

Principles of Spatial Analysis

SHORT LECTURE 02, WEEK 06: POINT PATTERN ANALYSIS IN PRACTICE



movement data

such as captured by GPS devices / smartphones

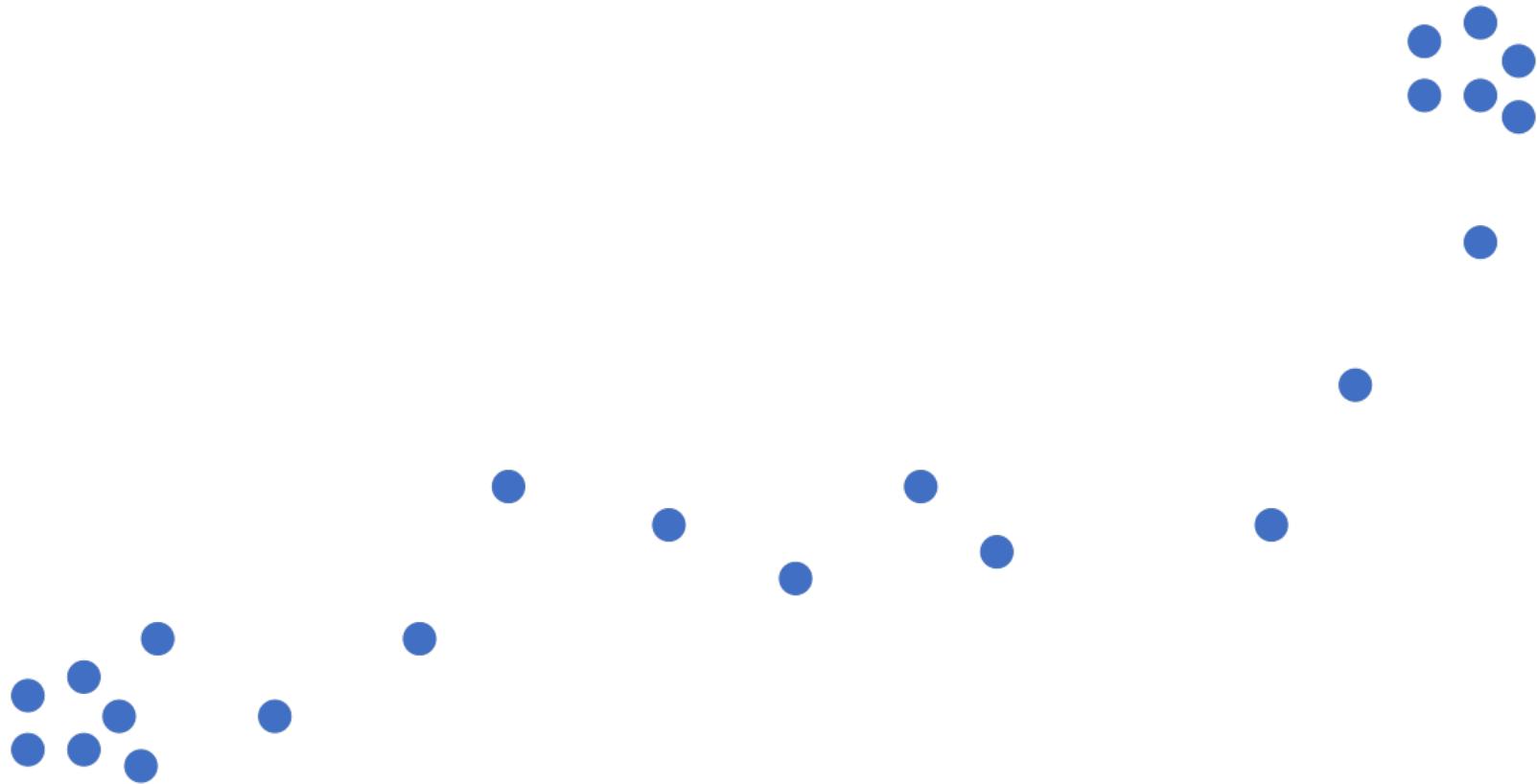


Van Dijk, J. T. 2018. Identifying activity-travel points from GPS-data with multiple moving windows.
Computers, Environment and Urban System 70: 84-101

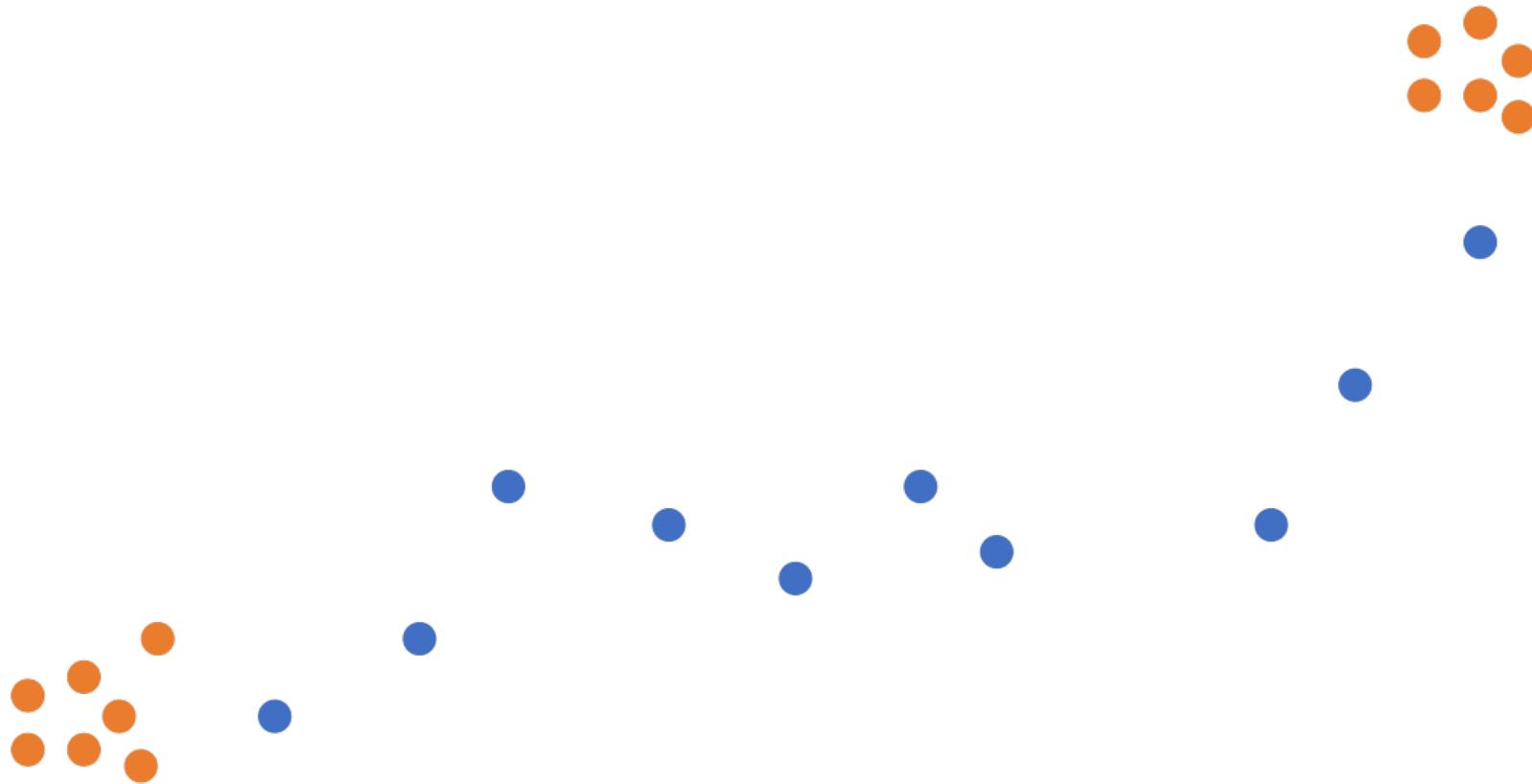


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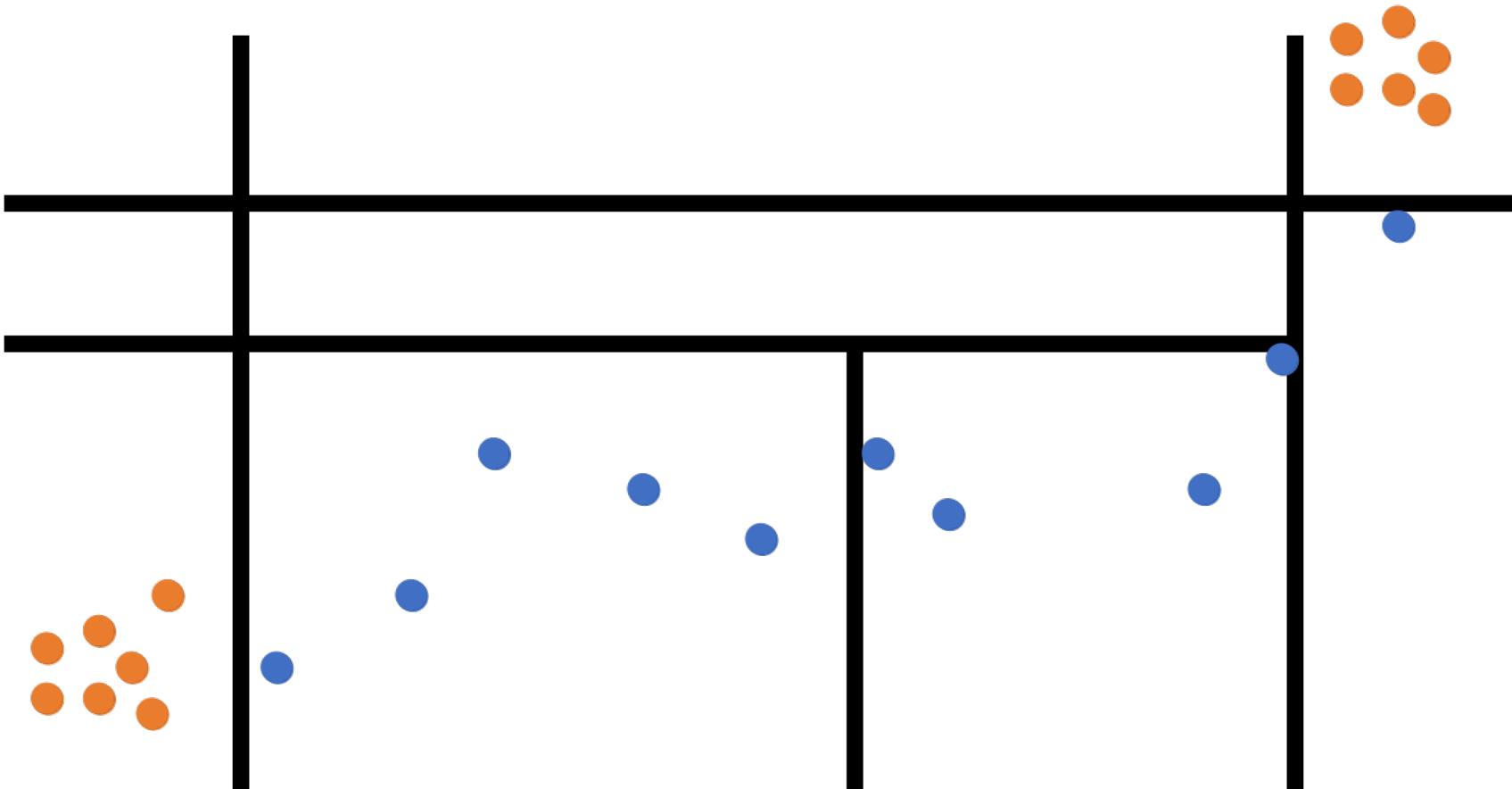




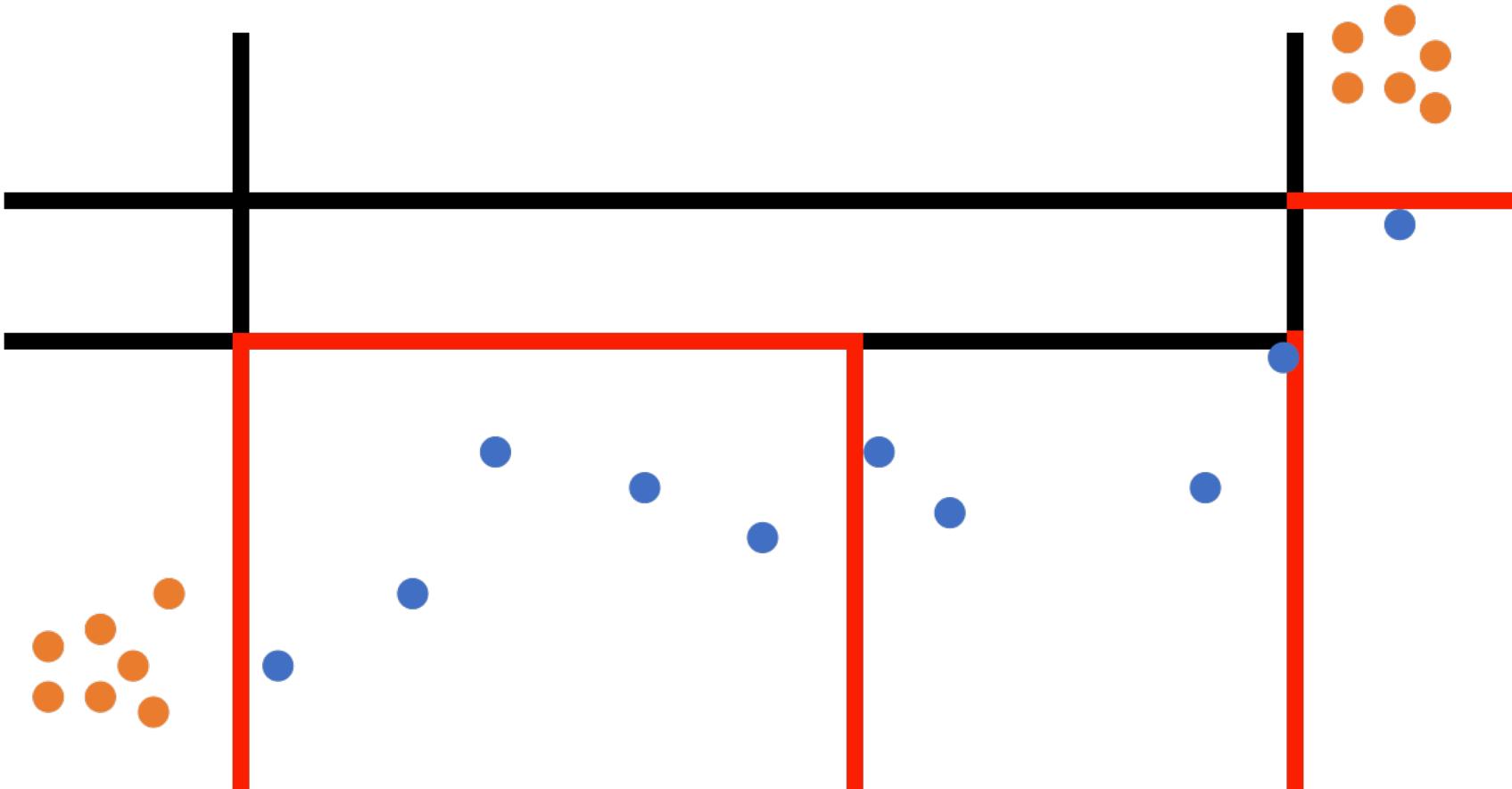
Van Dijk, J. T. & T. de Jong. 2017. Post-processing GPS tracks in reconstructing travelled routes in a GIS-environment: Network subset selection and attribute adjustment. *Annals of GIS* 23(3): 203-217



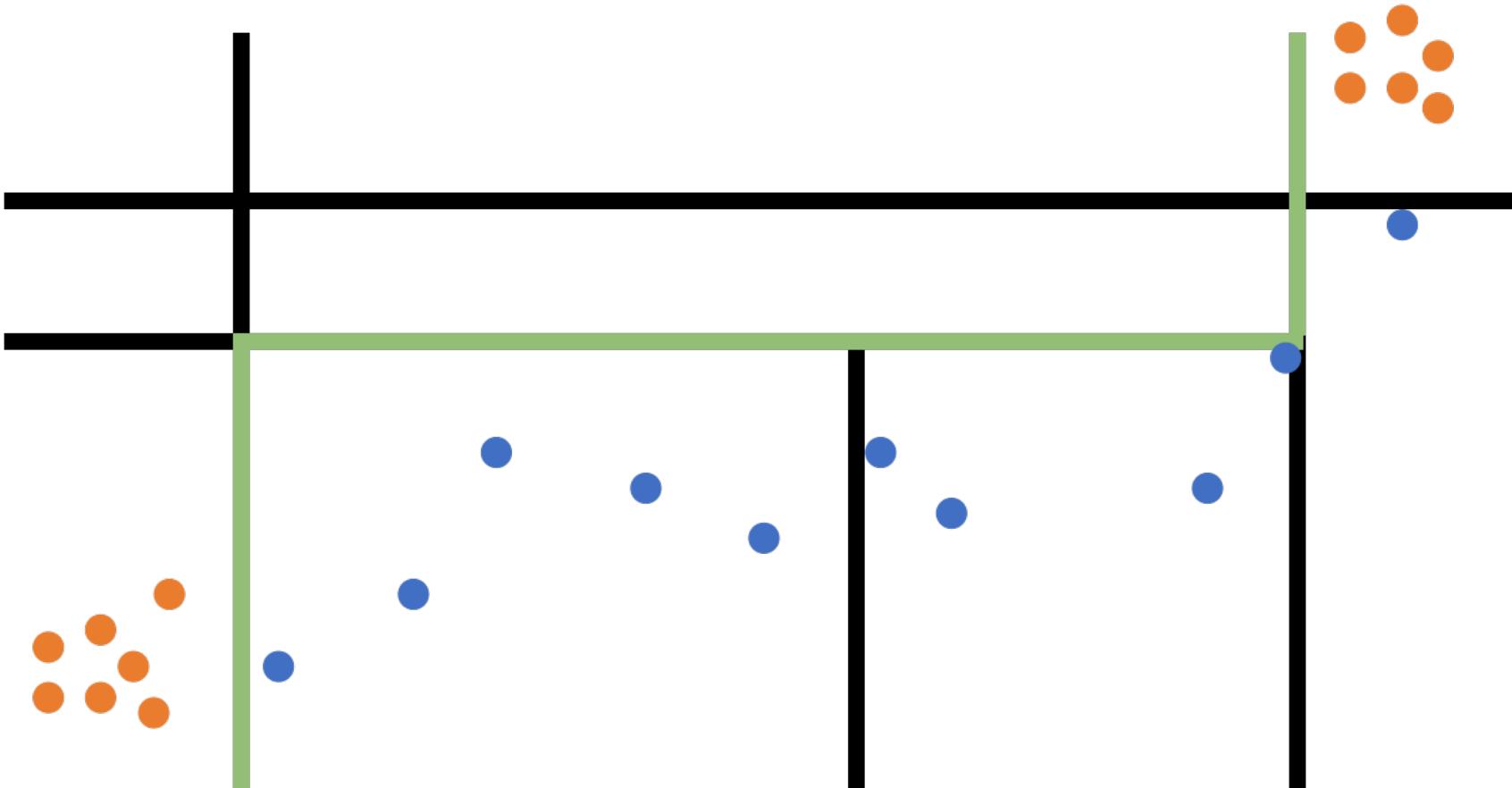
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A typical day at Grand Central Terminal in New York City



New York Times. 2019. The Privacy Project: Twelve Million Phones, One Dataset, Zero Privacy. [Online]
<https://www.nytimes.com/interactive/2019/12/19/opinion/location-tracking-cell-phone.html>

Senior Defence Department official and his wife identified at the Women's March



New York Times. 2019. The Privacy Project: Twelve Million Phones, One Dataset, Zero Privacy. [Online]
<https://www.nytimes.com/interactive/2019/12/19/opinion/location-tracking-cell-phone.html>

Lockdown in London

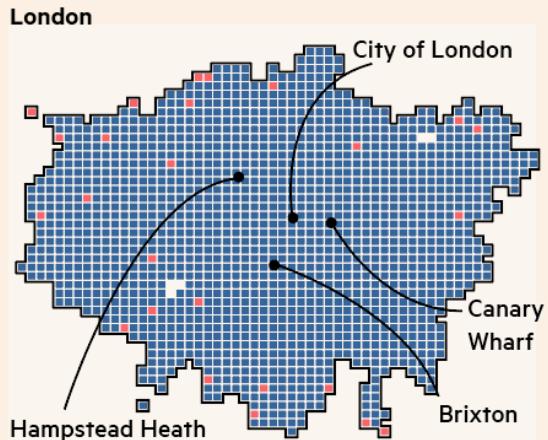
Activity levels in many cities had begun rebounding even before changes to the lockdown had been announced

Change in the number of unique devices used in a km² area compared with a previous snapshot

Activity rose ■ Activity fell ■

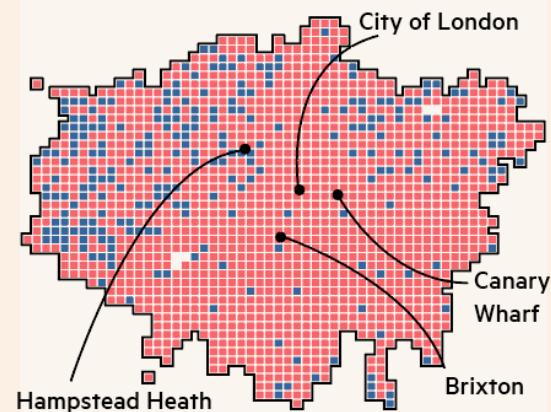
Peak lockdown:

April 13-20 activity levels fell compared with pre-lockdown (March 16-22)

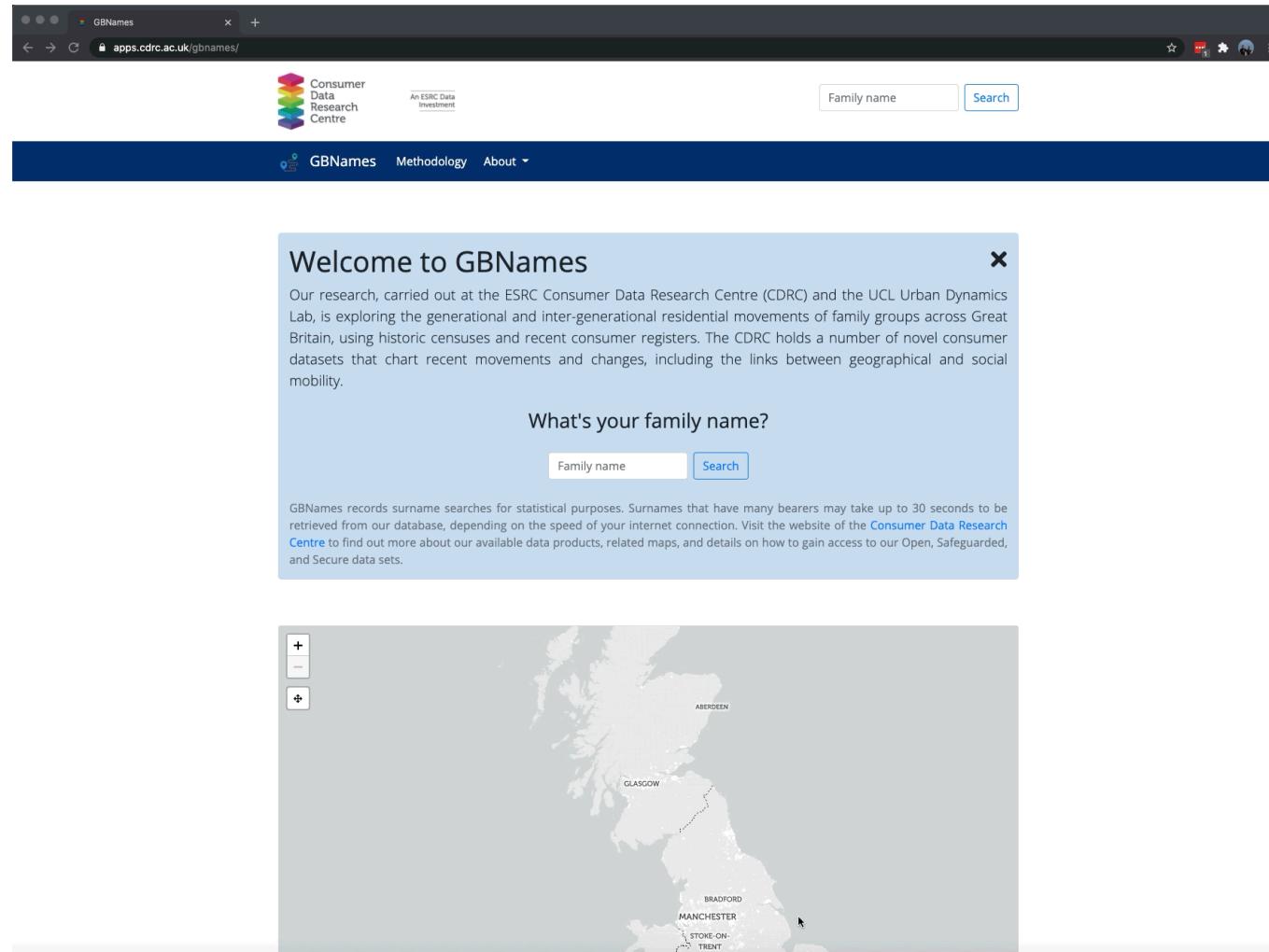


Anticipating a loosening:

April 30-May 6 activity levels picked up compared with peak lockdown (April 13-20)



The Financial Times. 2020. Britain on the move even before Johnson eased lockdown, data show. [Online] <https://www.ft.com/content/cc70d690-99a6-4056-9ebe-d0b39c40a359> Data visualisation by Terje Trasberg.



Van Dijk, J. T. & P. A. Longley. 2020. Interactive display of surname distributions in historic and contemporary Great Britain. *Journal of Maps* 16(1): 68-76

let's put it into practice