Application number/Title: 17380 - The local built environment, obesity and diabetes in the UK: investigating interactions with genetic susceptibility and other individual-level characteristics

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Keywords provided by the Applicant PI to describe the research project:

obesity, diabetes, built environment, genetics, neighbourhoods

Application Lay Summary:

1a: The rising prevalence of obesity is driving global increases in non-communicable diseases such as diabetes, increasing the burden on health systems. This rise in obesity prevalence may be partially explained by increasingly ‘obesogenic’ urban environments, and there is some evidence that obesity, diabetes and related behaviours such as diet and physical activity are associated with aspects of the built environment, including urbanicity, neighbourhood walkability, greenspace, and access to fast-food outlets. However, little is known about whether environmental factors affect everyone equally, or whether underlying individual risk of poor health (e.g. genetic risk) influences vulnerability to environmental factors.

1b: With the proposed project, we aim to contribute to a clearer and more robust understanding of the social and biological pathways by which urbanisation and the built environment may lead to obesity and diabetes, and thereby highlight potential areas of focus for future interventions that will benefit public health.

1c: We will take advantage of unique opportunities afforded by the size and scope of Biobank to build statistical models that will allow us to examine hypothesised subgroup differences, gene-environment interactions, change
over time and other temporal elements of the relationships between the built environment and health.

1d: Full cohort where possible; and complete subsets where available data are limited