

Sampling in an urban environment



Theoretical contexts



Environmental gradients

Environmental gradient is a term that is used to describe how data changes over distance. In an urban environment it should be possible to investigate, amongst others, the following environmental gradients:

- House prices with distance from a green open space.
- Noise with distance from a major road.
- Street cleanliness with distance from a fast food restaurant.

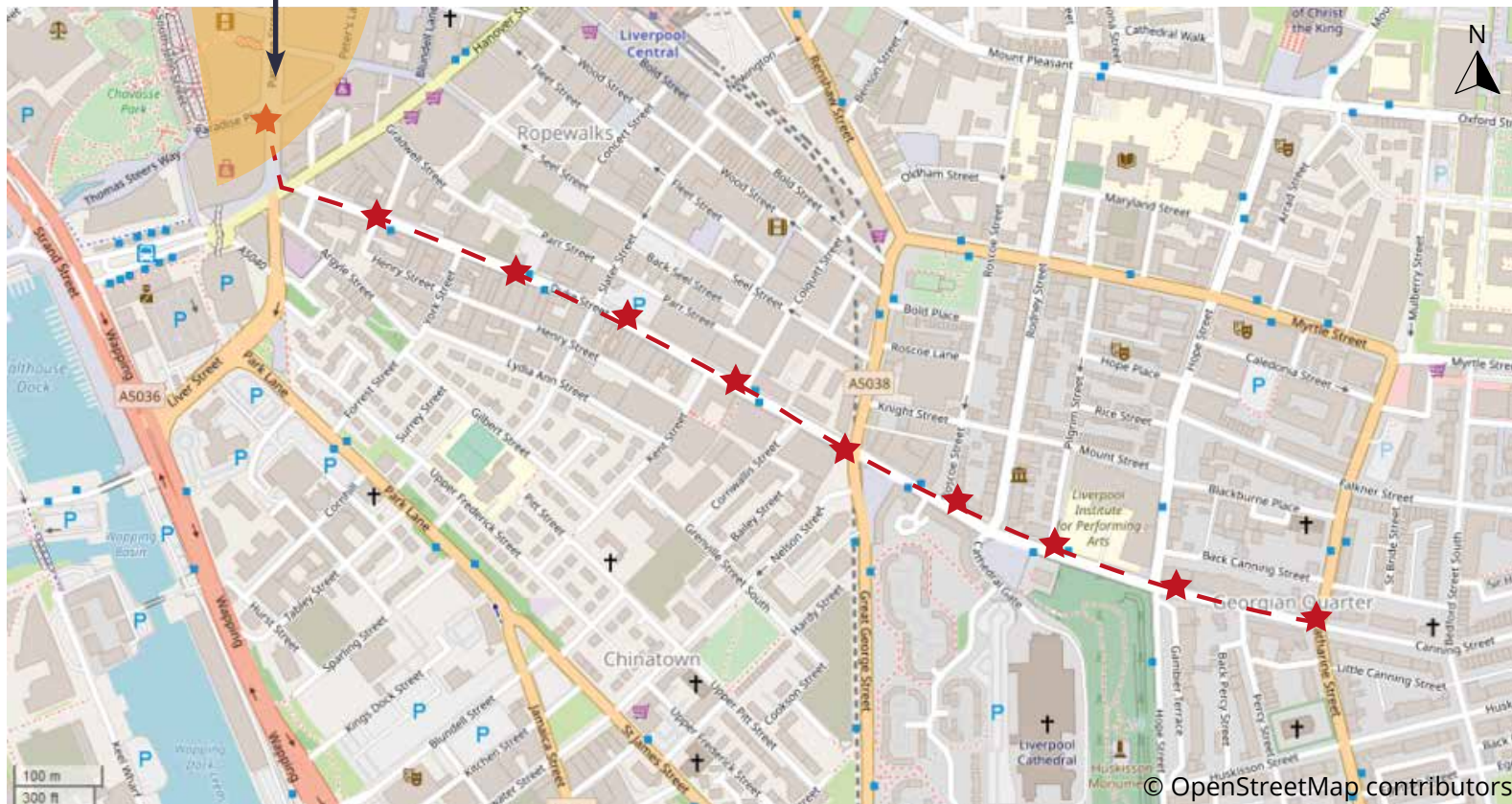
Sampling along a line (or using a transect) is the most effective strategy to investigate environmental gradients.



Transects

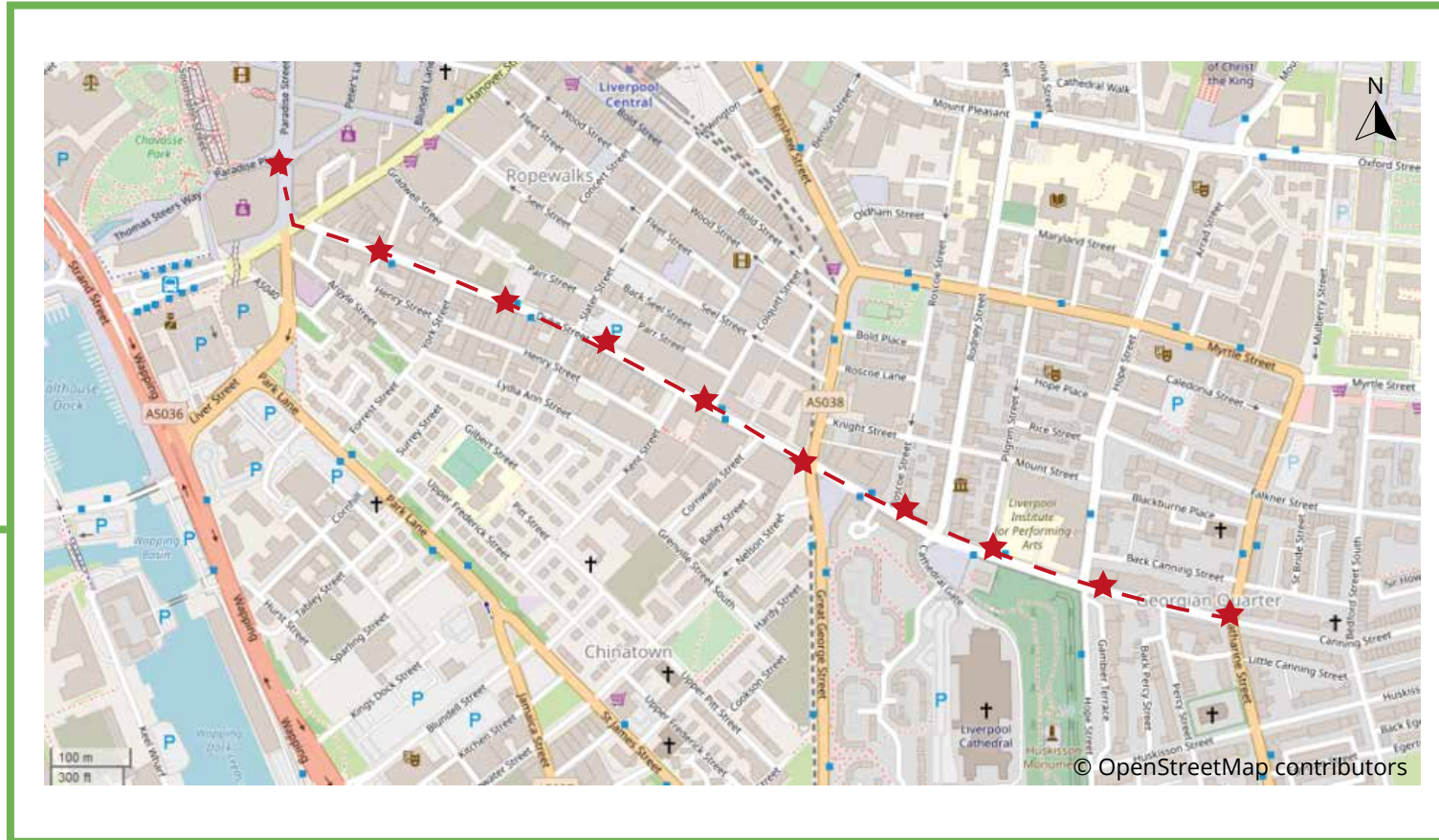
Liverpool's CBD

The starting point of the transect and its direction need to be justified in terms of the factors influencing the environmental gradient.



Review

Identify data that might show an environmental gradient with increased distance from the CBD.



Liverpool

By using multiple transects, it is possible to generate two-dimensional (spatial) data that could be mapped later.

In an urban environment the route of the transect may have to be chosen for pragmatic reasons as a straight line is rarely possible.



Falkner Square, Liverpool

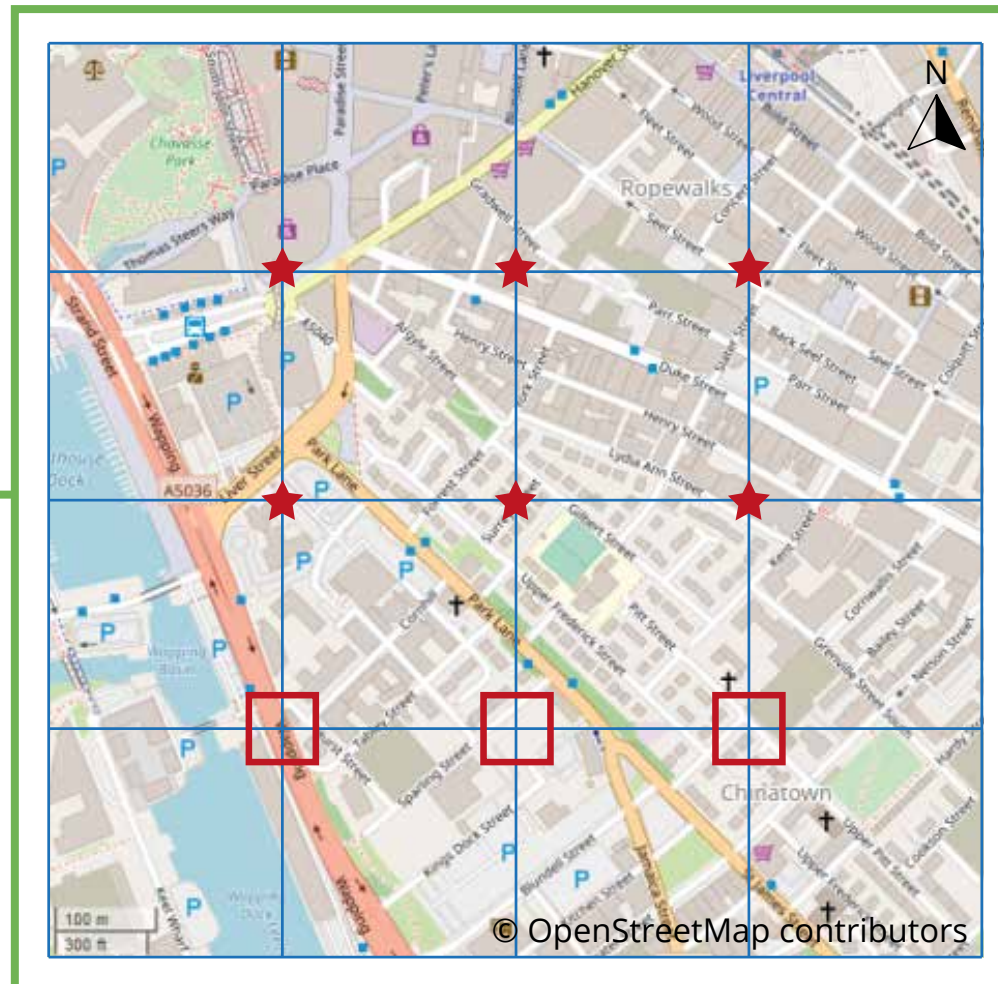


Liverpool

Sampling across an area

By drawing a grid on a map, it is possible to collect data from points in space...

...or from small areas.

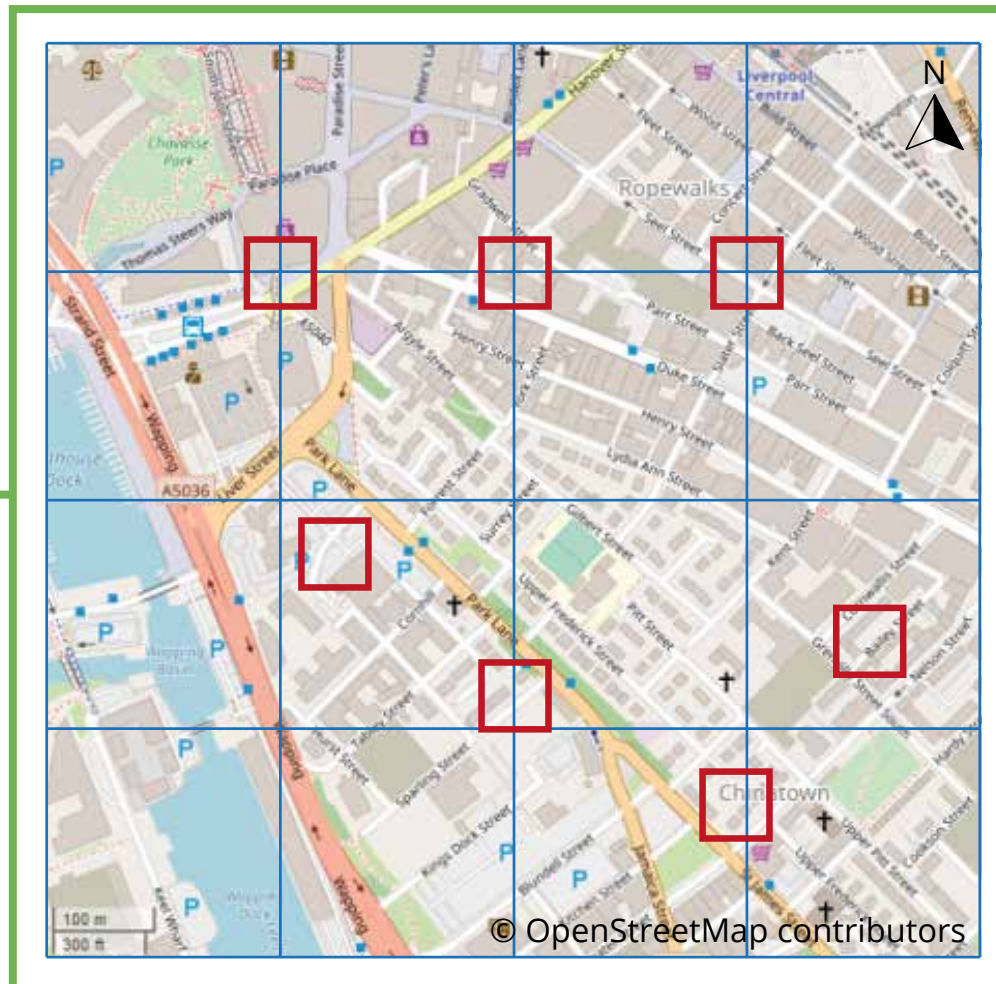


Liverpool

Sampling across an area

The sample can be selected systematically...

...or by using randomly selected grid coordinates.



Liverpool

“Can you draw a map?”

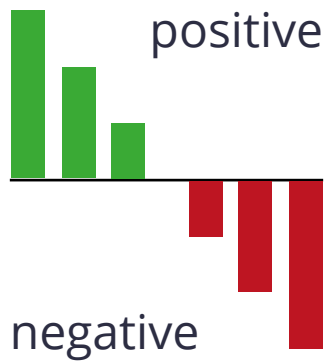
Sampling data from across an area allows a greater range of presentation and analytical methods to be used:

- GIS
- Choropleth maps
- Isoline maps
- Dot maps
- Proportional and located symbols
- Nearest neighbour analysis
- Interquartile area

Located bars

Sampling data from across an area (rather than along a line) allows spatial patterns to be analysed.

EQI scores

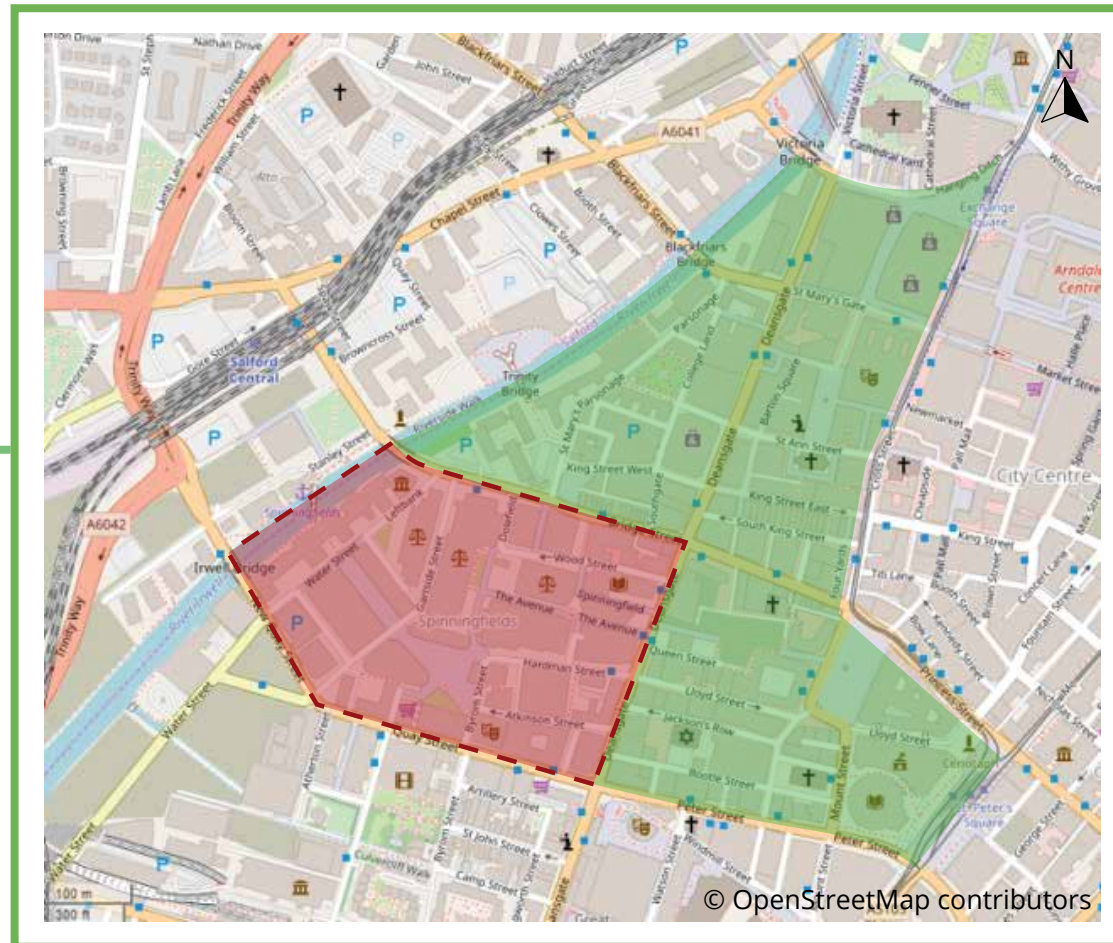


Control sampling

Spinningfields (in red) is an area of Manchester that has undergone regeneration.



The Ivy, Manchester



Review

Suggest suitable research questions that would require data to be sampled at different times.



Birmingham city centre