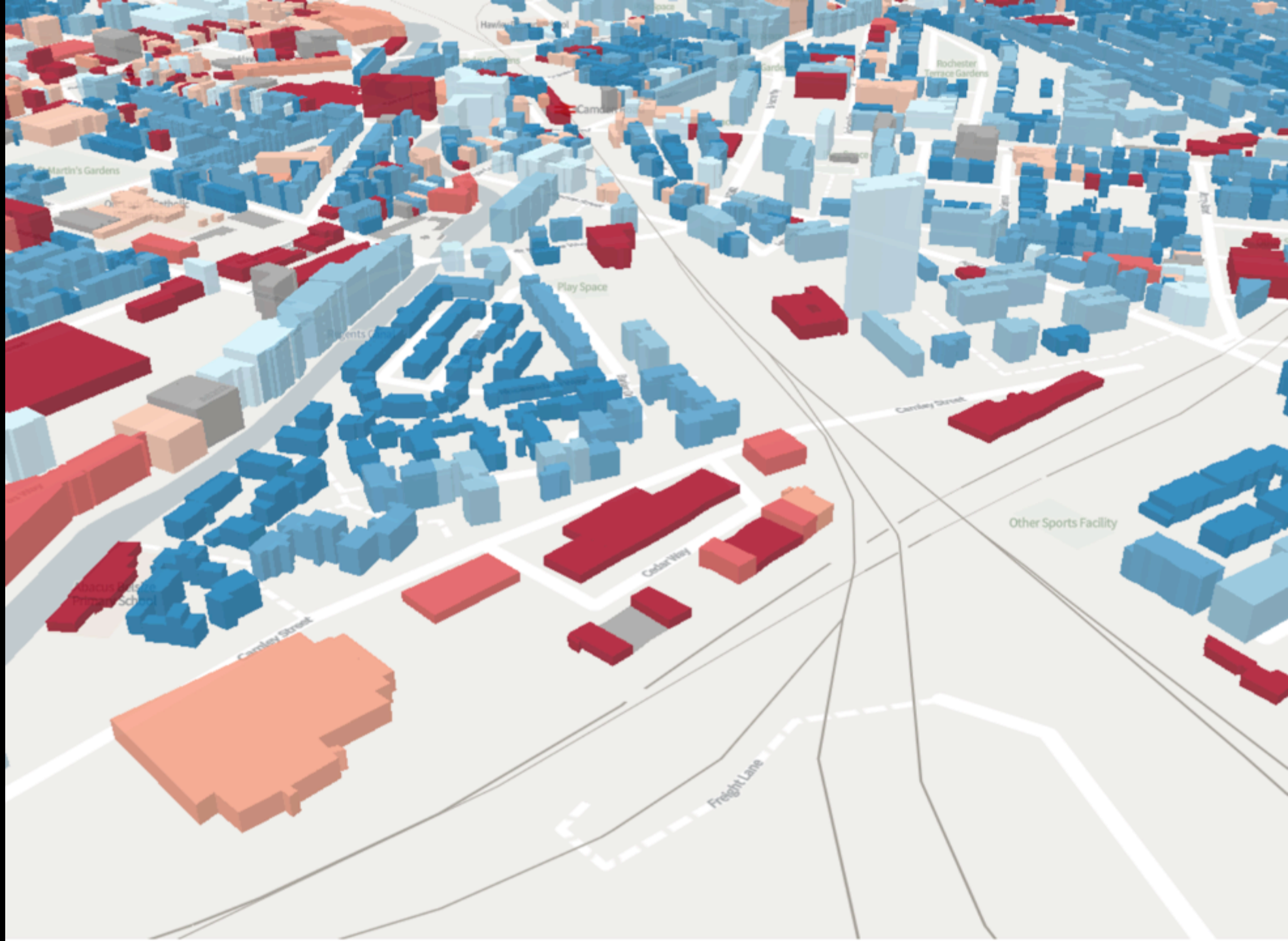


Energy and the density and height of buildings

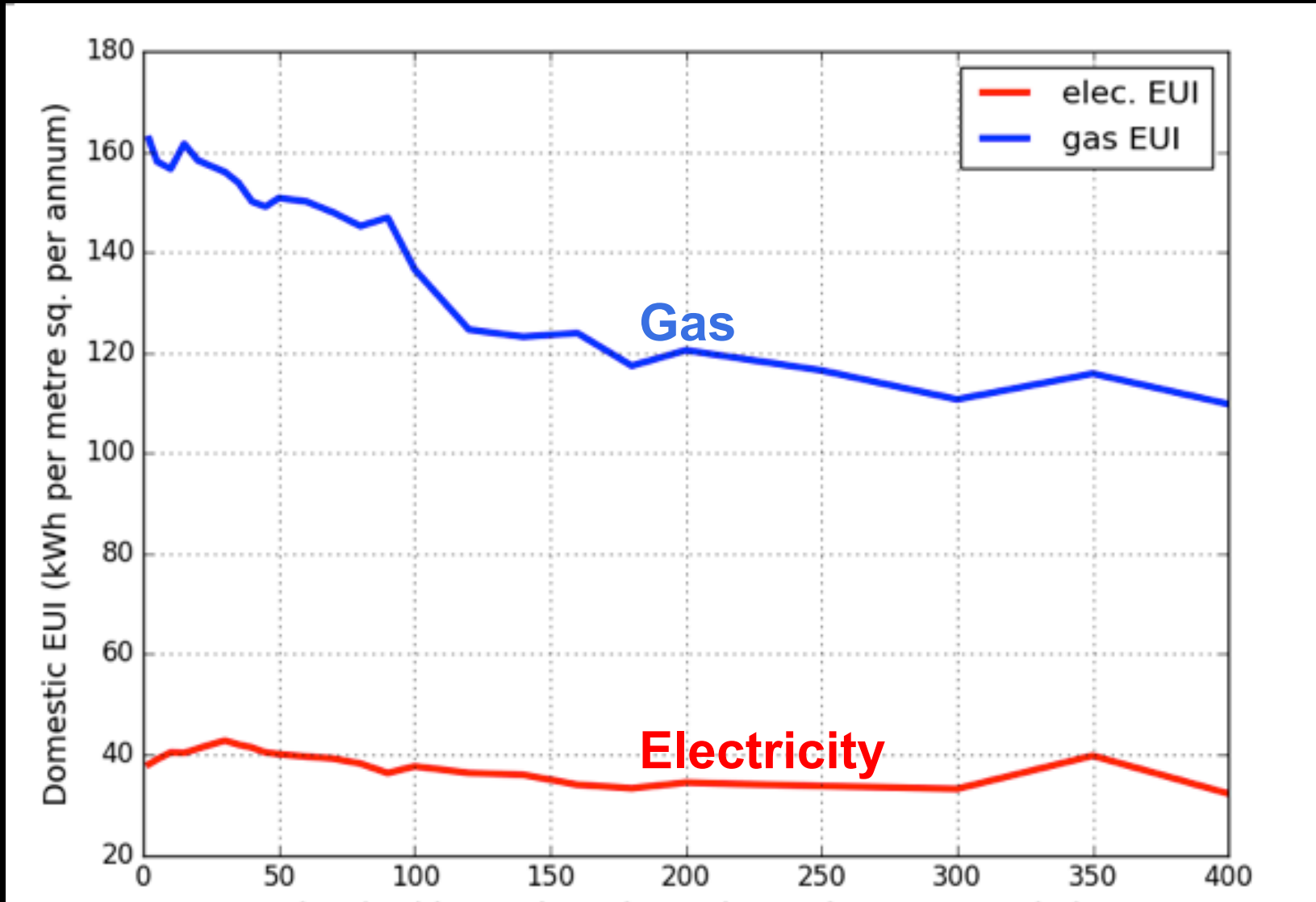
Philip Steadman
Energy Institute, University College London

- The intensity of energy use *decreases*, as density increases, in buildings of between 1 and 6 storeys
- BUT above 6 storeys energy intensity *increases*, very fast
- **HOWEVER** high densities can be achieved in low-rise buildings

The 3DStock Model:
Camden

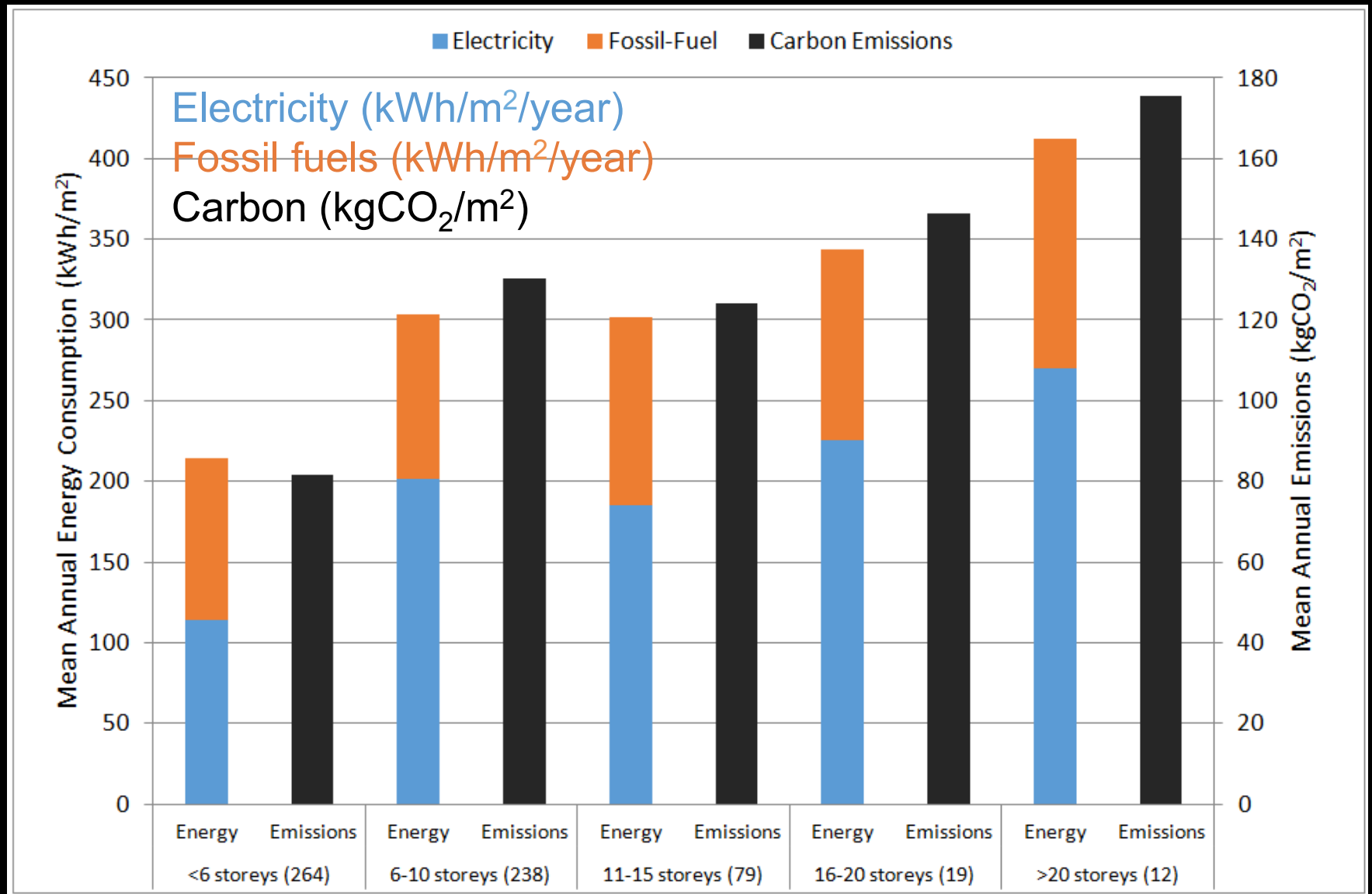


Energy use (kWh/m²/year)



Density (dwellings/ hectare)

612 UK office buildings: energy use and carbon emissions /m²



Storeys:

<6

6-10

11-15

16-20

>20

Ferndale Road SW9
3.5 storeys
FSI = 3
Ground coverage = 0.6



St James's Square SW1
5.8 storeys
FSI = 3
Ground coverage = 0.5



**Filbert Village,
Leicester**

7.1 storeys

FSI = 3

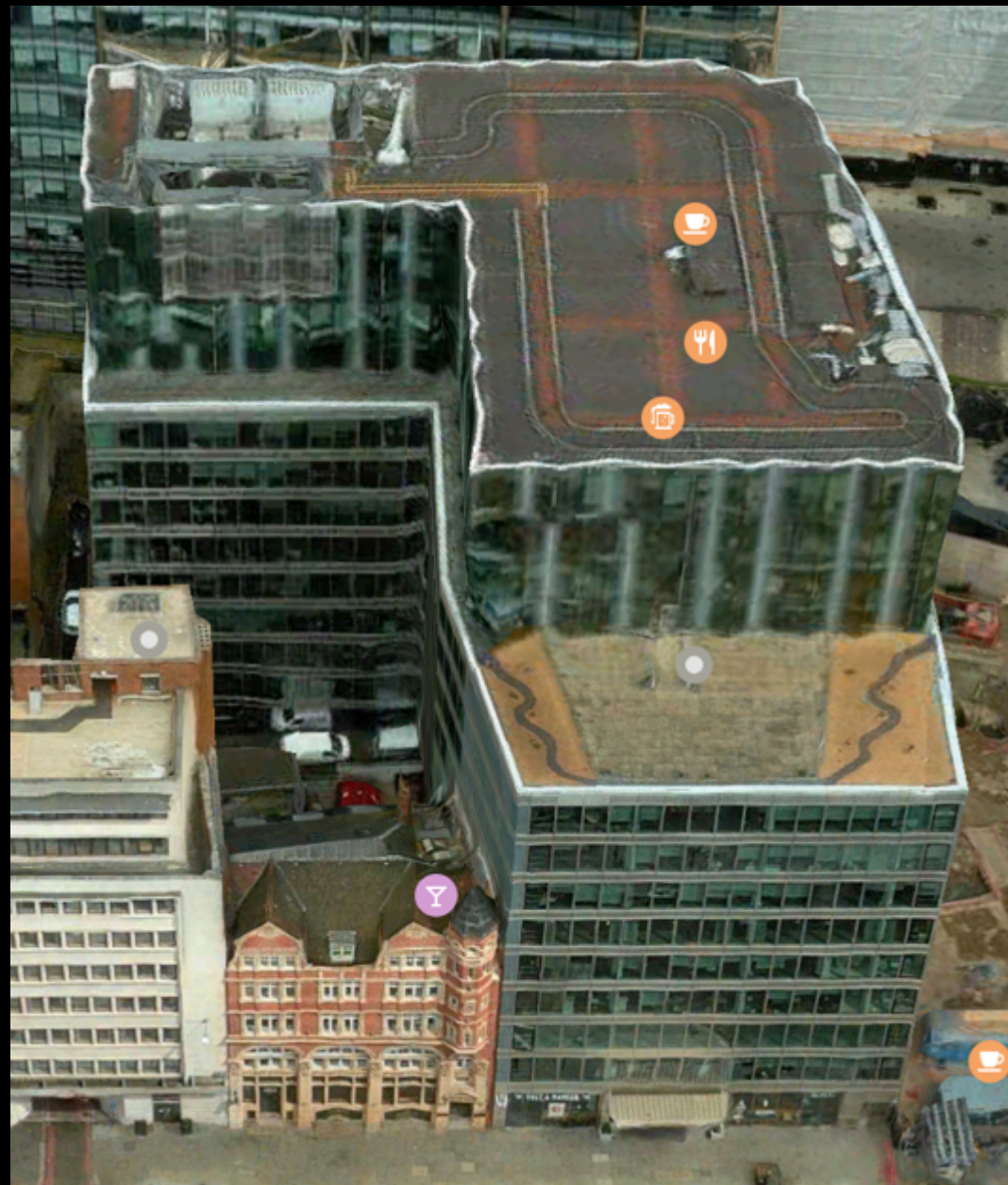
Ground coverage = 0.4



10 Bermondsey Square SE
7.6 storeys
FSI = 3
Ground coverage = 0.38



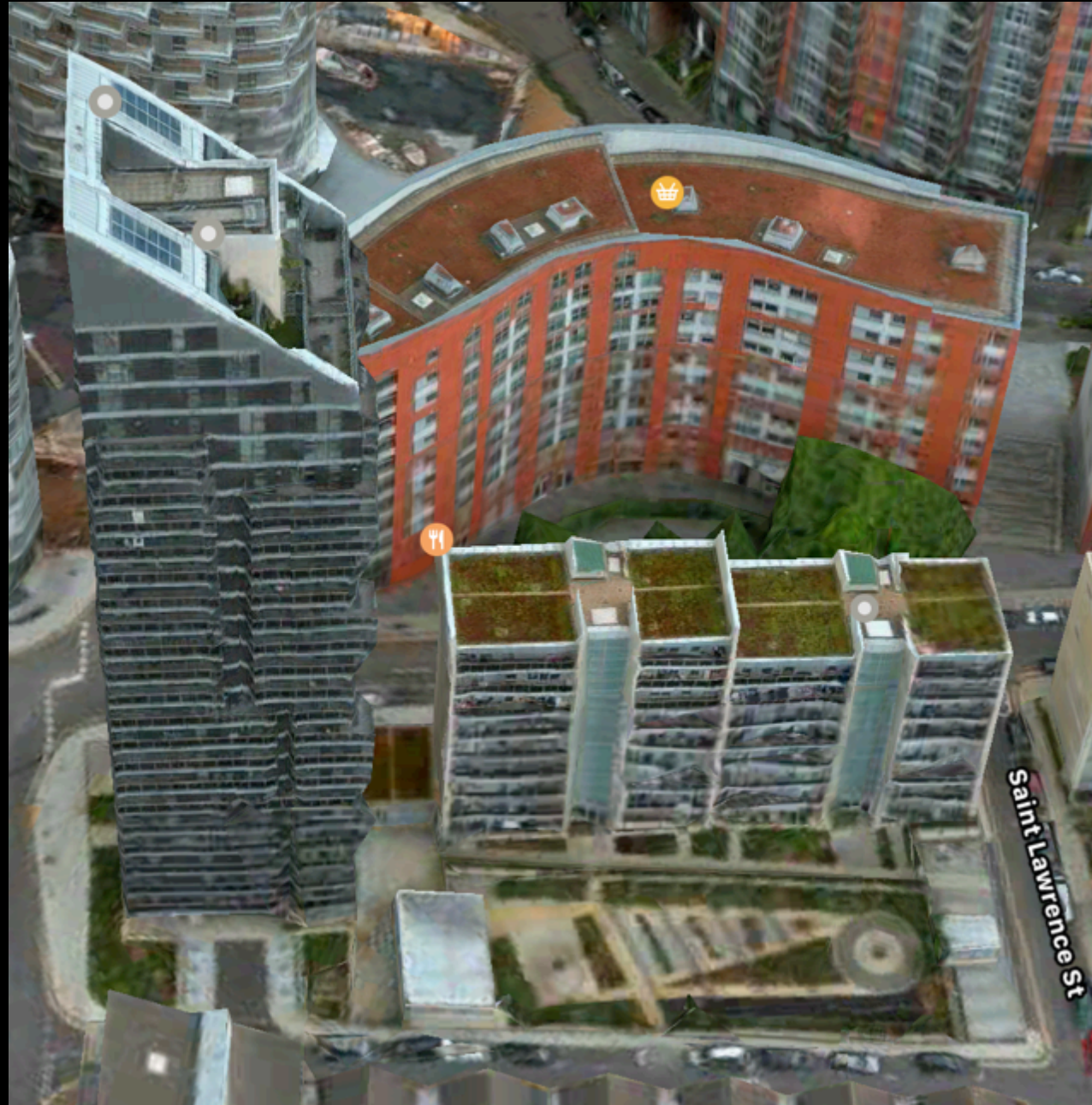
Farringdon Street EC4
8.7 storeys
FSI = 3
Ground coverage = 0.33



**Albert Hall Mansions,
Kensington Gore
9.8 storeys
FSI = 3
Ground coverage = 0.31**



7 Province Square E14
13.8 storeys
FSI = 3
Ground coverage = 0.21



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- **HOWEVER** high densities can be achieved in low-rise buildings