

Homogeneity

Homogeneity

- Try to avoid aggregating disparate areas
- User feedback indicates importance
- Relatively marginal constraint, given others which cannot be relaxed
- How to measure it?
 - Intra-area correlations

Intra-area correlation

- Measures similarity of values within any area of interest: ratio of OA level to individual level variance
- Higher correlation: greater homogeneity
- Attempt to maximize variance across OA boundaries and minimize within OAs
- Can be computed for multi-category variables

Tenure and dwelling type

Owner-occupied

Rented privately

LA/HA

Other

Detached

Semi-detached

Terraced

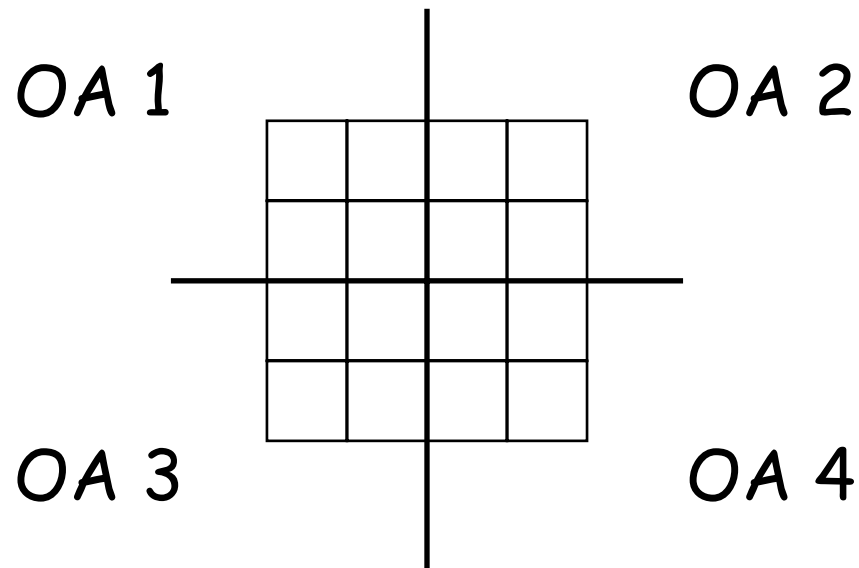
Flat

Part-house

Commercial

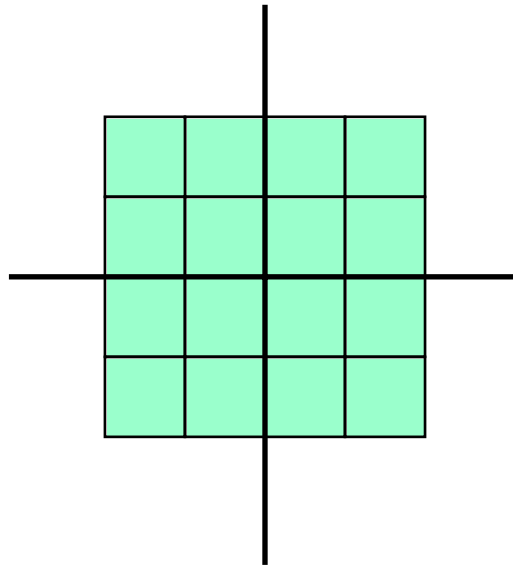
Non-permanent

Homogeneity example



16 building blocks within 1
constraining polygon divided into 4
OAs

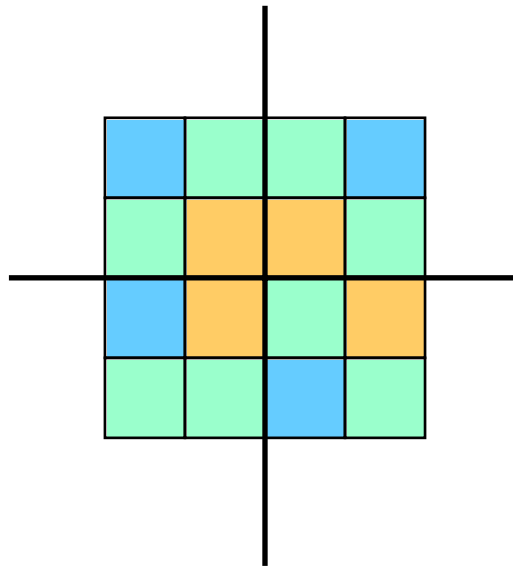
Complete homogeneity



Same values everywhere in
OAs and constraining polygon

UNREAL!

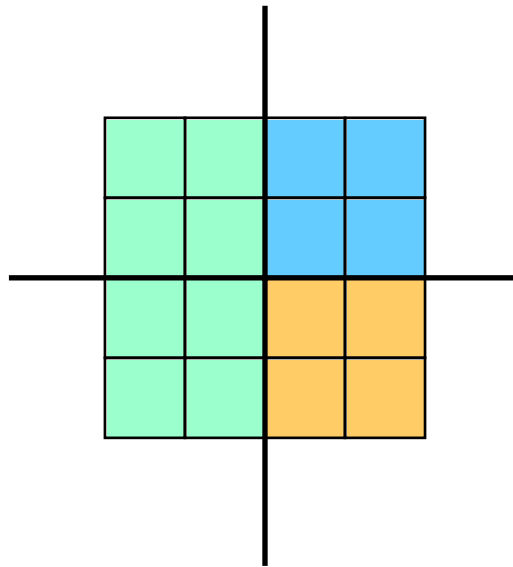
Spatial mixing



Same mixture of values within
each OA, but not spatially
random

IAC low

Homogeneity at OA level



Same variation within constraining polygon, but maximum homogeneity within OAs

IAC high

Homogeneity considerations

- IAC amenable to use as a zone design objective function
 - Better results than simple dominant category measure used in earlier work
- Strongest variables are tenure and dwelling type - skewed variables such as ethnicity not helpful

Another (potentially) big issue - OS MasterMap



OS call MasterMap “the definitive digital map of Great Britain”

Seamless, polygonised database (over 440m objects!)
- updated daily

Potentially very important way of relating frozen OAs to on-the-ground features and their changes

Early discussions with OS about a link to Census OA geography

Another (potentially) big issue - OS MasterMap



How would a link to
MasterMap work??

1. Frozen, one-off, MasterMap-derived boundary-set?
and/or
2. Maintained link between COAs and MasterMap building theme (via TOID)?
3. TOIDs & COAs will both be big GI buzzwords in the next few years...

Questions & Contacts for further information

Richard Potter, Neighbourhood Statistics Liaison Manager

richard.potter@ons.gov.uk

Alistair Calder, Outputs & Dissemination Manager, ONS
Geography

alistair.calder@ons.gov.uk