



Masters Dissertation Scheme Project form



Company / Organisation Name:	WEST MIDLANDS FIRE SERVICE
Team / Department:	PORTFOLIO
Address:	SERVICE HQ, 99 VAUXHALL ROAD, BIRMINGHAM, WEST MIDLANDS

Provisional title for project:

Cost of living and fire risk

Short description of the problem that would be addressed by the project:

Geodemographic profiling and demographic clustering are well-established tools for understanding very fine geographic communities, and have been employed in a wide variety of research projects, where neighbourhood level differences are key. The tools that have been commonly used by both industry and academia have evolved from a commercial, marketing background and to some extent retain some of the characteristics of that original purpose. We would like to investigate a neighbourhood level, fine, clustered geography of fire risk – taking a combination of demographic data, geographic data relating to fire risk, plus historic fire incident data to re-cluster neighbourhoods into self-similar “types” that can be used to better understand the risks communities face, and help us to better serve and protect them.

In addition, although it is well known where Road traffic collision (RTCs) do occur, they are understandably very rarely at a person’s home address. We would like to explore the relationship between home or destination address and RTC location to formulate new understanding of neighbour risk from RTC in order to support safety & prevention work.

Short description of the data sources that would be used in the project, and how they would be used

UK government demographic data (census etc)
WMFS incident records
National incident-level statistics

Would any work by the student need to be carried out on site at the Company (with the exception of supervisory Meetings)?

none

Any issues of data confidentiality and IPR that would need to be resolved

None

Essential skills

GIS, Statistics,

Desirable skills

Machine learning

Preferred degree programmes (if any)

Preferred selection method

Interview & application

Support and training offered by the company

Induction, access to fire stations and personnel, access to HQ.

Financial assistance offered by the company

£500

Any other comments

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If there are any questions about the 2024 programme, please contact Richard Arnold at richard.arnold@ucl.ac.uk. The completed form should also be returned to this address.

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