School of Civil Engineering
Research project web page proforma

PhD topic: **Smart cities: a comparative analysis of low carb emission systems and their applicability to Birmingham.**

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About the project
(2-3 paragraphs on the project: what's the background to this topic, what the student will do and hopes to find out, what's the likely impact of the project).

A Smart city model is used to describe the aggregated 'SMART' advancements taking place within a city. Systems in mobility, government, business, and environment are the major infrastructures of a smart city that has improved liveability and helped achieve high scores in European and international rankings. However, the term SMART is not solidly defined and therefore the ranking of smart cities varies amongst different institutions and governments. This research emphasizes on understanding what smart cities are and how they achieved smartness. The Department of Business, Innovation & Skills (BSI), in an attempt to fill this void, has commissioned British Standard Institution (BSI) to develop a clear definition and set of standards for smart cities in the UK that will impact upon European and international context and help shape this research going forward
This research examines the ways that a selection of 'so-called' smart cities such as Luxemburg, Copenhagen, Amsterdam are adopting smartness based on their local context, needs and abilities. In a comparative analysis, the research will provide evidence on smart initiatives that are applicable to Birmingham (UK) context. The aim of this research is to examine the ways in which Birmingham can become smart and create a model that can be used as a catalyst for different contexts.

Methodology
As part of the 'Liveable cities' project, the research will focus in the ways that smart cities have reacted to carbon emission. It will use a quantitate approach to understand the effects of smart ways that carbon emission reduction in the city can be achieved through use of a range of existing key performance indicators (Kpi's) Linked to this a qualitative approach to improving the quality of life in the city will be investigated. The overarching hypothesis is that smart is not simply smart technology, but rather an overall enhancement / improvement in life quality within the city.

Any findings to date
So far the research has found more than 30 definitions for smart cities within the literature. In general it can be concluded that almost every proposed adoption from organisations, the European Union or cities avoids giving a specific concept description for smart cities. Rather it is interpreted as a characterisation of advancements in digitalisation, government, mobility, sustainability or others.

Acknowledgements
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Resources
http://www.smart-cities.eu/
http://www.fastcoexist.com/3024721/the-10-smartest-cities-in-europe
http://www.cross-innovation.eu/the-top-10-smartest-cities-of-europe/news/

http://www.cphcleantech.com/ccj2-copenhagenasacarbonneutralsmartcity
http://eu-smartcities.eu/content/best-cities-environment-and-infrastructure
http://www.fastcoexist.com/1680856/the-top-10-smartest-european-cities
http://www.bsigroup.com/en-GB/smart-cities/Smart-Cities-Standards-and-Publication/PAS-182-smart-cities-data-concept-model/
http://www.bsigroup.com/en-GB/smart-cities/Smart-Cities-Standards-and-Publication/PAS-180-smart-cities-terminology/