives, and inspire you to think differently. As one of our graduates puts it, studying at the Institute “enriches your mind.”

RESEARCH-LED TEACHING
In helping you address these and other challenges, you will be learning from people who are research leaders in their field.

• Researchers who work with frontline organisations such as Transport for London – responsible for more than 30 million journeys every day across a network of main roads, rail and underground
• Experts in human behaviour in a virtual driving environment, who are helping one of the world’s most successful motor manufacturers – Jaguar Land Rover – to develop virtual prototypes

Whichever modules you choose, you can be sure the course content is shaped by the experience of researchers who are setting the international transport agenda: building industry standard predictive models; creating visionary designs for sustainable cities; and promoting innovative technologies through virtual simulation. www.its.leeds.ac.uk/research

ROUTE MAP TO SUCCESS
You will be joining an institute with an international reputation for the quality of its teaching and research. That reputation draws students and staff from around the world. As one of our industrial partners says, a Masters from ITS is a “badge of honour” within the transport industry.

That badge is being worn with pride by members of our growing network of graduates, who are playing key roles around the world, and who retain a strong connection to ITS. From Jonny Rotheram, a transport planner in Los Angeles with an ambition to make cities more cycle friendly and Esther Lo, a traffic engineer working to optimise Singapore’s network, to Michele Dix, Managing Director of London’s £27bn Crossrail 2 project, our alumni are united by one common goal: to make a difference.

If you share that ambition and if your goal is to make a difference, studying with us is your route map to making that goal a reality. www.its.leeds.ac.uk/alumni

*Higher Education Statistics Agency (HESA), Destinations of Leavers from Higher Education (DLHE) 2016 www.hesa.ac.uk
OUR COURSES

We offer an un-paralleled range of degrees for those seeking to develop their knowledge, skills and career in transport.

Top 10 for Transportation Science & Technology - ShanghaiRanking’s Global Ranking of Academic Subjects 2018

COURSES YOU CAN STUDY

- MSc Mathematical Modelling for Transport
- MSc Sustainability in Transport
- MSc Transport Economics
- MSc Transport Planning
- MSc Transport Planning and the Environment
- MSc (Eng) Transport Planning and Engineering
- MSc Railway Operations, Management and Policy
- MSc Sustainable Cities

THE ACADEMIC YEAR

Your course will start in September and last for 12 months full-time or 2-3 years part-time. The academic year begins with induction and is then divided into three semesters:

- Semester 1 – Late September-January
  Study the principles of the subject.
- Semester 2 – Late January-May
  Specialist topics chosen from a wide range of optional modules.
- Semester 3 – Late June-August
  Complete your dissertation.

Your progress will be measured in credits – taught modules are studied in units of 15 credits and the dissertation accounts for 60 credits. To complete a Masters degree you will study 180 credits in total.

www.its.leeds.ac.uk/courses/masters

LEARNING AND ASSESSMENT METHODS

You will learn through a range of teaching methods, from traditional lectures and seminars, through to workshops, investigations in the field, computer exercises, directed reading, keeping a reflective journal, student-led discussions and tutorials. All this adds up to you becoming an independent learner, capable and confident of contributing to a multidisciplinary team.

Your assessment will be equally varied. Expect this to include coursework essays, case study reports, group assignments, posters, presentations and exams.
You will experience a very hands-on course. Fieldwork will form an important part of your time with us. This will range from half-day local site visits to a week-long European field trip. www.its.leeds.ac.uk/courses/masters/fieldtrips

EMPLOYABILITY AND TRANSFERABLE SKILLS
Our courses are designed to give you the skills that employers are looking for. Within six months of graduating, 97% of our students found employment in a professional/managerial role, or continued with further studies such as a PhD. In addition to the core technical skills, you’ll develop a range of softer, transferable skills that employers also value. Your chances of success will be enhanced through a series of seminars given by experienced practitioners from across the sector. These will provide invaluable insights into topical themes and challenges. Some of the speakers will be ITS graduates themselves, who return to share their knowledge and help prepare the next generation of transport professionals for the workplace.

Alongside transport-specific learning, you will also develop a transferable skill-set:

- Leadership and presentation skills
- Qualitative and quantitative analysis
- Report writing
- Analytical and investigative skills
- Teamwork and interpersonal skills
- Research methods
- Modelling skills
- Information technology
- Time management
- Reflective learning

www.its.leeds.ac.uk/courses/employability

YOUR DISSERTATION
This is where you apply the knowledge you have learnt from the taught modules and field trips to address an issue that you care passionately about. It’s your chance to display original ideas and demonstrate your growing confidence in carrying out independent research. By thinking about your dissertation topic at an early stage, you’ll be able to select optional modules which underpin it. Themes and topics, based on active research interests and collaborations with industrial partners, will be suggested to help you narrow down your field of inquiry.

Throughout your dissertation you will be supported and mentored by our research experts who will suggest ideas, improvements and insights to keep you motivated and on track. You’ll use fieldwork and data collection to generate outputs with the potential for future publication. www.its.leeds.ac.uk/courses/masters/dissertation

PART-TIME STUDY AND CONTINUING PROFESSIONAL DEVELOPMENT (CPD)
If you are already in the industry and want to accelerate your career and expand your horizons, you have a valuable part to play in the life of our Institute. Our part-time students are an important asset and bring valuable experience to our learning community.

Studying alongside a full-time job is a serious commitment and it’s important to ensure that your employer is fully supportive. If you are considering part-time study, you can complete a Masters in two years, but we usually recommend up to three years, to allow you to focus on your dissertation. For further flexibility, some optional modules are delivered intensively over 2-5 whole days. These modules can also be taken as individual short courses (with or without assessment) – this is an option for those who want to carry out training, but work or other commitments preclude a full Masters course. www.its.leeds.ac.uk/courses/masters/part-time-study

ACCREDITATION
Some of our courses fulfil the educational requirements for membership of the Chartered Institute of Highways and Transportation (CIHT). Please see our website for the latest accreditation information for each course: courses.leeds.ac.uk

Both the MSc(Eng) Transport Planning and Engineering and Transport Planning and Environment MSc programmes are accredited as meeting the requirements for technical Further Learning for Chartered Engineer (CEng) status for candidates who have already acquired CEng accredited BEng (Hons). Please see the Joint Board of Moderators website for further information: www.jbm.org.uk
Mathematical models are fundamental to how we understand, analyse and design transportation systems, but these models face challenges from the rapidly changing nature of mobility. Innovative technologies are being harnessed to deliver new approaches to transport services, and huge volumes of data create new opportunities to examine how patterns of movement are evolving.

If you are a highly numerate graduate with a desire to apply your quantitative skills to the real world, or a practitioner working in the sector, this course will take you to the next level and prepare you for a career as a transport modelling specialist.

97% of our graduates find employment in a professional or managerial role or continue with further studies.*

Experience a course designed in collaboration with employers, learning skills the industry desperately needs to unlock the full potential of big data. You’ll learn to think creatively, beyond the standard application of established solutions, and use your technical expertise across multiple scenarios.

**CORE COURSE COMPETENCIES**

Develop and apply mathematical models to analyse and improve the performance of transportation networks and flows:

- Use mathematical models to represent transport systems and forecast demand
- Test solutions and strategies using different models
- Apply optimisation algorithms to traffic networks
- Develop computer code to enhance and visualise outputs
- Critically evaluate and adapt existing modelling techniques
- Write scientific reports for technical and lay audiences
- Develop research and advanced scholarship skills

You’ll experience what it’s like to be part of a project team working across disciplinary boundaries within the transport sector. Through this, you’ll gain insights into how modelling, environmental science, planning, economics and engineering can work together to develop sustainable solutions to global challenges.

This industry-inspired approach will enable you to apply your knowledge to real-world issues in the field.

**KEY FACTS**

**Start Date**

September

**Duration of MSc**

12 months (full-time)
24-36 months (part-time)

*Higher Education Statistics Agency (HESA), Destinations of Leavers from Higher Education (DLHE) 2016, www.hesa.ac.uk

**MODULES**

Study six compulsory modules and choose two optional modules.

**COMPULSORY MODULES:**

- Concepts and Mathematics for Modelling Transport Systems
- Shaping Future Transport Systems
- Transport Data Science
- Transport Modelling in Practice
- Transport Integrated Project
- Transport Dissertation

**OPTIONAL MODULES:**

- Choice Modelling and Stated Preference Survey Design
- Global Transferability of Policies, Models and Methods
- System Dynamics: Modelling Policy
- Transport and Urban Pollution

These are typical modules/components studied and may change from time to time. For a complete list of our latest module information visit [courses.leeds.ac.uk](http://courses.leeds.ac.uk)
Jacobs, one of the leading transport modelling consultancies in the UK and internationally, has pledged their support for this new course by offering two prizes for academic excellence, a commitment to engage with students through lectures and workshops, and an invitation to attend the Summer Placements they run each year around the UK.

Dr Richard Connors, MSc Mathematical Modelling for Transport Programme Leader
My personal advice to students interested in this course would be that combining the sustainability element of a transport Masters is surely the only way forward… it was a great course and I would definitely recommend it.

Natalie Barnes, MSc Sustainability (Transport) graduate
MSc SUSTAINABILITY IN TRANSPORT

If you are passionate about solving the grand transport challenges of our time – with benefits for climate change, pollution, urban congestion, economic growth, social justice and energy scarcity – this course will inspire and equip you to tackle these issues.

97% of our graduates find employment in a professional or managerial role or continue with further studies.*

Whatever your background, this course will fire your imagination and expand your horizons. You could be a social or political scientist, a geographer, philosopher, or law graduate, or perhaps an engineering or science graduate with an interest in environmental and social issues. What’s most important is that you thrive on critical thinking and have a willingness to move outside disciplinary comfort zones.

HIGH-LEVEL SKILLS YOU’LL DEVELOP

• Comprehensive knowledge and understanding of subjects from environmental policy and governance, shaping future transport systems, environmental science and sustainability for transport through to investigating the links between transport and climate change, the environment and economic development

• Knowledge to carry out strategic assessments and reviews of transport and environmental policies

• Management skills to lead strategic reviews of transport policy

• Leadership skills to effectively chair visioning workshops, stakeholder engagement events, strategy meetings, and make persuasive presentations to policy makers

• Independent research

You’ll experience what it’s like to be part of a project team working across disciplinary boundaries within the transport sector. Through this, you’ll gain insights into how planning, economics, environmental science, modelling and engineering can work together to develop sustainable solutions to global challenges.

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 MODULES

Study six compulsory modules and choose three optional modules.

COMPULSORY MODULES:

• Environmental Science and Sustainability for Transport
• Shaping Future Transport Systems
• Environmental Policy and Governance
• Transport Data Collection and Analysis
• Transport Integrated Project
• Transport Dissertation

OPTIONAL MODULES:

• Analysing Transport and Society
• Climate Change: Impacts and Adaptation
• Climate Change Mitigation
• Critical Perspectives in Environment and Development
• Global Transferability of Policies, Models and Methods
• Green Logistics
• Public Transport Planning and Management
• Road Safety Management
• Sustainable Spatial Planning and Analysis
• System Dynamics: Modelling Policy
• Tools and Techniques in Ecological Economics
• Traffic Management
• Transport and Public Health
• Transport and Urban Pollution
• Transport in Development
• Transport Investment Appraisal

These are typical modules/components studied and may change from time to time. For a complete list of our latest module information visit courses.leeds.ac.uk
MSc TRANSPORT ECONOMICS

By expanding and deepening your knowledge of economics and relating it to transport, you’ll learn how to play a leading role in shaping policy on the significant social and environmental issues of the day.

If you’re an ambitious graduate, or a practitioner in the field, this course will equip you with the analytical skills for a rewarding career supporting transport delivery and policy-making at national, regional and local level.

97% of our graduates find employment in a professional or managerial role or continue with further studies.*

Learn how to promote economic growth within a regulatory framework that minimises any damaging health and environmental impacts, whilst incentivising best use of resources.

EXPAND YOUR FLUENCY IN
• Economic appraisal – to better understand the complex interface between transport and the wider economy

• Micro-economics – to understand pricing techniques, the importance of economic regulation and the valuation of third party costs and benefits

• Econometrics – to develop your quantitative models with real world data and test economic theories

• Independent research – to open a gateway to a career in transport research in academia or consultancy

You’ll experience what it’s like to be part of a project team working across disciplinary boundaries within the transport sector. Through this, you’ll gain insights into how economics, planning, environmental science, modelling and engineering can work together to develop sustainable solutions to global challenges.

This industry-inspired approach will enable you to apply your knowledge to real-world issues in the field.

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MODULES

Study eight compulsory modules and choose one optional module.

Compulsory modules:
• Principles of Transport Economics
• Transport Econometrics
• Welfare Economics and Cost-Benefit Analysis
• Economics of Regulation
• Economic Appraisal and Economic Performance
• Shaping Future Transport Systems
• Transport Integrated Project
• Transport Dissertation

Optional modules:
• Choice Modelling and Stated Preference
• Survey Design
• Funding for Projects
• Green Logistics
• Public Transport Planning and Management
• System Dynamics: Modelling Policy
• Transport in Development

These are typical modules/components studied and may change from time to time. For a complete list of our latest module information visit courses.leeds.ac.uk
Choosing to study Transport Economics at Leeds was a life-changing decision. Through the teaching, research and field excursions, I studied the fit between transport infrastructure, services and economics. Although the course was challenging at times, the reward was acquiring very relevant knowledge that I could use in Uganda, my home country. ITS is definitely the place to be.

Richard Sendi, Transport Economics graduate
The course covered rich theoretical and practical content that helped me to apply my knowledge in unique ways, solving new and challenging problems. I developed specialist skills in this interdisciplinary field and have built a successful career as a Lecturer in Transport Planning. I now share my knowledge with my students on how transport can be better utilised, motivating them to become better transport planners.

Tolulope Oladele, MSc Transport Planning graduate
MSc TRANSPORT PLANNING

Acquire the knowledge and skills to develop integrated transport plans capable of meeting the biggest challenges of our time: from mitigating the impact of climate change to reducing inequalities by widening economic and social opportunity.

If you are an ambitious graduate this course will equip you to play a key role in a rapidly expanding industry with high demand for people with qualitative and quantitative skills. Progress directly from this course to a range of rewarding careers – in a transport consultancy or an operating company, research organisation or a government department.

97% of our graduates find employment in a professional or managerial role, or continue with further studies.*

Develop expertise in the use of cutting-edge models and tools created in Leeds by researchers who are shaping the transport planning agenda around the world.

HIGH-LEVEL SKILLS YOU WILL DEVELOP

• Understand how and why differing transport policies work and the relationship to wider social policy
• Analyse different perspectives on transport and their underlying assumptions
• Collect, analyse and present transport data
• Model the impacts of a range of interventions
• Assess future transport demand and its impacts
• Design and implement objective-led strategies

You’ll experience what it’s like to be part of a project team working across disciplinary boundaries within the transport sector. Through this, you’ll gain insights into how planning, economics, environmental science, modelling and engineering can work together to develop sustainable solutions to global challenges.

This industry-inspired approach will enable you to apply your knowledge to real-world issues in the field.

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MODULES

Study seven compulsory modules and choose two optional modules.

Compulsory modules:
• Principles of Transport Modelling
• Shaping Future Transport Systems
• Understanding Travel Behaviour
• Transport Data Collection and Analysis
• Sustainable Spatial Planning and Analysis
• Transport Integrated Project
• Transport Dissertation

Optional modules:
• Analysing Transport and Society
• Choice Modelling and Stated Preference Survey Design
• Funding for Projects
• Global Transferability of Policies, Models and Methods
• Green Logistics
• Public Transport Planning and Management
• Road Safety Management
• System Dynamics: Modelling Policy
• Traffic Management
• Traffic Network Modelling
• Transport and Public Health
• Transport and Urban Pollution
• Transport in Development
• Transport Investment Appraisal

These are typical modules/components studied and may change from time to time. For a complete list of our latest module information visit courses.leeds.ac.uk
MSc TRANSPORT PLANNING AND THE ENVIRONMENT

If you are a numerate graduate who wants a smart track to employment in a rapidly expanding sector addressing the environmental impacts of transport, this course will help get you there.

Learn the cutting edge data collection and analytical skills to translate your passion for improving the air quality of our cities and the wellbeing of your fellow citizens into a reality. Be taught by researchers who are shaping the national and international environmental transport agenda – members of our team advise government on emissions control.

97% of our graduates find employment in a professional or managerial role, or continue with further studies.*

CORE COURSE COMPETENCIES
• Understand how diverse data sources can improve government policy making
• Gain hands on experience, using state-of-the-art monitoring tools:
  - Measuring vehicle emissions and evaluating the data
  - Analysing and shaping policies to reduce traffic pollution
• Develop fluency in the design of sophisticated models to design traffic systems and pollution controls to reduce harm to people and the environment

You’ll experience what it’s like to be part of a project team working across disciplinary boundaries within the transport sector. Through this, you’ll gain insights into how environmental science, modelling, planning, economics and engineering can work together to develop sustainable solutions to global challenges.

This industry-inspired approach will enable you to apply your knowledge to real-world issues in the field.

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24-36 months (part-time)

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MODULES

Study seven compulsory modules and choose two optional modules.

Compulsory modules:
• Environmental Science and Sustainability for Transport
• Transport Data Collection and Analysis
• Transport and Urban Pollution
• Shaping Future Transport Systems
• Principles of Transport Modelling
• Transport Integrated Project
• Transport Dissertation

Optional modules:
• Analysing Transport and Society
• Choice Modelling and Stated Preference Survey Design
• Funding for Projects
• Global Transferability of Policies, Models and Methods
• Green Logistics
• Public Transport Planning and Management
• Road Safety Management
• Sustainable Spatial Planning and Analysis
• System Dynamics: Modelling Policy
• Traffic Management
• Traffic Network Modelling
• Transport and Public Health
• Transport in Development
• Transport Investment Appraisal

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My supervisor and the support staff offered me tremendous support and guidance. I also benefited from many conversations and collaborations that challenged my understanding of theoretical concepts and broadened my awareness of diverse methodologies. The institute did a wonderful job helping me to integrate quickly into the post-grad community. I would definitely recommend this course to anyone wishing to gain valuable research experience in a relatively short amount of time.

Reilly Wilson
MA by Research
MSc (Eng) TRANSPORT PLANNING AND ENGINEERING

If you’re an ambitious engineering graduate – from a civil, mechanical, computing or electronic engineering background – this course is the smart route to a career in the expanding field of transport consultancy and public policy.

Learn to develop solutions to engineering problems that fit the broader aims of transport and planning policy, from academics with an international reputation whose research sets industry standards.

97% of our graduates find employment in a professional or managerial role or continue with further studies.*

CORE COURSE COMPETENCIES
- Principles of transport engineering – deepening knowledge of the fundamentals
- Integrated transport networks – road, rail, and aviation
- Transport modelling – refining models to fit local contexts
- Shaping future transport systems – the engineering dimension
- Data collection and analysis – the key to good design solutions
- Road safety management – saving lives, improving quality

You’ll experience what it’s like to be part of a project team working across disciplinary boundaries within the transport sector. Through this, you’ll gain insights into how engineering, planning, economics, environmental science and modelling can work together to develop sustainable solutions to global challenges. This industry-inspired approach will enable you to apply your knowledge to real-world issues in the field.

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MODULES
Study six compulsory modules and choose three optional modules.

Compulsory modules:
- Principles of Transport Engineering
- Shaping Future Transport Systems
- Transport Data Collection and Analysis
- Principles of Transport Modelling
- Transport Integrated Project
- Transport Dissertation

Optional modules:
- Deterioration and Maintenance of Pavements
- Public Transport Planning and Management
- Road Geometry and Infrastructure
- Road Safety Management
- System Dynamics: Modelling Policy
- Traffic Management
- Traffic Network Modelling

These are typical modules/components studied and may change from time to time. For a complete list of our latest module information visit courses.leeds.ac.uk
If you’re interested in receiving quality education from renowned professionals while also learning about the application in real life scenarios through case studies, projects, techniques and schemes first hand, then I truly recommend you attend ITS.

Elena Chiari
MSc (Eng) Transport Planning and Engineering graduate
MSc RAILWAY OPERATIONS, MANAGEMENT AND POLICY

Railways throughout the world play a key social and economic role in societies. They are constantly adapting to change. Many are experiencing substantial growth in patronage due to ever increasing economic prosperity and urbanisation - the result is a need for greater connectivity among urban centres and communities. This course will inspire and equip you to address these changing needs.

Across the world, railways are coming under increasing pressure particularly as means of intercity transport (prompting the rapid expansion of High Speed Rail) and urban transportation with the growth of cities. Holistic, multi-disciplinary solutions need to be developed to meet the challenges of capacity, congestion, reliability and user comfort within a finite resource budget.

This Masters will equip you with the skills needed to develop and evaluate a variety of solutions to these problems, including the appraisal of a variety of engineering solutions as well as pricing and other measures aimed at changing user behaviour.

Taught by researchers who are at the forefront of their field, you will develop a range and depth of expertise that will equip you for a rewarding career. We work closely with the University’s Institute of High Speed Rail Technology and System Integration. The equipment, facilities and expertise within the Institute will create a UK centre of excellence. It will be equipped to lead on the research and development needs for global industry partners including advanced technology development and testing, digital engineering and transport policy and economics.

CORE COURSE COMPETENCIES

- Apply and evaluate approaches to pricing, cost measurement and allocation of resources in the rail sector
- Understand and apply the key principles and methods of railway investment appraisal, including practical tools
- Demonstrate knowledge of how railway transport fits into public policy, the ownership and structure of the industry and the related governance and decision making structures
- Identify, manage and analyse a range of data related to rail sector management, operations and policy
- Apply statistical techniques to conduct railway transport analysis
- Understand and evaluate the purpose and relative merits of the main types of transport models and how railway operational and management analysts interact with them
- Develop multi-disciplinary team working skills and gain practical experience with managing a real world project.

KEY FACTS

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September

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12 months (full-time)
24-36 months (part-time)

*Higher Education Statistics Agency (HESA), Destinations of Leavers from Higher Education (DLHE) 2015/16), www.hesa.ac.uk

MODULES

Study seven compulsory modules and choose two optional modules.

Compulsory modules:
- Railway Policy
- Railway Operation and Management
- Pricing and Demand Analysis
- Transport Data Collection and Analysis
- Rail Investment Appraisal
- Transport Integrated Project
- Dissertation Project

Optional modules:
- Transport Resilience
- Green Logistics
- Railway Signalling and Control
- Choice Modelling and Stated Preference Survey
- Funding for Projects
- Managing and Delivering Sustainability through Projects and Organisations
- Traffic Network Modelling

These are typical modules/components studied and may change from time to time. For a complete list of our latest module information visit courses.leeds.ac.uk
Demand by passengers and freight customers for much better rail services - or for new lines altogether as in the case of HS2 - is dramatically changing the nature of the rail industry. Unprecedented global investment, notably in Western Europe, the Gulf, India, China and Australia, is helping to radically reshape the sector, helping to reduce crowding, expand existing routes and provide new links altogether.

All this has created a demand for skilled professionals with understanding of planning, management, operations, engineering and economics to help drive forward much needed improvements. The industry is continuing to grow and, more than ever, needs the multi-disciplinary skills that this course offers.

Richard Davies
Former Director of Strategy and Chief Economist at Strategic Rail Authority
Cities across the world are signing up to low carbon targets, sustainability metrics and yet there is a massive skills gap. They've got people who can do these things but they need new graduates to be able to lead sustainability change and that's true for cities everywhere, from Asia to Europe, to North America and South America all over the world we need new sustainability graduates in cities.

Stephen Hall
Programme Manager
MSc SUSTAINABLE CITIES

The Institute for Transport Studies also contributes modules to the Sustainable Cities MSc, which is a Faculty of Environment programme.

Cities across the world are facing huge sustainability challenges. Whilst mayors and city governments pledge ‘zero carbon cities’ by 2040, a serious skills shortage means a new generation of sustainability leaders is needed.

By studying this course you will gain the skills, knowledge and tools necessary to become an urban sustainability leader. On this programme you will experience urban sustainability first hand, blending concepts and theories with real world problems and solutions.

There’s a global shortage of highly skilled graduates in this fields, so once you’ve completed this course, you’re going to be in demand.

• The only programme in the UK teaching the key systems that make up sustainable cities
• Personal leadership plan tailored to your strengths and development needs
• Problem based learning with focus on real world solutions
• Top 5 in the world for Environmental Studies (CWUR 2017)

WHAT YOU’LL LEARN: OVERVIEW

By the end of this course, you will gain the skills, knowledge and tools demanded by the industry in the following areas:

• Energy and transport systems
• Housing and urban ecosystems
• Change leadership
• Urban sustainability strategies
• Climate change mitigation and adaptation

KEY FACTS

Start Date
September

Duration of MSc
12 months (full-time)

WHERE WILL IT TAKE YOU?

After completing this course, you will be equipped to enter the employment market in areas such as:

• Infrastructure and sustainability consulting
• Environmental and urban consultancy
• City or urban governance and planning
• Policy and analysis and development
• Corporate social responsibility
• Environmental management and management systems
• Sustainability NGO’s
• PhD study

MODULES

• Cities and Sustainability
• Skills for Urban Sustainability
• City Systems: Energy
• City Systems: Housing
• City Systems: Mobility
• City Systems: Natural Systems
• Research Project and Leadership for Sustainability

These are typical modules/components studied and may change from time to time. For a complete list of our latest module information visit courses.leeds.ac.uk
HOW TO APPLY

Applying for a postgraduate course is easy. Using our online system you can track your application at each stage of the process and upload your supporting documents: www.its.leeds.ac.uk/courses/masters/how-to-apply

It’s very important that you also supply all the documents that we need to assess your application:

- Statement of motivation
- Contact details for two academic referees
  If you have relevant work experience which is more recent than your academic qualifications then you can substitute an academic referee for a work referee
- C.V.
- Official transcript of your degree marks to-date
- Copy of your degree certificate (if yet available*)
- Evidence of your English language proficiency (non-native English speakers only)

*You don’t have to wait until your final undergraduate degree results are available before applying, as we can often make a conditional offer.

Early application is recommended, particularly for international students and those seeking scholarships.

ENTRY REQUIREMENTS

You should normally have or expect a Bachelors Degree with a 2:1 or above, in a relevant subject. If you’re not sure if your international qualification is equivalent to a UK degree, please contact us for advice.

Our students come from a very wide range of academic backgrounds and some of the relevant disciplines other than transport studies are listed in the table across.

We also welcome applications from graduates of other disciplines, and those with professional qualifications and/or relevant work experience. Your application will be assessed on its individual merits.

ENGLISH LANGUAGE

If your first language is not English, you must provide evidence of your language proficiency. This is normally in the form of a recent test certificate, such as IELTS or other recognised alternatives.

If you haven’t quite achieved the minimum score you may be admitted in certain circumstances. For example, the minimum IELTS score is 6.5 (with at least 6.0 in all components) but if you achieve an overall score of 6.0, you may be accepted on the condition you attend the University’s pre-sessional English language course. www.leeds.ac.uk/languages

<table>
<thead>
<tr>
<th>Programme</th>
<th>Relevant undergraduate degrees</th>
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<tbody>
<tr>
<td>MSc Mathematical Modelling for Transport</td>
<td>Mathematics, statistics, physics, computer science and other degrees with significant quantitative content.</td>
</tr>
<tr>
<td>MSc Transport Economics</td>
<td>Economics (single or joint honours).</td>
</tr>
<tr>
<td>MSc Transport Planning</td>
<td>Geography, town planning, architecture, earth and environment, sustainability, logistics, business and management, psychology, history, social policy, politics, public administration.</td>
</tr>
<tr>
<td>MSc (Eng) Transport Planning and Engineering</td>
<td>Engineering, environmental science, physics, mathematics, computing and other quantitative subjects.</td>
</tr>
<tr>
<td>MSc Railway Operations, Management and Policy</td>
<td>Economics, business and management, mathematics, social sciences, engineering and geography.</td>
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COURSE FEES

For current information about full and part-time fees for UK, EU and international students please visit: www.its.leeds.ac.uk/courses/masters/fees

FUNDING

Our Institute, the University of Leeds and other organisations offer a number of scholarships and financial support each year for UK, EU and international students. If you’re a former student of the University of Leeds you
could be eligible for a 10% alumni tuition fee bursary. For full details of scholarships and funding available please visit: the University's postgraduate funding website: www.leeds.ac.uk/info/130536/funding

Key annual competitions are listed below:

UK/EU applicants:
- ITS Scholarships
- Brian Large Bursary
- Rees Jeffreys Road Fund
- University of Leeds Fee Scholarships
- ESRC ‘1+3’ (Masters followed by PhD)

International applicants:
- British Chevening Scholarships
- British Council Awards
- Commonwealth Scholarship Plan
- Commonwealth Shared Scholarship Scheme (DfID)
- Tetley and Lupton Scholarships
- ITS Scholarships
- World Bank

OUR SCHOLARSHIPS
We offer a limited number of ‘excellence scholarships’ each year if you’re wishing to study for a full-time Masters degree. These are partial tuition fee waivers and are intended to provide development opportunities to students of outstanding ability, achievement and potential.

There is strong competition for scholarships and early application is essential. For certain scholarship competitions, we will nominate which applicants we wish to put forward for consideration to the awarding body. Our nomination in these cases is based primarily on your academic merit (degree result and references), but relevant previous experience and other factors may also be taken into account.

For details of scholarships, eligibility, the application process and deadlines please visit: www.its.leeds.ac.uk/courses/masters/scholarships

VISITING US
Where feasible, we encourage you to attend one of our Open Days. These provide the opportunity to see ITS for yourself, discuss courses and scholarships with academic staff, as well as meet current students: www.its.leeds.ac.uk/openday

CONTACT US
If you would like further information about the courses, advice about your suitability or any other aspect of studying with us, please contact:

Admissions
Institute for Transport Studies
University of Leeds
Leeds LS2 9JT
Tel: +44 (0)113 343 5353
E-mail: courses@its.leeds.ac.uk
www.its.leeds.ac.uk/courses/contact-us
OUR GLOBAL COMMUNITY

Leeds is an international university attracting over 32,000 students from 147 countries.

AN INTERNATIONAL EXPERIENCE
You’ll be part of our global community of students from 147 different countries, making our campus one of the most diverse and multicultural in the UK. We have over a century of experience of welcoming international students to Leeds.

From the moment you accept our offer and throughout the duration of your studies, we provide a range of specialist services to help you – about travelling to Leeds, what to bring with you, settling in and adapting to British culture, and advice on visas and immigration. You’ll also have many opportunities to take part in social events and go on regular excursions, ensuring you make the most of your time in the UK.

www.leeds.ac.uk/internationalstudents

Our staff regularly travel overseas to meet with prospective students and to give advice about life as an international student in Leeds. You can find out whether we’ll be visiting your country in the near future at www.leeds.ac.uk/visitstoyourcountry

If you would like to talk to some of our current students about their experiences or have any questions about being a postgraduate student at Leeds visit: linkto.leeds.ac.uk

CAMPUS FACILITIES
We have all the facilities you’ll need to support and enhance your academic studies and we’re investing millions of pounds each year to ensure we maintain a first-class learning environment. From brand new lecture theatres to one of the largest and most impressive libraries in the UK, you’ll find everything you need for your studies right here on campus.

The University Library is one of the major academic research libraries in the UK and attracts students and academics from around the world. As well as access to 2.8 million books, you’ll have a host of electronic resources at your fingertips, including over 500,000 online books, accessible from wherever you are, and more than 37,000 print and online journals. Our library staff are always on hand to offer a range of support to help you sharpen your skills – from academic referencing to computing, time management and presentation skills. You’ll also benefit from extensive online resources, as well as workshops on topics such as researching and writing your dissertation.

www.leeds.ac.uk/library

We have some of the best computing resources in the country according to the Guardian University Guide 2016. Our IT facilities are centred on you – a single login will give you access to all the University’s services, including our mobile apps. You’ll find over 1,800 networked PCs available to use across campus in computer clusters and in our cafés, as well as numerous specialist computing facilities. If you would rather use your own laptop, with our Desktop Anywhere service and free high-speed wi-fi, you’ll have secure access to your resources, files and a wide range of software from anywhere in the world.

www.leeds.ac.uk/it

When you study at Leeds, you’ll have the chance to become a member of one of the best students’ unions in the country – Leeds University Union – which is run by students for students. It offers you great services, support and opportunities, including a wide range of clubs and societies and lots of places to meet, relax and study. There are over 300 student-led societies, bringing like-minded students together. Whether you want to pursue an existing interest or try something completely new, there is something for everyone. www.luu.org.uk

ACCOMMODATION
Starting a new course or adapting to life in a new country can be both exciting and challenging. We understand the importance of finding the right living environment to help you settle, study effectively and enjoy a good social life. Leeds has plenty of accommodation for students, both University owned and private sector. This represents good value for money and reflects a lower cost of living compared to London and the south of England. All new, single international postgraduate students are guaranteed a place in University accommodation, subject to meeting the conditions of application deadlines, residence and academic fee status. accommodation.leeds.ac.uk
CITY LIFE

A vibrant city surrounded by spectacular countryside, Leeds is at the heart of the UK.

Situated in the middle of the UK, Leeds is also the regional capital of Yorkshire. The University sits on the edge of the city centre and a 10-minute walk will take you to the heart of Leeds. Renowned as a hub for arts, sport, leisure and entertainment, Leeds is a lively, multicultural city. It has everything you would expect from the UK’s third largest and fastest-growing city, and is surrounded by beautiful countryside. With over 60,000 students living within the city boundaries, there’s a real student focus, making it an exciting place to live and learn. www.leedsinspired.co.uk

ARTS AND CULTURE
The city has a vibrant cultural life, so whether you are a fan of cinema, opera, live music or theatre, Leeds has something to suit you. Throughout the year, the city is transformed by outdoor concerts in Millennium Square, street theatre, performance art, and various European-themed festivals and markets.

SPORT
Leeds has a proud sporting tradition and was chosen as the host city for Le Grand Départ, the start of the 2014 Tour de France. Whatever your sport of choice, Leeds is home to famous teams such as Yorkshire County Cricket Club, Leeds Rhinos and Leeds Carnegie rugby clubs. If spectating isn’t enough and you want to get active, one of the country’s biggest real snow slopes is within easy reach, and the city has plenty of gyms and health clubs, including the University’s own fitness suite and swimming pool.

EATING OUT AND ENTERTAINMENT
Leeds offers an extensive choice of places to eat and drink to suit all culinary tastes and budgets. Leeds’ music scene can be experienced in every corner of the city, every night of the week. Live music venues include the 13,500-capacity First Direct Arena, the O2 Academy, and the University’s own Refectory, which has played host to some of the world’s most famous bands.

TRANSPORT LINKS
Leeds is well connected to the rest of the UK by extensive coach and rail services. You can reach London in two hours by train and Edinburgh is just three hours away. Leeds Bradford Airport is only 30 minutes from campus and provides regular flights to major international destinations.

EXPLORING YORKSHIRE
There is an abundance of things to see and do in Leeds and across the region. Spectacular countryside is within easy reach of Leeds, including the Lake District, Peak District, Yorkshire Dales and North York Moors, as well as East Yorkshire’s stunning coastline. www.yorkshire.com

HOW TO FIND US
Campus is just a short walk from the city centre and all the attractions and amenities it has to offer, including theatres, bars, restaurants, bus and rail stations and more. www.its.leeds.ac.uk/map