



<b>Company / Organisation Name:</b>	West Midlands Combined Authority
<b>Team / Department:</b>	Policy, Strategy and Innovation - Transport for West Midlands
<b>Address:</b>	16 Summer Lane, Birmingham, B19 3SD

**Provisional title for project:**

Classifying road segments through the use of a clustering and natural language model to understand whether the indicative use of the road matches that of the actual use.

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

When roads are created, they are given a name, and these names remain largely unchanged and unquestioned throughout the lifetime of that road. We use terms such as 'road', 'avenue' and 'street' and these evoke ideas about what kind of environment that road segment may have and indicate to us its use, but this is not documented. What makes a lane different from a road and what makes a street different from an avenue?

Local authorities have a responsibility to create 'Traffic Regulation Orders' to ensure safe and appropriate use of a particular parts of the road but the process to these being created is complex and not always data-led. If local authorities had a way of determining the suitability of use for each road segment based on the classification of that road and assess whether this was met by the current use of that road, it would be possible to alter the road environment, or place regulations on use to reduce unintended consequences such as 'rat running' or road traffic collisions. For example, the 'lane' naming convention may be more common on segments that had lots of streetlamps, trees and residential properties while a 'road' may indicate somewhere that has more commercial facilities and wider roads. The first may be more suited to a 20mph speed limit whereas the second may need more accessible parking.

The insight derived from this project will enable TfWM to personify road segments that will inform appropriateness of use which we can work with local authorities to improve. We expect there may also be other uses well beyond this use case.

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

Open Street Map (Network & Environment), Buildings (Environment), Traffic counts, speeds & classifications (Usage)

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

No

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

No

**Essential skills**

Data science, data analysis

**Desirable skills**

**Preferred degree programmes (if any)**

Data Science or other similar discipline

**Preferred selection method**

Online interview (Microsoft Teams)

**Support and training offered by the company**

The successful student will have support from a Senior Research Analyst who is familiar with the datasets used

**Financial assistance offered by the company**

The organisation will pay the honorarium (£500)

**Any other comments**