Sarah Wise

Proposals for Master’s Dissertation Topics

Categorised by area of interest.

**Missing Maps** – humanitarian mapping community, with significant overlaps with OpenStreetMap and specifically the Humanitarian OSM Team. In the past, students have collaborated with members of Missing Maps and HOT to communicate, plan, and delivery projects. See more at <https://www.missingmaps.org/> and <https://www.hotosm.org/>.

* Data quality: understanding maintenance, completeness, etc.

E.g. trends in tagging, road network connectivity

* Rapid mapping
* Tools to support mapping and maintenance
* Projects making use of data drawn from these
* See especially the Audacious Project: <https://www.hotosm.org/projects/audacious/>

**Freight transit** – working toward fleet-level or city-level understandings of the efficiency and impacts of freight transit. Drawing on work from the Freight Traffic Control project (see <http://www.ftc2050.com/>) and contracting with smaller freight companies.

* Impact of varying types of freight vehicle on delivery times, environment, road safety, etc.
* Permeability of road network to different modes of delivery (e.g. cargo cycles versus pedestrians versus vans versus lorries)
* Optimal positioning of depots
* Understanding the viability of electrified freight deliveries by exploring the development of the electric grid versus viable depot locations

**ABMERR** – my current grant (Agent-based Modelling for Ebola Risk Reduction), dedicated to an agent-based modelling approach to exploring epidemic outbreaks and their relation to transportation networks and human behaviours.

* Transportation networks and their role in shaping the spread of disease
* Extracting human behaviour patterns from underlying data sources (e.g. mobile phones, social media check-ins, etc)
* Exploration of model sensitivity to parameters
* Automated techniques for parameter space exploration
* Synthetic population generation (to support modelling)