Applications are invited for a PhD scholarship opportunity at the Waikato Management School, University of Waikato in Hamilton, New Zealand. This project is fully funded by QuakeCoRE, the New Zealand Centre for Earthquake Resilience. A mid-2022 start is anticipated (COVID-19 restrictions allowing). The successful applicant must be eligible to enrol at the University of Waikato (please check the PhD entry requirements available here).

Research description
Aotearoa New Zealand is a country prone to natural disasters. Research to strengthen the country’s disaster resilience is ongoing across tertiary institutions, government agencies, and industry. Transportation impact models are one mechanism that is frequently used to assess how the movement of people and goods will be affected in the aftermath of a disaster.

Agent-based modelling is becoming the model of choice for transportation impact models as these models better capture the underlying behaviour (mode choice, route choice etc.) that determine the transportation decisions of people and logistics agents. However, the understanding of the underlying behaviour of logistics agents (shippers, carriers, receivers) in Aotearoa New Zealand is deficient.

This doctoral project will address the gap in understanding of logistics behaviour in Aotearoa New Zealand through the spatio-temporal analysis of telemetry data for commercial vehicle fleets over an extended period of time. This work will build on previous research conducted within QuakeCoRE, articulate with ongoing modelling efforts within QuakeCoRE and other government agencies, and draw from vehicle telemetry research from around the world.

Supervisors
The successful PhD candidate will be supervised by Dr Nadia M Trent and Dr Cécile L’Hermitte (both from the Waikato Management School) with external supervisors from other institutions in the QuakeCoRE network.

Funding
This doctoral project is fully funded and consists of:
- A fulltime student stipend of NZ$28,000 per year for a period of 3 years;
- NZ$8,000 per year to cover the payment of the University of Waikato PhD fees and contribute to other related costs.

Eligibility criteria
The successful candidate will have:
- A Master’s degree in a relevant discipline (industrial engineering, civil engineering or operations research degrees are preferable, but degrees in transport economy, logistics, supply chain management, or operations management can be considered if the Masters research included mathematical modelling of some sort);
- Demonstrated skills and experience in mathematical modelling and proficiency in a programming language (e.g. Python, Java);
- Demonstrated English language skills (if English is not your first language, IELTS or TOEFL scores should be submitted with your application).

Domestic and international students are welcome to apply. The COVID-19 pandemic and any associated border restrictions will be considered at the time of selection.
Application documents required
- Cover letter including a personal statement (maximum two pages) related to the research project (e.g. motivation for the project, what experience and skills you will bring to the project);
- Three-page literature review that explores recent work in the field of vehicle telemetry analysis;
- CV;
- Three reference letters (at least two academic);
- Copies of official academic transcripts;
- IELTS/TOEFL scores (if applicable); and
- Copy of Master’s thesis if this is available in English.

Contact and email address for applications
Please email all the above documents to Dr Nadia M Trent (nadia.trent@waikato.ac.nz). Incomplete applications will not be considered.

Closing date
The review of applications is ongoing and will continue until the position is filled. Final acceptance is subject to the approval of the University of Waikato’s School of Graduate Research.