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Mapping the movement of active guardians in time and place

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The premise

Crowdsourced data (through web/apps) can represent the presence of people actively monitoring their environments, potentially acting as capable intervening guardians.

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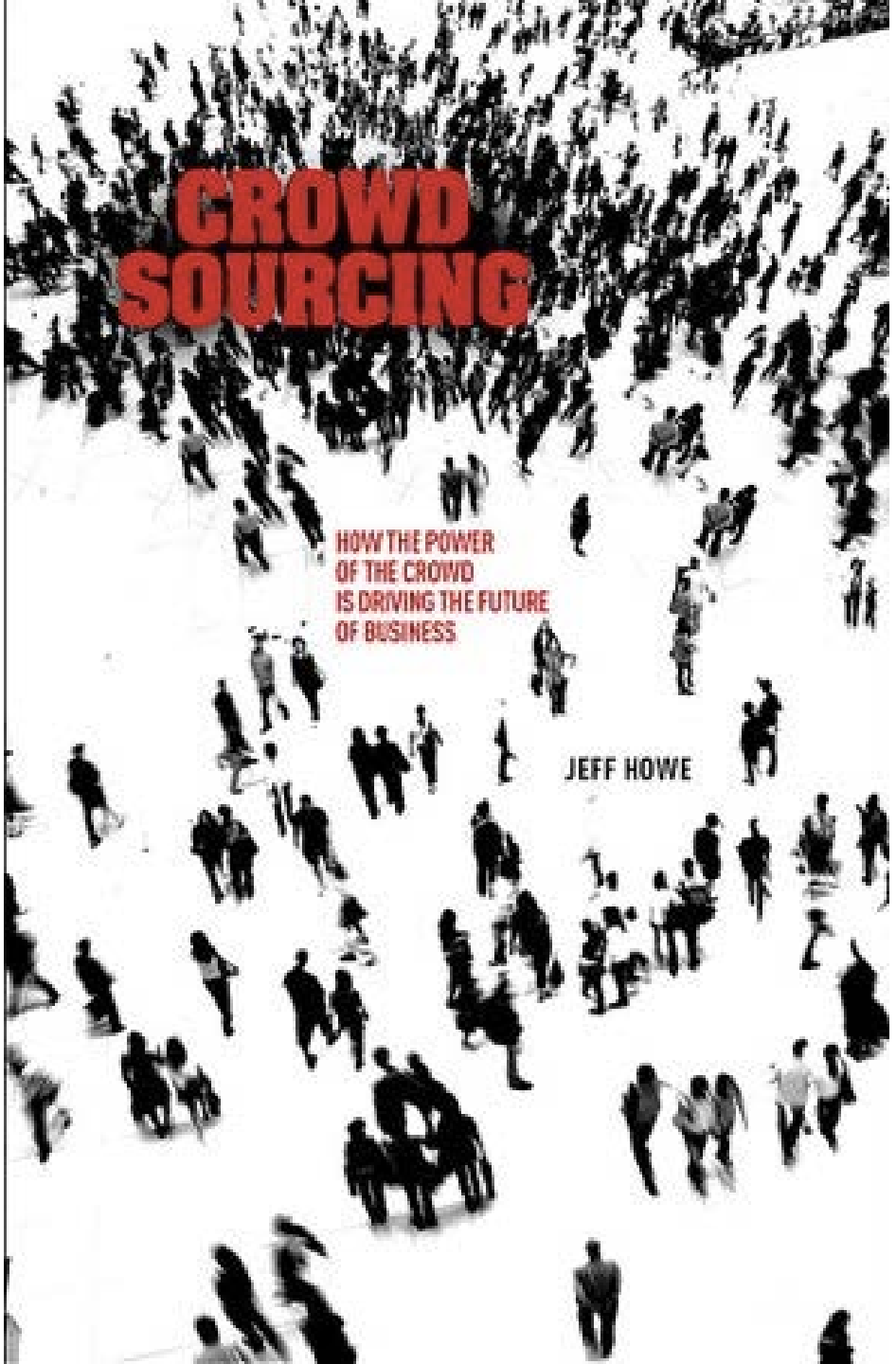

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Harnessing information and skills from large crowds into one collaborative project.

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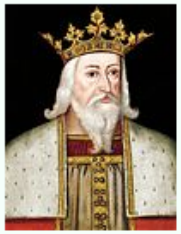
From today's featured article



Edward III (1312–1377), King of England from 1327 until his death, restored royal authority after the unorthodox and disastrous reign of his father, Edward II. Edward III transformed the Kingdom of England into one of the most formidable military powers in Europe. His reign of fifty years, the second longest in medieval England, saw vital developments in legislation and government—in particular the evolution of the English parliament—as well as the ravages of the Black Death. Edward was crowned at age fourteen after his father was deposed by his mother, Isabella of France, and her lover Roger Mortimer. At age seventeen he led a successful coup against Mortimer, the de facto ruler of the country, and began his personal reign. After a successful campaign in Scotland he declared himself the rightful heir to the French throne in 1337, but his claim was denied, starting the Hundred Years' War. Following some initial setbacks the war went well for England; victories at Crécy and Poitiers led to the favourable Treaty of Brétigny. Edward's later years were marked by international failure and domestic strife, largely as a result of his inactivity and poor health. (**Full article...**)

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Did you know...

McLoughlin Promenade

- ... that the **McLoughlin Promenade** *(pictured)* sits on a bluff in Oregon that was occupied by the Molala people thousands of years before the arrival of settlers of European ancestry?
- ... that **Max Thurn**, who founded the NDR Chor in 1946, conducted a series of Bach cantatas and prepared the choir for

In the news

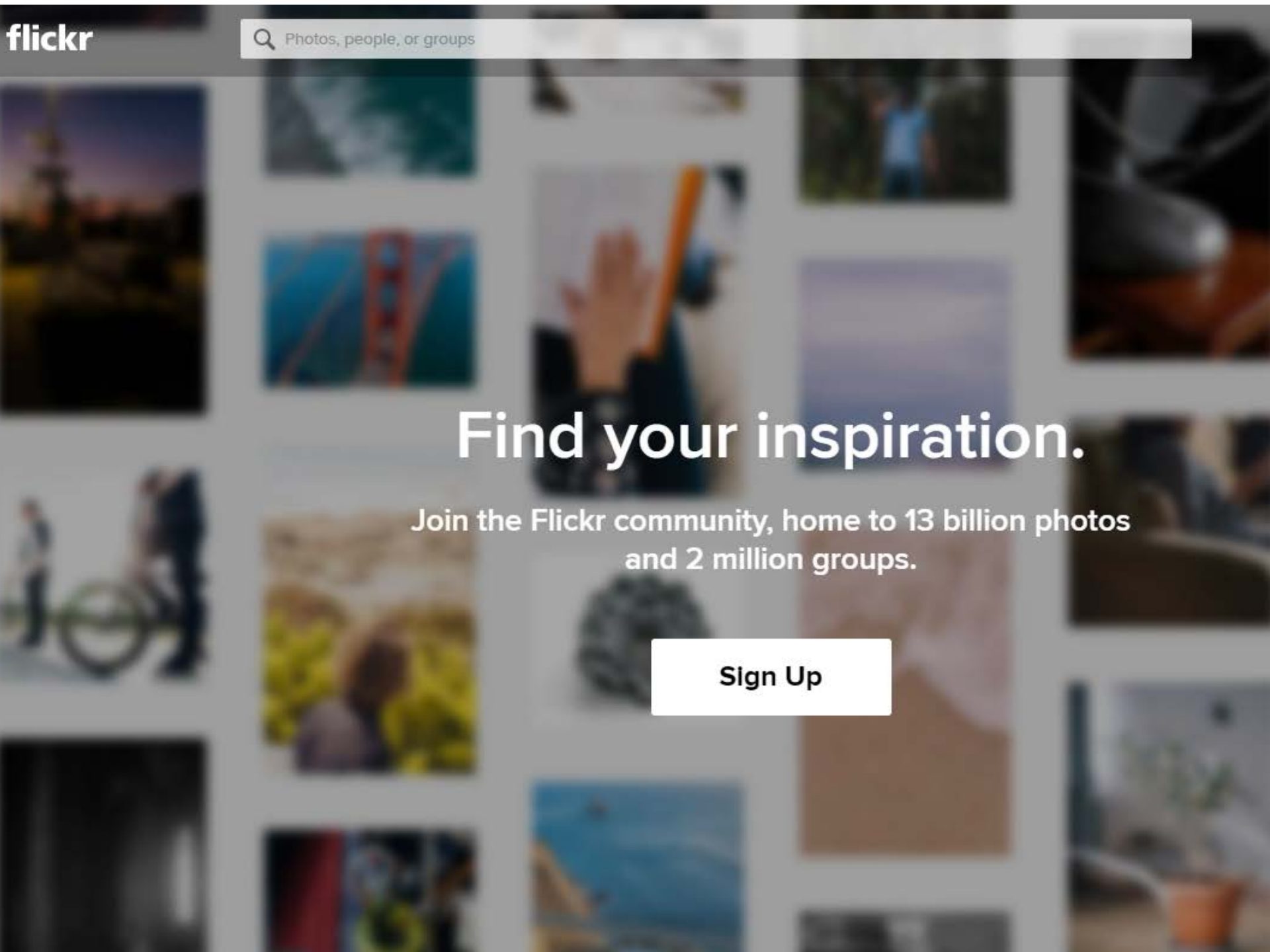
- Salvador Sobral *(pictured)*, representing Portu wins the **Eurovision Song Contest** with the s "Amar pelos dois".
- **A large-scale cyber attack** involving ransom causes severe disruption around the world.
- At least 28 people are killed in Mastung, Pakis **a suicide attack** targeting Abdul Ghafoor Hai the Senate Deputy Chairman.
- The Free National Movement, led by Hubert M **Bahamian general election**.
- Remains of ***Homo naledi*** are dated to the Mi suggesting coexistence with early *Homo sapie*
- Moon Jae-in is **elected** President of South Ko

Ongoing: Battle of Mosul · Venezuelan protests
Recent deaths: Ian Brady · Mark Colvin · Qian Q

On this day...

May 17

- 1395 – An outnumbered Wallachian army repu an Ottoman invasion force in the **Battle of Ro**
- 1590 – **Anne of Denmark** *(pictured)* was crow Queen consort of Scotland in the abbey churc Holyrood Palace.
- 1914 – Albania **officially recognized** the area Northern Epirus as an autonomous region with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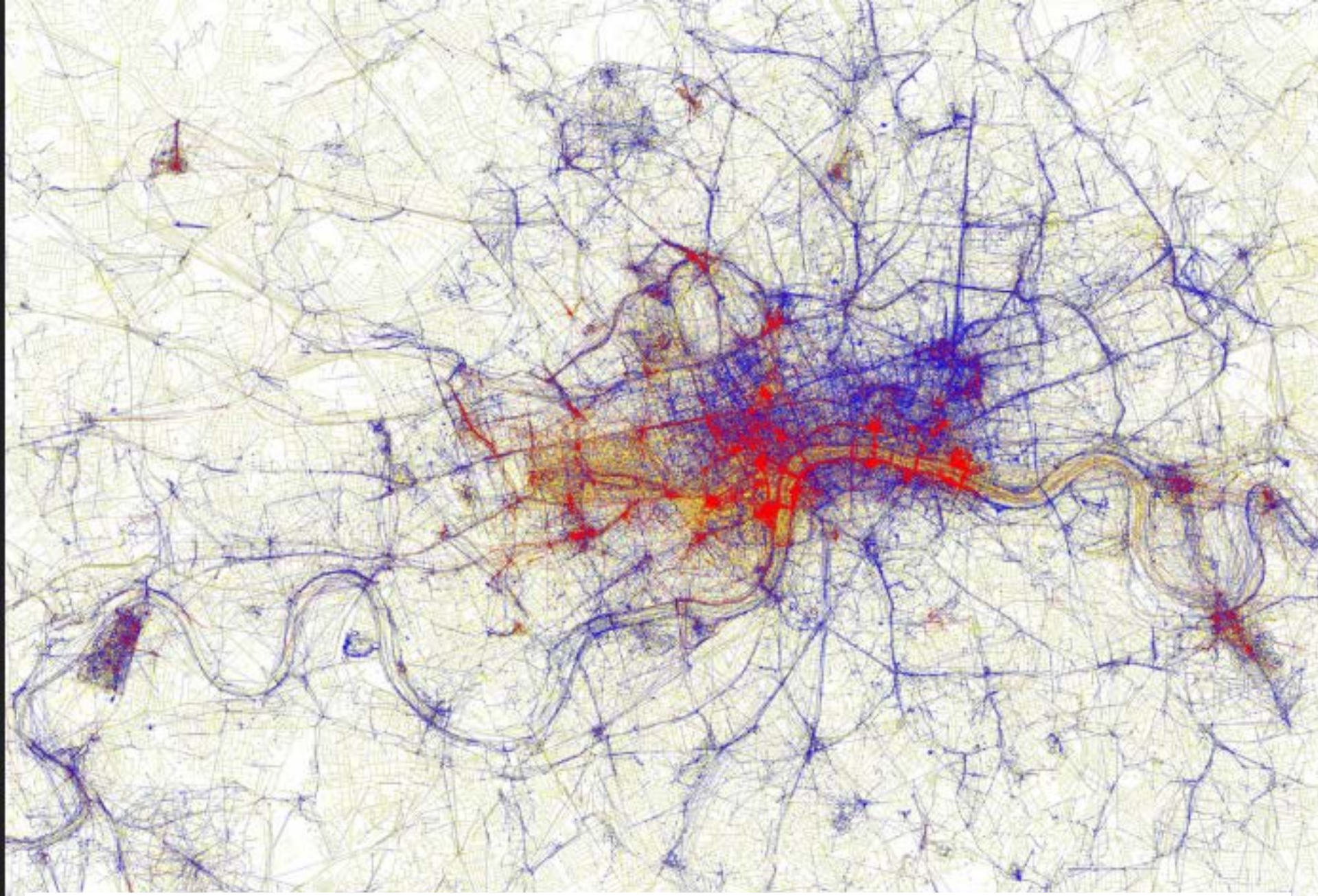

Eric Fischer
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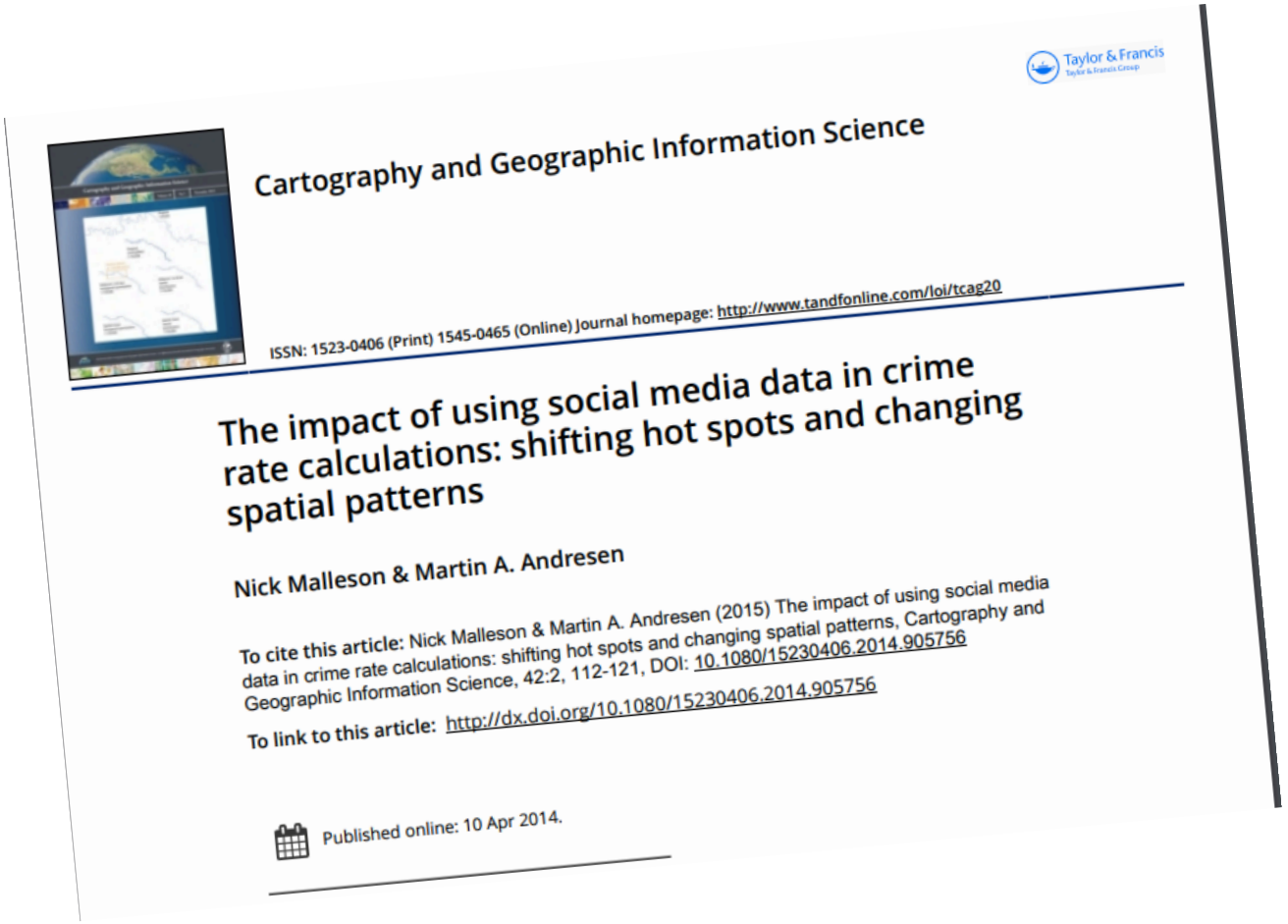
Measure of ambient population



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Cartography and Geographic Information Science

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The impact of using social media data in crime rate calculations: shifting hot spots and changing spatial patterns

Nick Malleson & Martin A. Andresen

To cite this article: Nick Malleson & Martin A. Andresen (2015) The impact of using social media data in crime rate calculations: shifting hot spots and changing spatial patterns, Cartography and Geographic Information Science, 42:2, 112-121, DOI: 10.1080/15230406.2014.905756

To link to this article: http://dx.doi.org/10.1080/15230406.2014.905756

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What are people doing when they are generating these data?

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FixMyStreet

Report a problem | Sign in | All reports | Local alerts | Help

Report, view, or discuss local problems

(like graffiti, fly tipping, broken paving slabs, or street lighting)

Enter a nearby UK postcode, or street name and area:

e.g. 'B2 4QA' or 'Tib St, Manchester' GO

... or locate me automatically

How to report a problem

1. Enter a nearby UK postcode, or street name and area
2. Locate the problem on a map of the area
3. Enter details of the problem
4. We send it to the council on your behalf

Recently reported problems

Burned out moped on the grass area in the park
15:43 today

Flytipping
15:40 today

Overweight walker alert
15:36 today

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FixMyStreet | Report a problem | Your reports | All reports | Local alerts | Help | mySociety

Graffiti

FIXED

Reported via iOS in the Graffiti category anonymously at 16:49, Monday 11 May 2015

Sent to Camden Borough Council less than a minute later

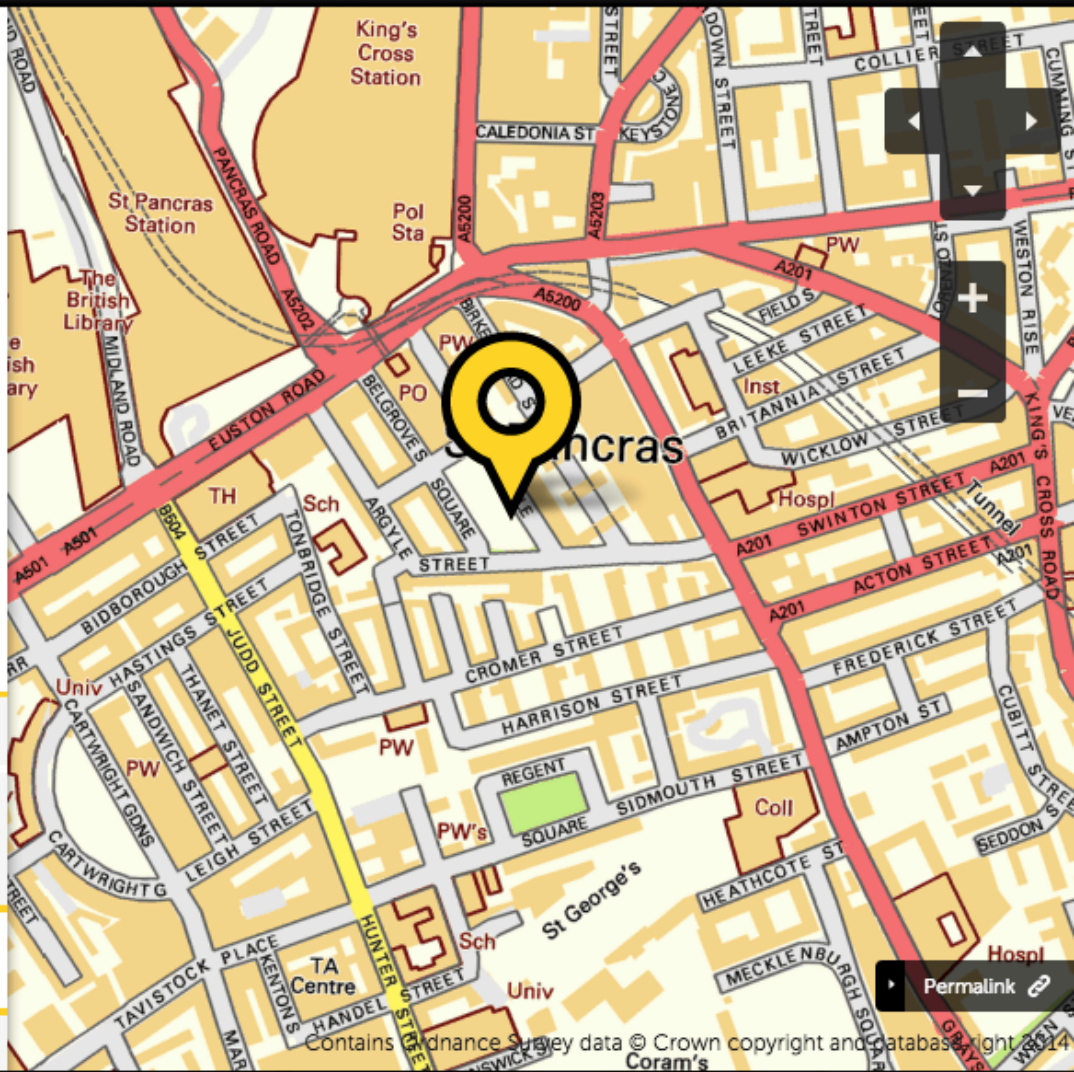
On posts surrounding playground and in roundabout. Obscene in a children's play area. Urgent!!!

UPDATES

Questionnaire filled in by problem reporter

Posted anonymously at 11:53, Tuesday 9 June 2015, marked as fixed

Report abuse | Get updates | Share | Problems nearby



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"…over flowing rubbish, street drinkers, litter in the street and rats."

Incivilities reported with FMS

High density of reports

Low density of reports

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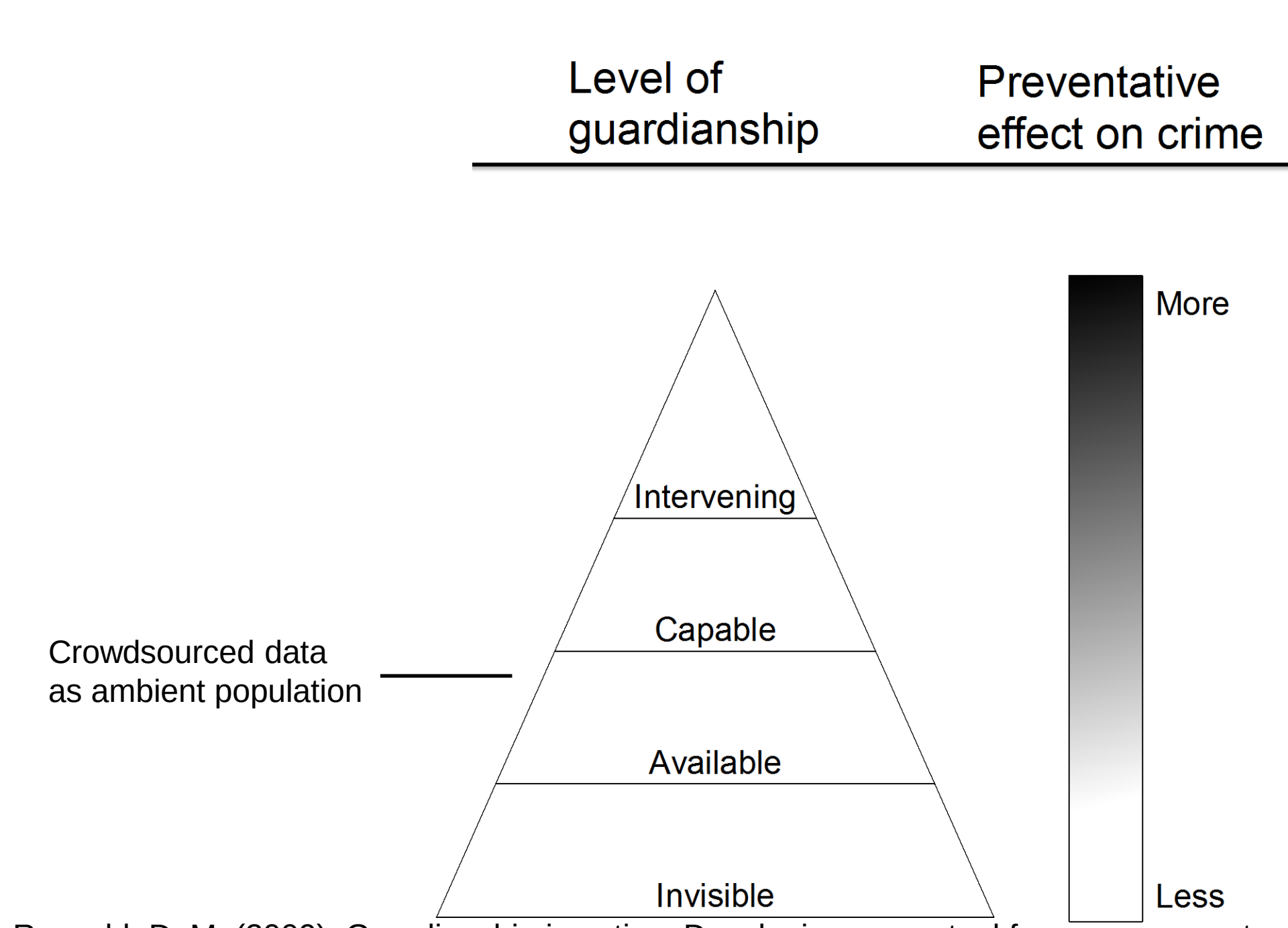
Why guardianship?



Reynald, D. M. (2009). Guardianship in action: Developing a new tool for measurement.

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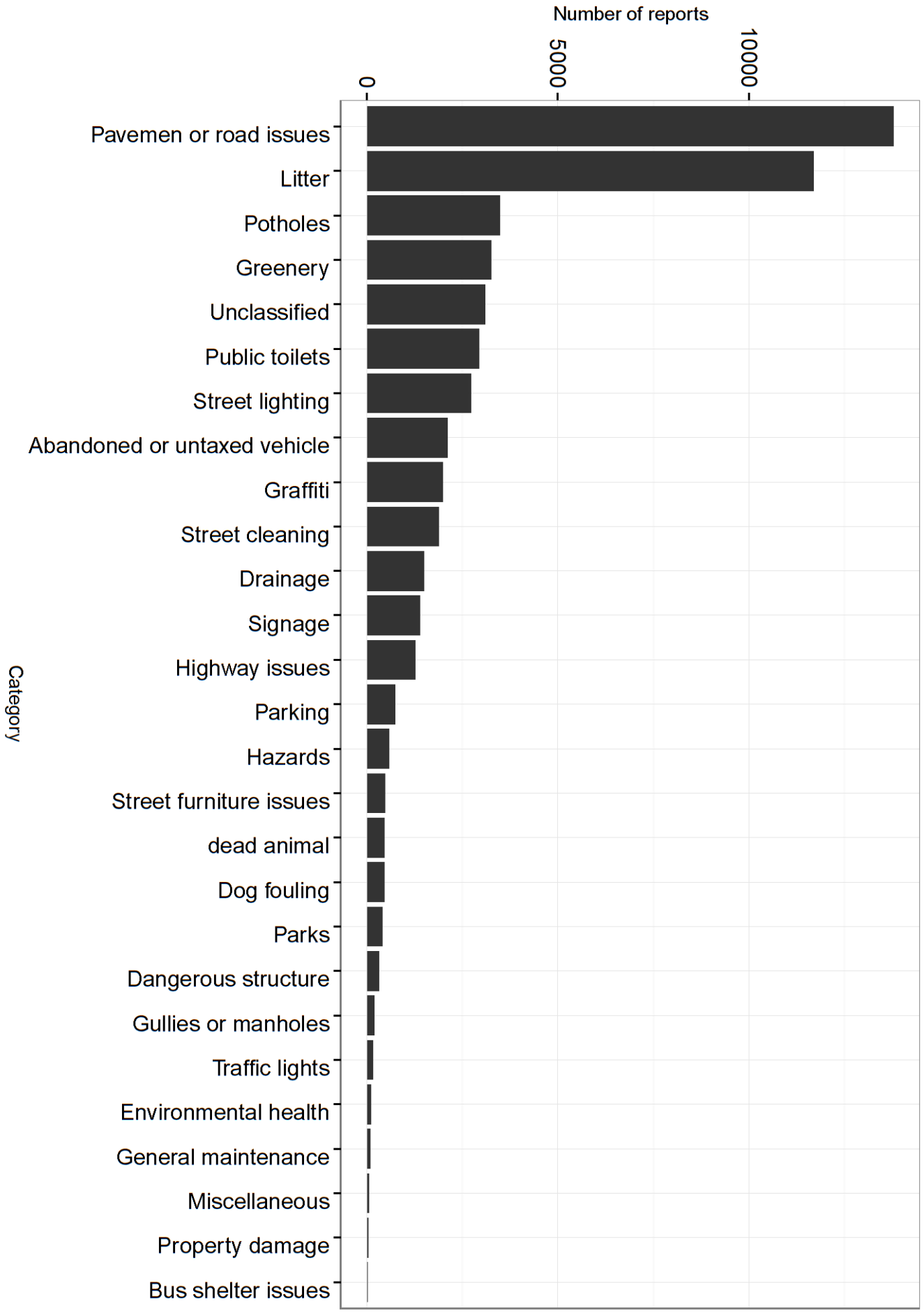
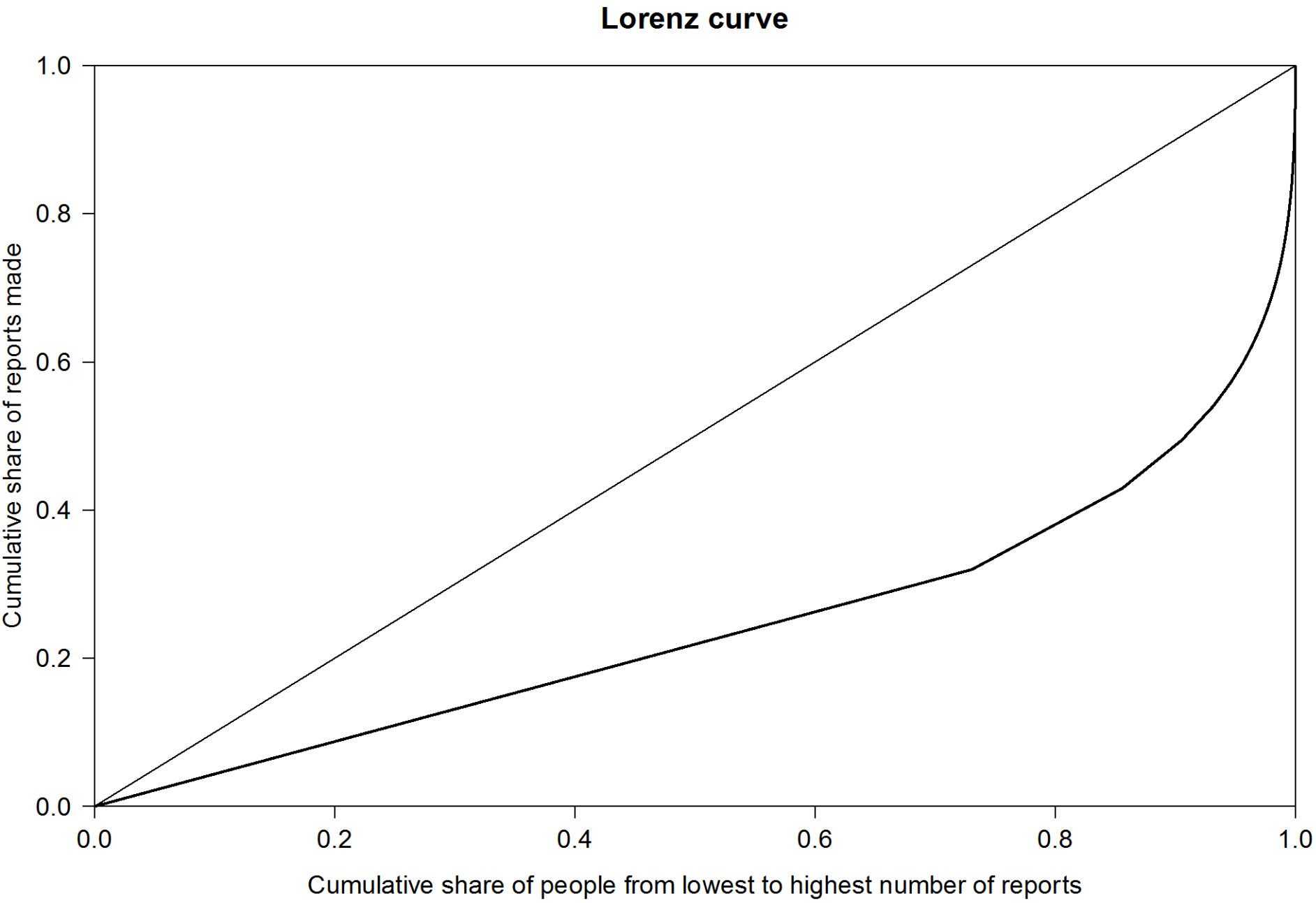
Question: Are people reporting on neighbourhood-monitoring apps active guardians?

55,301
entries


Number of reports
0
5000
10000
Category
Pavemen or road issues
Litter
Potholes
Greenery
Unclassified
Public toilets
Street lighting
Abandoned or untaxed vehicle
Graffiti
Street cleaning
Drainage
Signage
Highway issues
Parking
Hazards
Street furniture issues
dead animal
Dog fouling
Parks
Dangerous structure
Gullies or manholes
Traffic lights
Environmental health
General maintenance
Miscellaneous
Property damage
Bus shelter issues


Lorenz curve
1.0
0.8
0.6
0.4
0.2
0.0
Cumulative share of reports made
0.0
0.2
0.4
0.6
0.8
1.0
Cumulative share of people from lowest to highest number of reports

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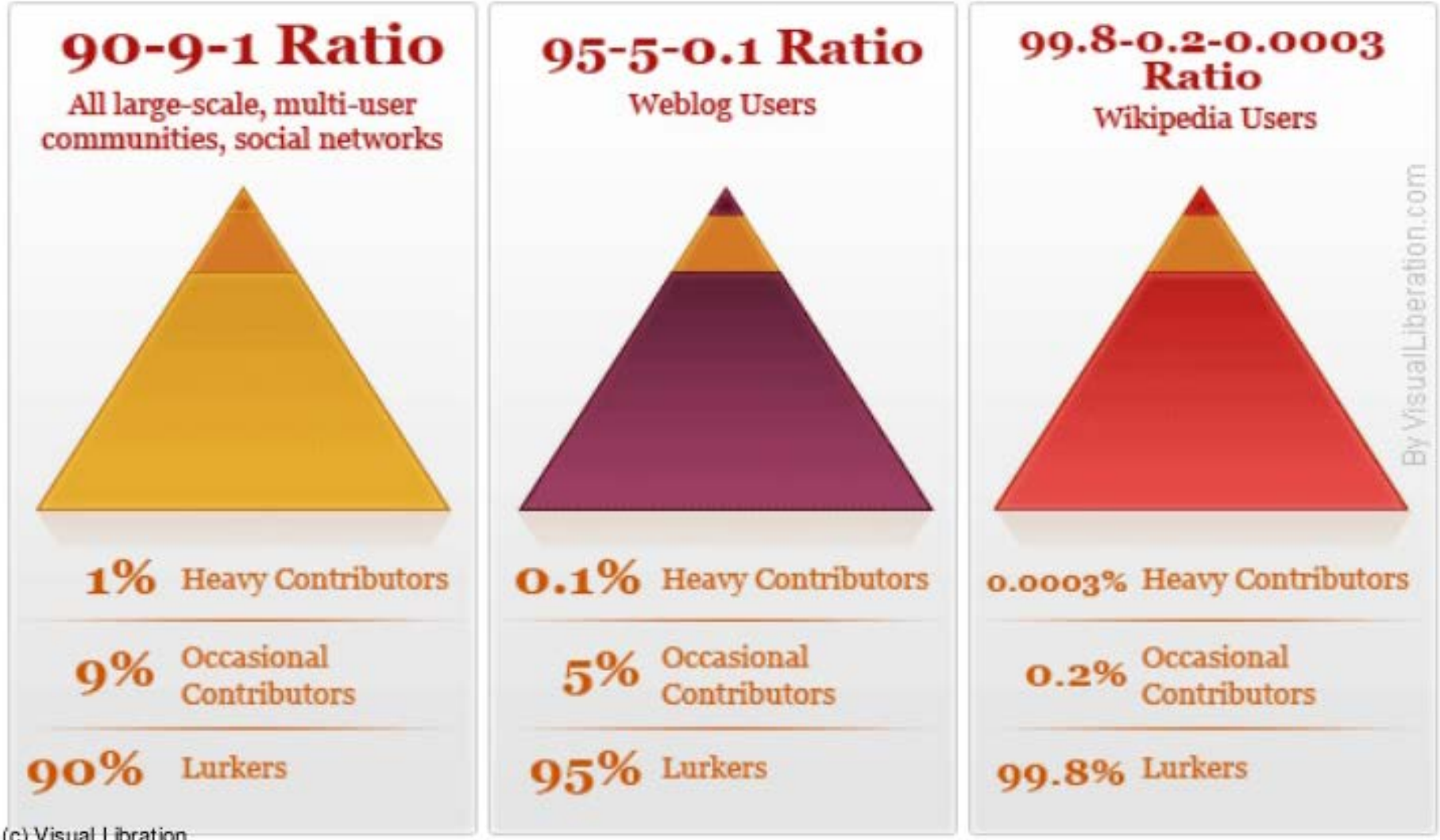

(c) Visual Libration

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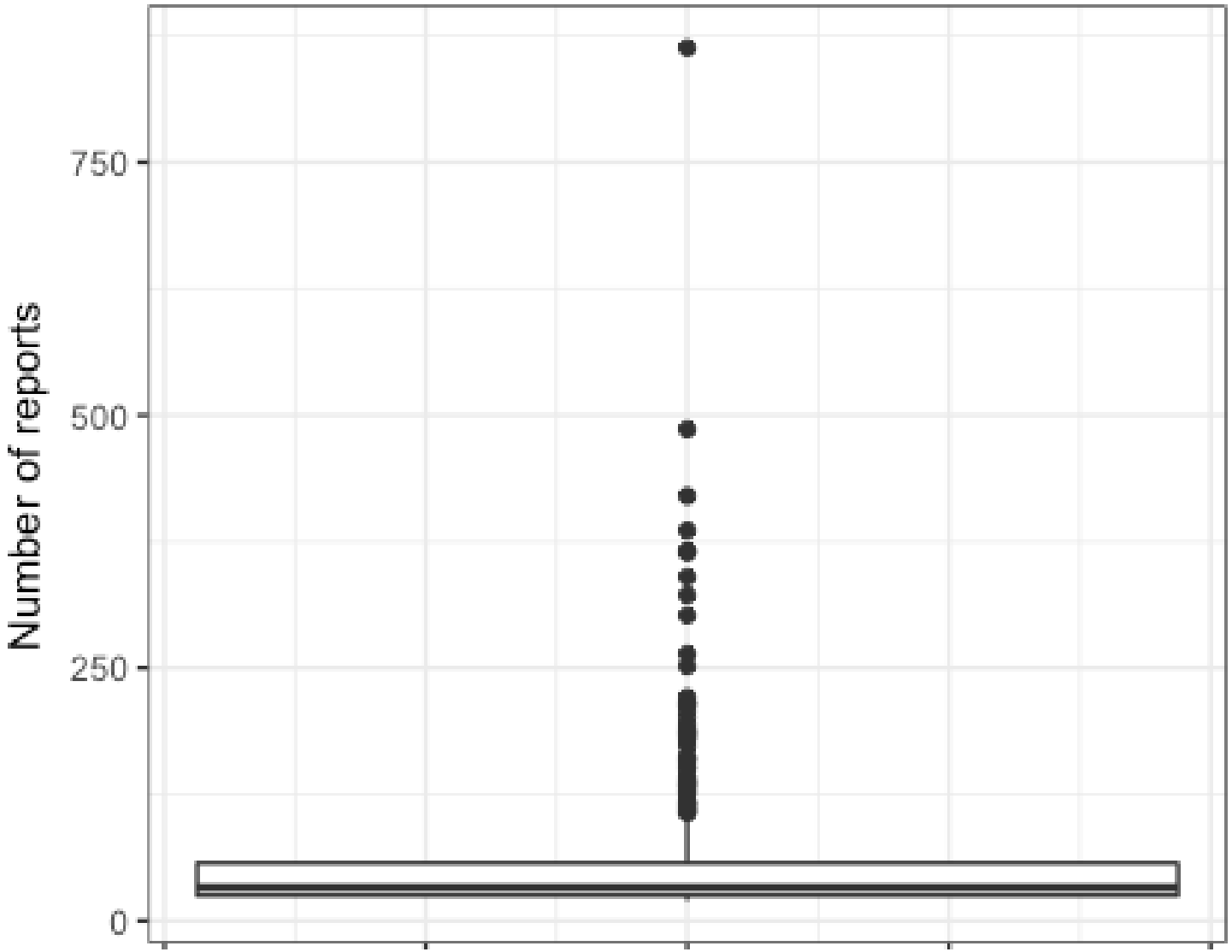

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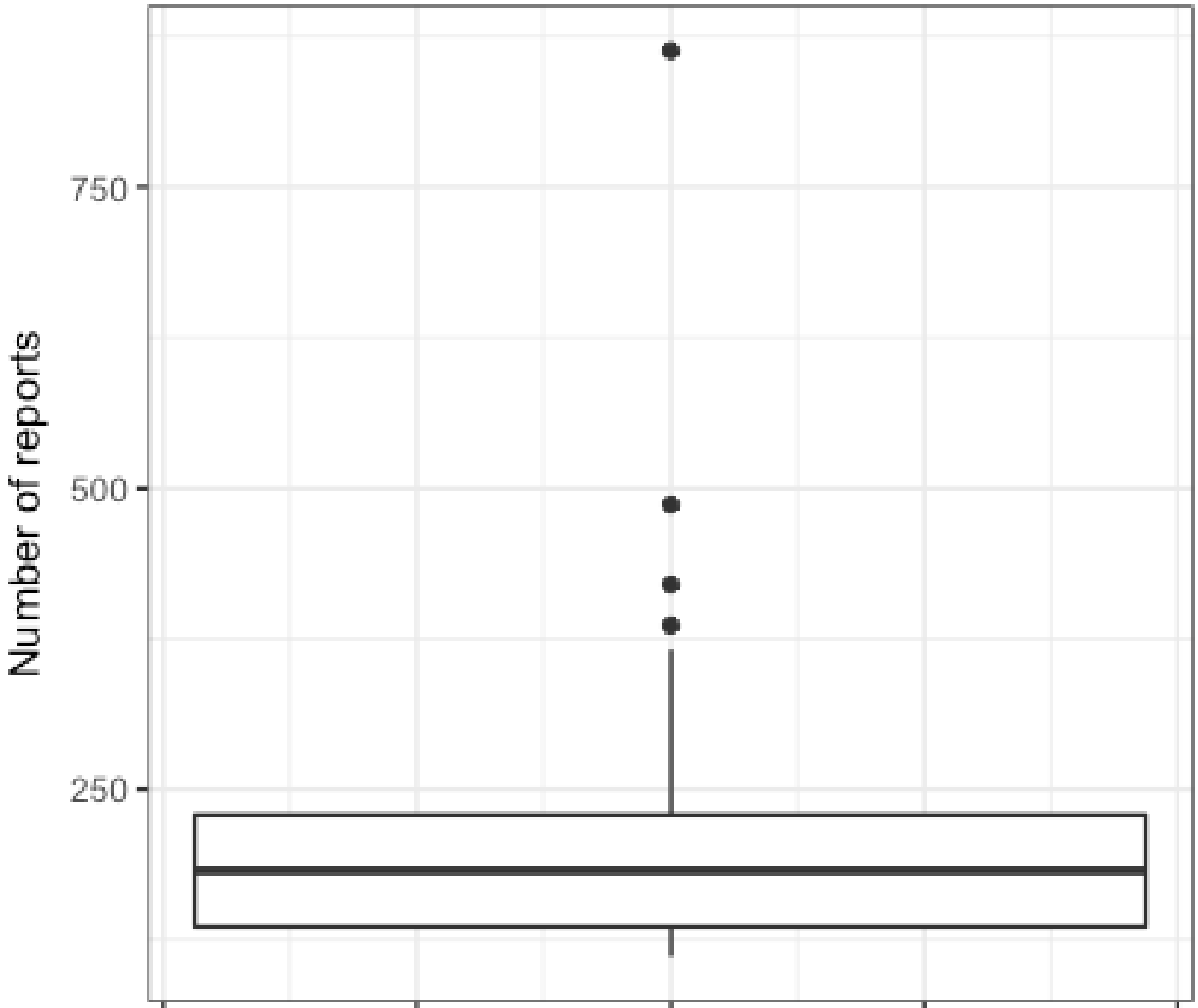

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Top 1% number of categories

Min.	Median	Mean	Max.
1*	6	5.751	15
*n = 21, prop = 4%			

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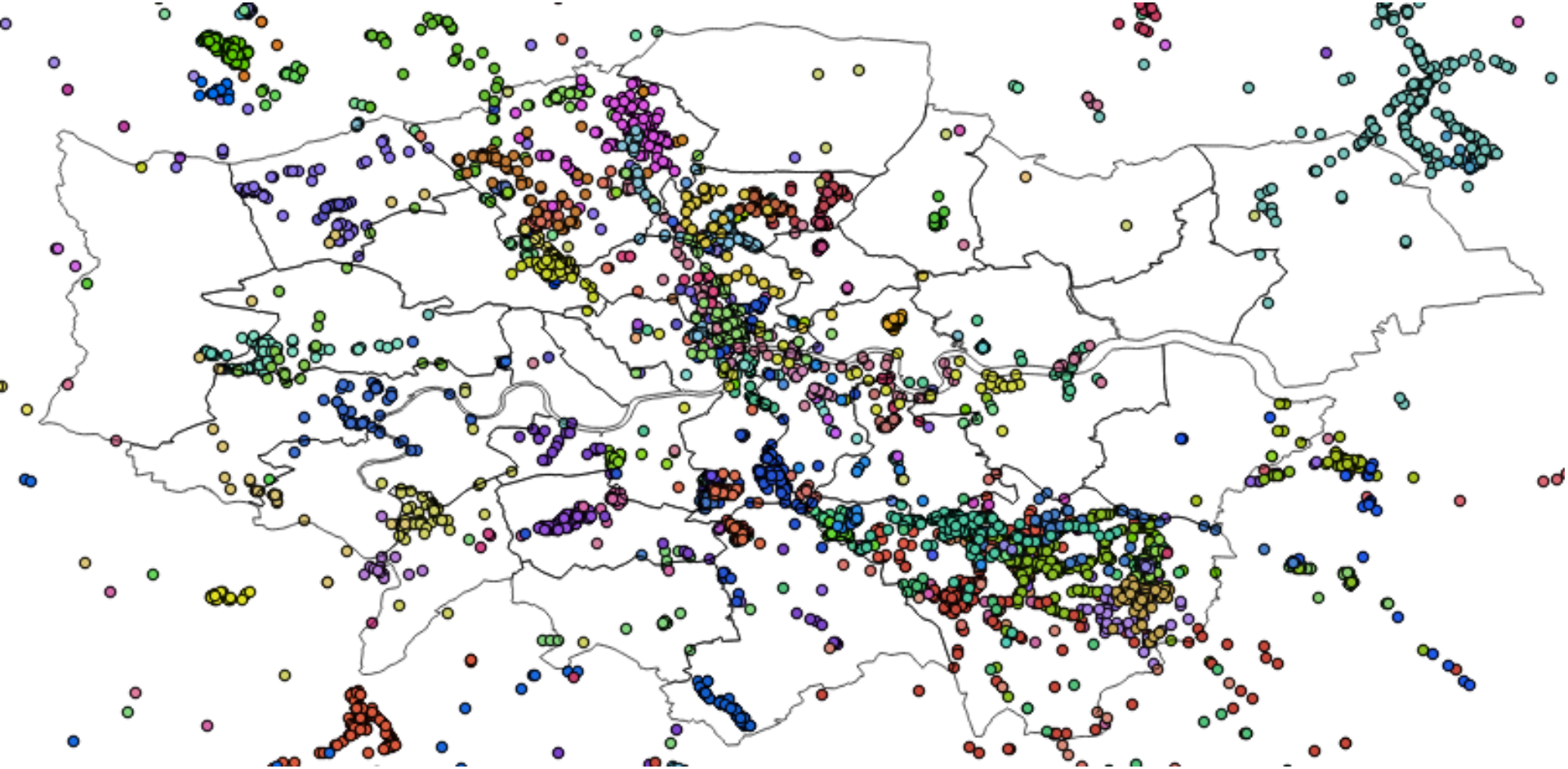

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Do the FMS active guardians have a preventative effect on burglary?

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Willingness to intervene

FMS

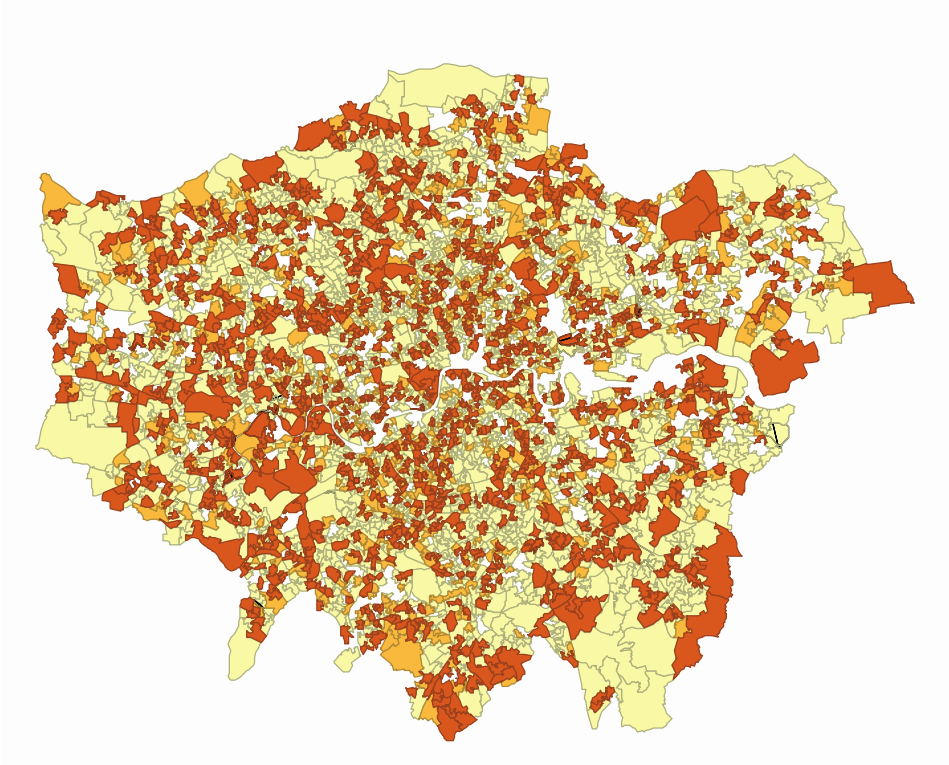
Ambient population

Burglary

Change between day and night time

- Increase
- No change
- Decrease

Active Guardians



Population

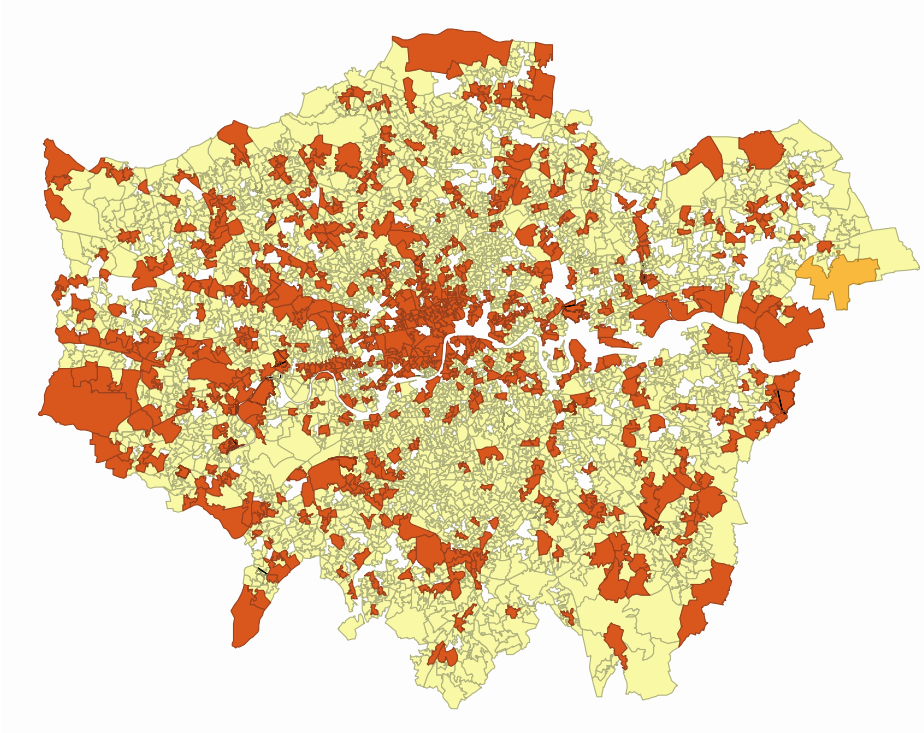


Table 5.1: Model 1: Willingness to intervene in neighbourhood vs burglary rate

Variable	Coefficient	Probability	Log likelihood	AIC	SC
Willingness to intervene	-0.068	0.001	-5825.86	11657.7	11676.6

Table 5.2: Model 2: Willingness to intervene and daytime population change in neighbourhood vs burglary rate

Variable	Coefficient	Probability	Log likelihood	AIC	SC
Willingness to intervene	-0.058	0.006	-5815.93	11641.9	11673.4
Daytime population change	0.00003	0.00001			

Table 5.3: Model 3: Willingness to intervene and daytime population change and active guardianship change in neighbourhood vs burglary rate

Variable	Coefficient	Probability	Log likelihood	AIC	SC
Willingness to intervene	-0.059	0.006			
Daytime population change	0.00003	0.00001	-5814.1	11638.2	11669.7
Daytime active guardianship change	-0.004	0.055			

Table 5.4: Model 4: Willingness to intervene and active guardianship change in neighbourhood vs burglary rate

Variable	Coefficient	Probability	Log likelihood	AIC	SC
Willingness to intervene	-0.068	0.001	-5823.98	11656	11681.2
Daytime active guardianship change	-0.004	0.053			

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Conclusions

- Can crowdsourced environment monitoring data represent movement of active guardians?
  - Maybe…
- Biases to be considered
- Repeat study with more granular crime data
- In-depth exploration of super-guardian behaviour

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Thank you!
Questions / comments?

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