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Tangled spaghetti. Modelling the core catchment areas of London's secondary schools

Much is made in the popular press of parents paying a premium to live within the catchment area of a desirable school. This implies most students will attend their nearest establishment: those whose parents can afford it will live close to the highest performing schools; those who cannot will live close to 'lower-rated' schools. However, a backdoor system of neighbourhood allocation is contra to policies of school choice. Parents can apply for their children to attend a number of schools. In principle, those need not be the closest.

Figure 1 looks at the situation in Greater London, in 2011, using micro-data drawn from the 2011 National Pupil Database to model the core catchment areas of 424 state secondary schools whose catchment areas are fully contained or extend into the capital. Because schools do not have explicit catchment areas with fixed and impermeable boundaries, how best to use observed patterns of admissions to model their *de facto* catchments from has been debated in the literature (Harris & Johnston, 2011; Singleton et al., 2011). In this instance, an algorithm is applied that determines which pupils live closest to the school and also to other pupils in the same school and takes the least distant 75 percent. In this way, spatial outliers are omitted and the modelled catchment is spatially compact around the school.

Critics of school choice argue that it is a system of constrained choice where geographical criteria are used as the basis for rationing places; hence selection by mortgage (or by rental) (Hamnett & Butler, 2011). However, across London, just 27 percent of 290 819 pupils attended their nearest secondary school (which could be outside London), and only 51 percent attended one of the three nearest schools. The result is the complex and 'messy' geography of school catchments that Figure 1 reveals. A few locations – parts of the Thames and Lee Valleys, for example – fall outside of any core catchment. In others, there is considerable overlap in the recruitment spaces of locally 'competing' schools.

The map is linked to social and ethnic geographies within the capital: whereas 65 percent of the Bangladeshi pupils eligible for a free school meal attend one of their three nearest secondary schools, only 37 per cent of Black Africans not eligible do. Black Africans have increased probability of attending a Christian faith school; the London Borough of Bexley has schools that select by entrance examination. Both faith and selective schools weaken the geographical criterion underpinning admissions and extend the areas over which schools recruit and overlap.

There is also the possibility that the map reveals the geography of where allocation least matches the preferences of parents. For example, in 2011, Southwark had one of the lowest percentages nationally of pupils offered one of their three school preferences (78.8 per cent). Greater overlap between schools will occur if pupils are forced to travel further than they would otherwise want. Therefore, from a combination of the amount of local choice, varying cultural differences in the importance given to attending local schools or to schools with

particular cultural milieu, plus different ratios of supply and demand at and for schools, complex geographies of education emerge.

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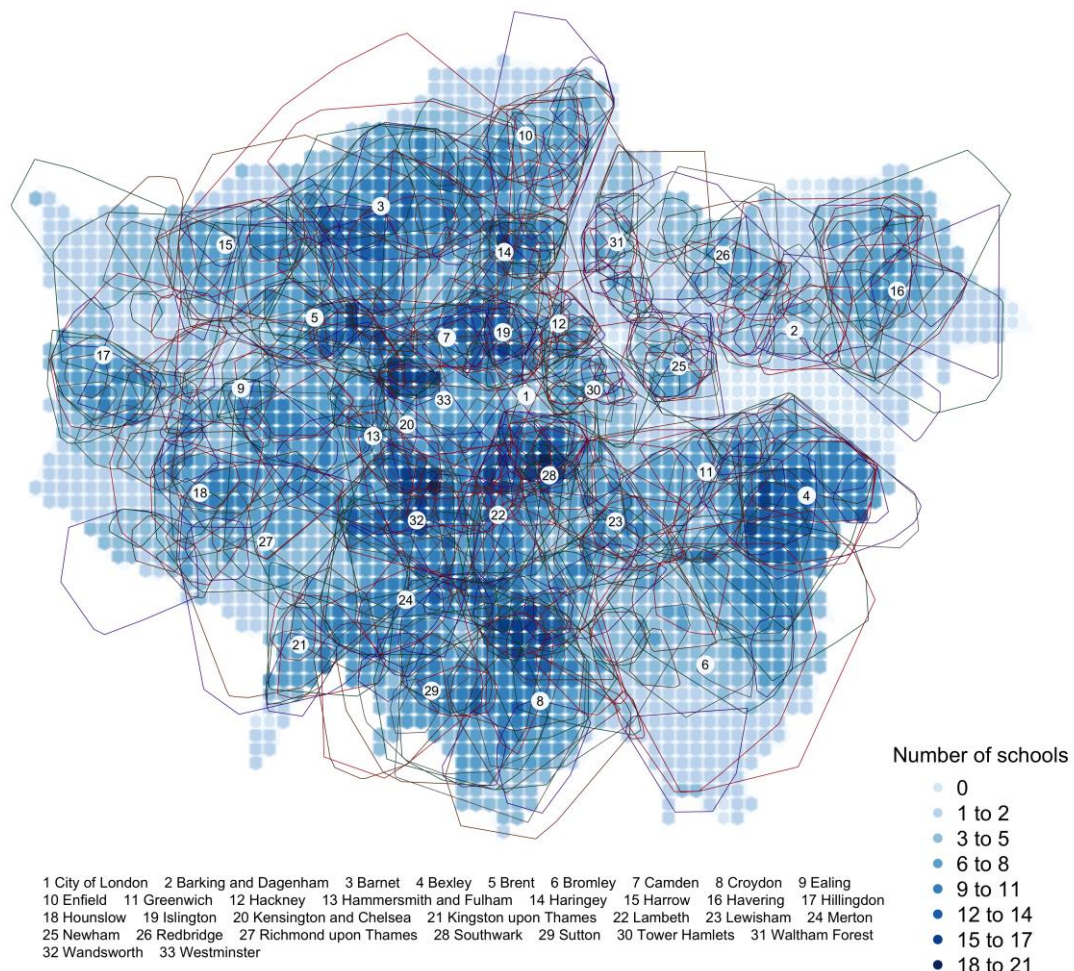


Figure 1. The complex geography of admissions into London's secondary schools: the polygonal boundaries show the modelled core catchment areas for

schools in 2011; each shaded hexagon indicates the number of catchments that are overlapping at that location in London.