Institute of Transport and Logistics Studies
Research and innovation in infrastructure, transport, logistics and supply chain management

Our Vision: To improve accessibility for people, goods and services that aligns with efficiency, fairness, resilience and sustainability

The Institute of Transport and Logistics Studies (ITLS) at the University of Sydney Business School is a leading international research centre in the crucially linked areas of infrastructure, transport, logistics and supply chain management.

Established in 1991, our goal is simple: to contribute to the design, management and optimisation of infrastructure, transport, logistics and supply chain initiatives around the globe. Efficient and effective transport logistics and supply chains are important for the entire economy and for the well-being of the community. As such, our research contributes to building a stronger and healthier society in Australia and globally. With a seven-strong professoriate of world-renowned scholars, we are recognised by the federal government as an Australian Key Centre of Transport Management and hold the premier research rating of ‘well above world standard’ (Excellence in Research for Australia (5)). We are the most highly-ranked transport and logistics group in Australia and one of the best in the world delivering significantly in all relevant areas of engagement, impact and performance.

ITLS undertakes fundamental and applied research across all modes of transport and all parts of the supply chain. Considering such transport and logistics problems in an integrated fashion is crucial in optimising the entire supply chain.

An increasingly relevant research topic is critical and reliable infrastructure with linkages to impacts on supply chains.

ITLS is future-focused, developing concepts and tools to cope with vast change and disruption in the transport field including mobility as a service, autonomous cars and ships and smart cities. We work with a range of government, industry and community stakeholders such as state transport authorities, road safety commissions, bus and coach organisations and aviation businesses to seed the development of innovative ideas in transport, logistics and supply chain policy and professional practice.

Research and consultancy services

ITLS provides high quality research and consultancy services to government, operators and private investors in the transport and logistics industries. We deliver independent analysis and advice that informs infrastructure and transport project appraisal and policy decision making. Our research facilitates the decision-making of stakeholders in land, sea and air value chains including operators, regulators, service providers and communities affected by these activities. Our leadership in integrated supply chain research enables the development of efficient, sustainable and resilient value chains for any industry sector.
Our expertise

Transport and infrastructure management
We investigate how transport policies / investments in infrastructure and transport services influence travel behaviour and traffic networks, and how changes are valued by communities. All types of infrastructure and all modes of transport in all spatial settings are considered in passenger and freight contexts. We operate a unique travel choice simulation laboratory (TRACSLab) with five connected driving simulators. The laboratory is utilised for diverse research from route choice studies that include road pricing and travel time reliability, to responses to traffic management and travel information.

Key capabilities:
- Mobility as a Service (MaaS)
- Appraisal and wider economic impacts
- Discrete choice methods and analysis
- Transport planning and traffic management
- Infrastructure management and mega-projects
- Stated and revealed preference surveys
- Transport policy and institutional reform

Aviation management
Our research in aviation aims to facilitate the decision-making process and improve the profitability of the various stakeholders in the aviation value chain. While most of our research areas focus around corporate and government organisations, we also study consumer needs, best practices and innovations in business, tourism, regional and freight air transport.

Key capabilities
- Airline and airport management
- Air cargo, logistics, supply chain management
- Benchmarking, productivity and cost analysis
- Forecasting, regulation and competition strategy
- Economic impacts of aviation
- Strategic alliances and merger analysis
- Risk management and financial analysis

Port and maritime logistics
Our research on ports and maritime logistics covers areas such as maritime network design, vulnerability and resilience as well as maritime and port cyber security. The role of ports and intermodal terminals in container logistics continues to be a central research theme, with a particular focus on port-centric logistics and empty container management. The future impact on global supply chains of automation in ports and shipping constitutes a new research theme.

Key capabilities
- Intermodal terminal location and design
- Maritime network design
- Container terminal automation
- Autonomous shipping

City logistics
Our research looks at the relationship between traffic engineering and urban logistics. New freight modes compatible with the ‘place’ function of city streets are being studied, in particular electric vans, electric cargo bikes and autonomous vehicles. Also under investigation are forms of ‘comodality’ whereby public transport is used to distribute cargo.

Key capabilities
- Urban consolidation centre design
- Traffic engineering for city logistics
- Comodality options
- Van sharing apps

Supply chain management
Our innovative supply chain research is delivered through our integrated expertise in management science, operations management, industrial engineering and international business.

Key capabilities
- Supply chain planning and optimisation
- Supply chain risk management
- Data analytics in supply chain management
- Human factor in supply chain decision making
- Strategic sourcing and procurement strategies
- Supply chain competition and cooperation
- Sustainable supply chain management
- Decision support tools for demand planning and forecasting

For more information
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