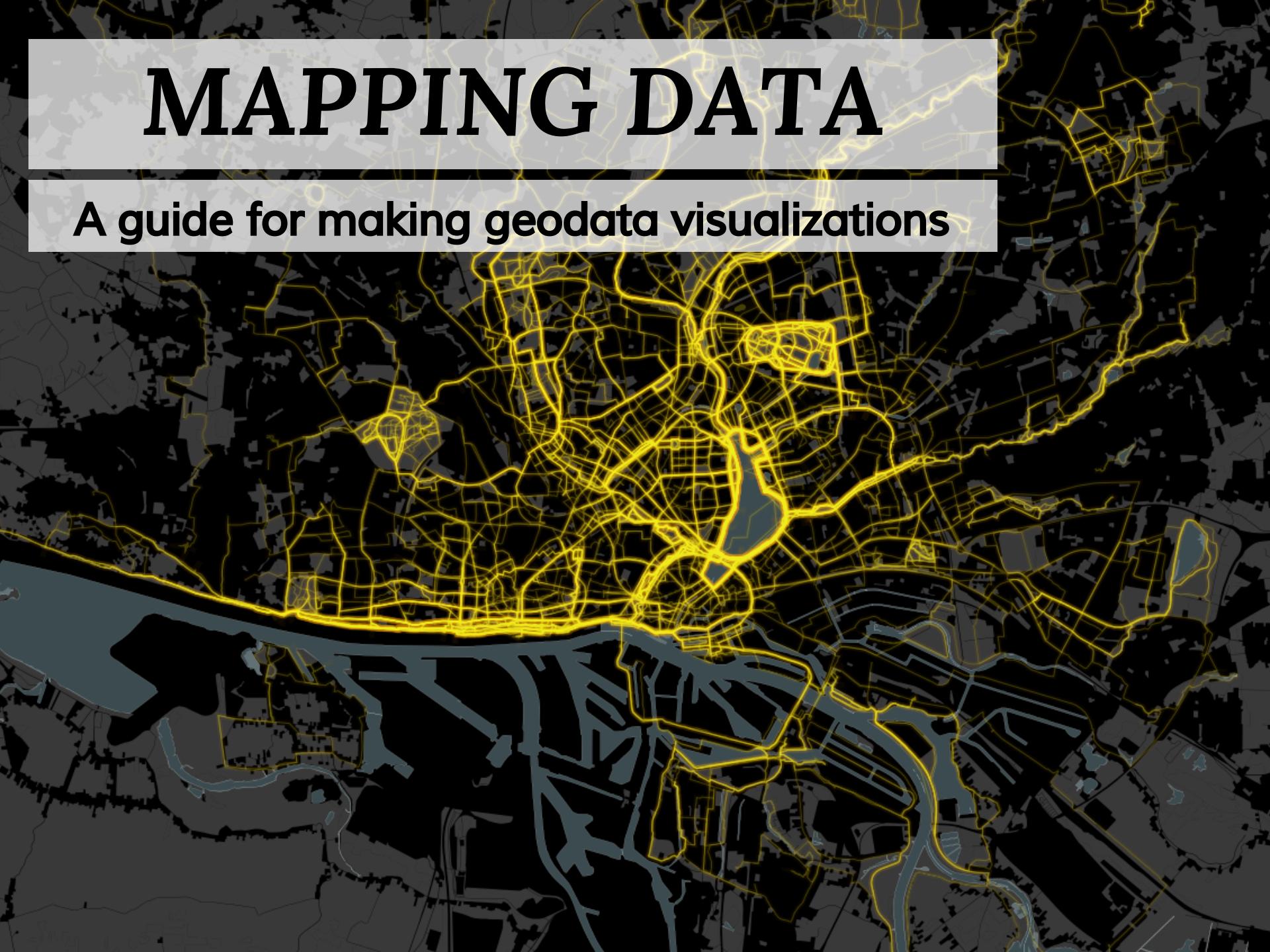


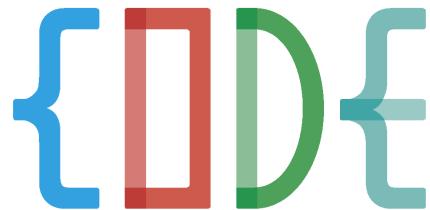
# MAPPING DATA

---

A guide for making geodata visualizations



# WE AREN'T JOURNALISTS, BUT...



for  
Hamburg



@PatrickStotz



@A\_Tack

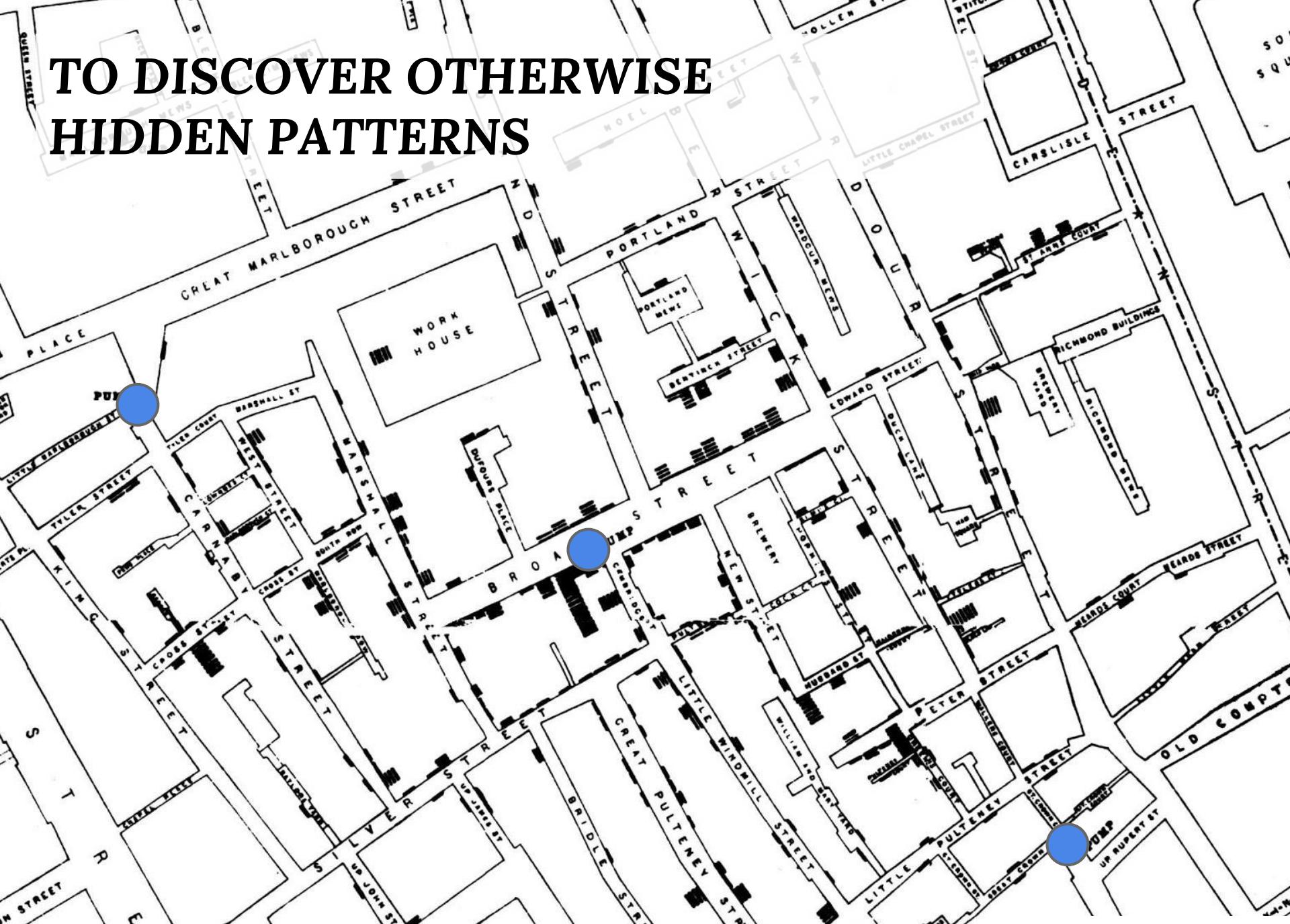
CIVIC  
HACKERS

MAPPABLE.INFO

# **WHY WE MAKE MAPS**

and why journalists should do so more often

# TO DISCOVER OTHERWISE HIDDEN PATTERNS



# TO COMMUNICATE WELL KNOWN PATTERNS MORE CLEARLY

So hat Berlin gewählt (Zweitstimmen)

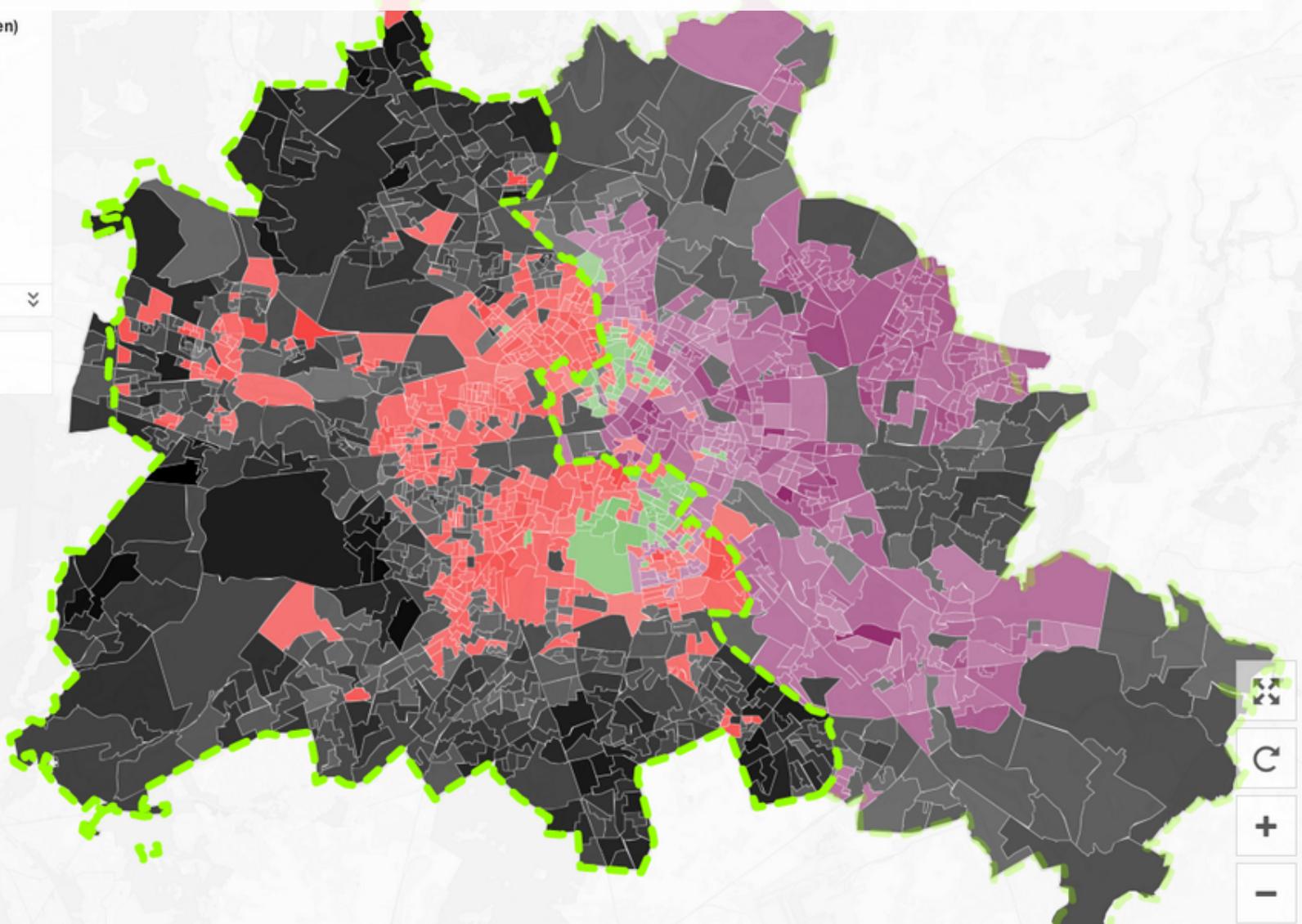
Klicken Sie auf die Parteien für die Hochburgen (Top 10).

- 1. CDU 28,5%
- 2. SPD 24,6%
- 3. Linke 18,5%
- 4. Grüne 12,3%
- 5. AfD 4,9%
- 6. Piraten 3,6%
- 7. FDP 3,6%

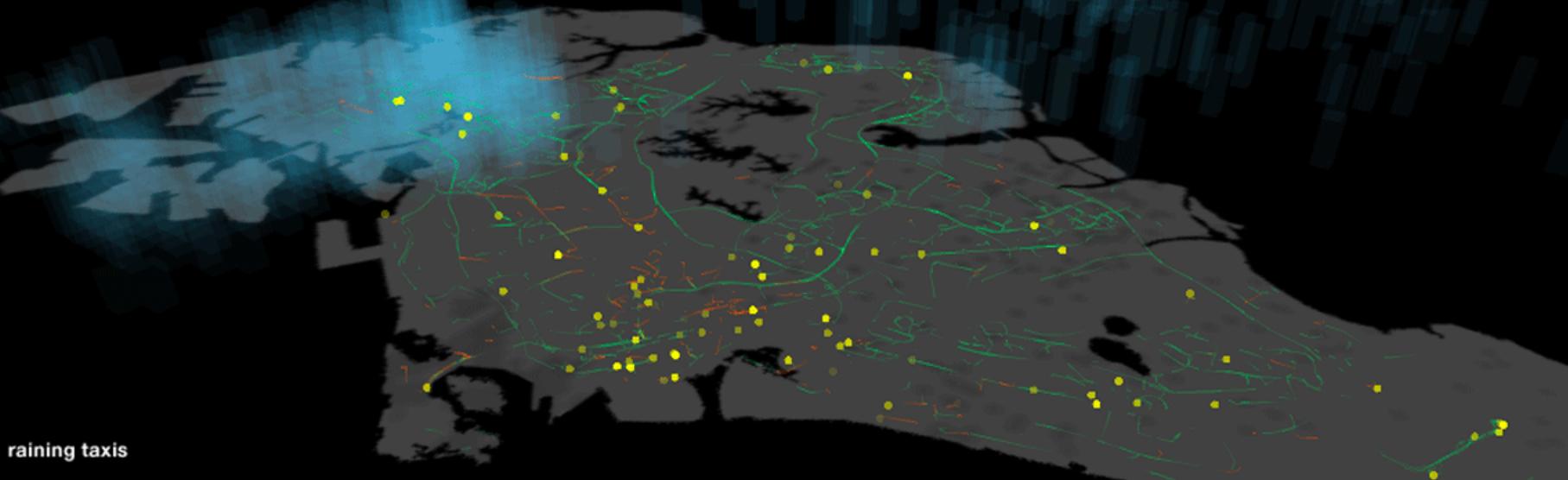
Sonstige 4,0%

Direktkandidaten (Erststimmen)

» Diese Berliner sind im Bundestag

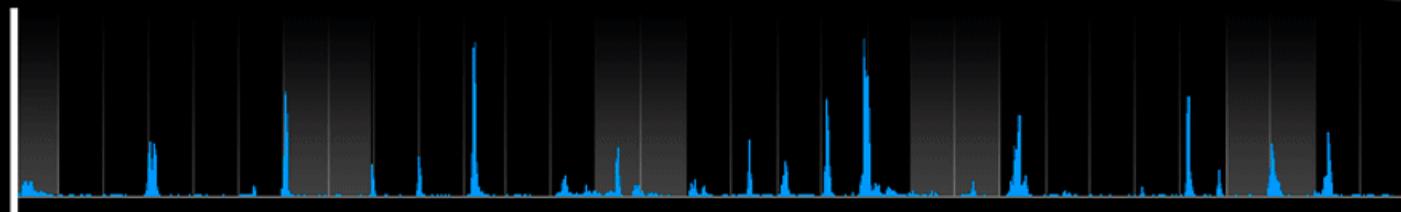


# TO GAIN INSIGHTS & IMPROVE DECISION MAKING

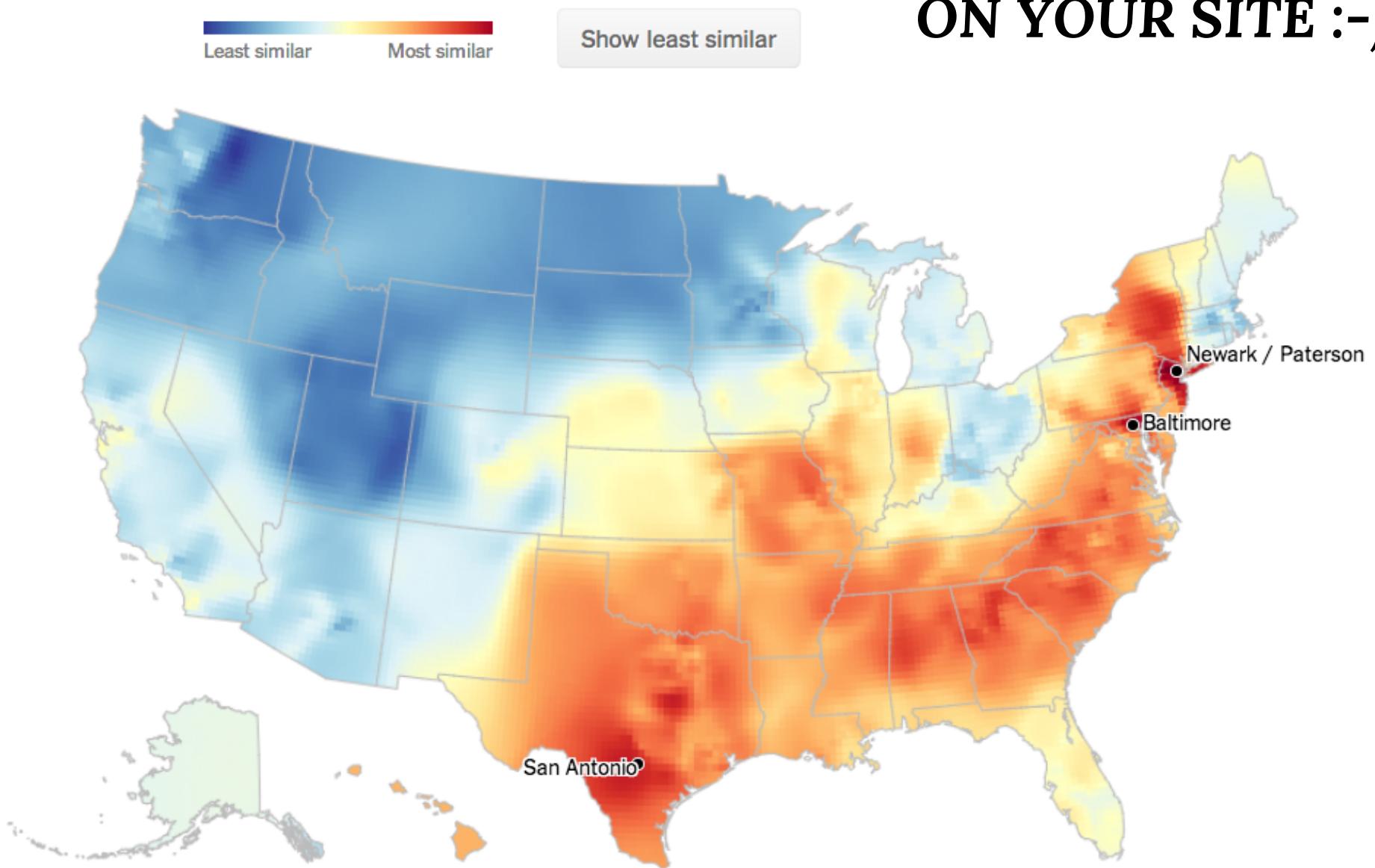


singapore's mobility is heavily reliant on taxis, but what happens when it rains? getting hold of a cab is not the easiest thing in the world. we are exploring how our transportation system behaves by combining taxi and rainfall data, and investigating how in the future the system can streamline in order to better match taxi supply and demand.

*click and drag map to rotate,  
click on timeline to move in time*



# INCREASE TRAFFIC ON YOUR SITE :-)



# NECESSARY KNOW HOW FOR MAKING GEODATA VISUALIZATIONS

- ① Finding / generating data sets
  - a) Searching data for a given story
  - b) Searching a story inside a given data set
- ② Software skills and geospatial analytics
  - a) Software skills (->Mappable Toolset)
  - b) Skills in (exploratory) geodata analytics
- ③ Presenting / visualizing / validating
  - a) Dataviz types and techniques
  - b) Validating results

① **ALMOST EVERYTHING**  
**IS “MAPPABLE”**  
**(geo-) data everywhere**

**“Geodata** is digital information,  
that can be related  
to a *specific spatial location*”

*Wikipedia*

BUT: where to find the necessary data sets for your  
project?



## BKG-Homepage

▶ Startseite ▶ Open Data

### Open Data - Freie Daten und Dienste der BKG

Die hier angebotenen Geodaten stehen über Geodatendienste ganz einfach zum Download und zur Online-Nutzung zur Verfügung.

Die Nutzung der Geodaten und Geodatendienste wird durch die [Verordnung über die Nutzungsbestimmungen für die Bereitstellung von Geodaten des Bundesgesetzblatt Jahrgang 2013 Teil I Nr. 14](#) geregelt.

Im Downloadbereich finden Sie typische Produktspezifikationen (ODC) die von Nutzern überwiegend nachgefragt werden. Über unseren [Geodatendienst](#) können Sie direkt auf die Daten zugreifen. Die Mitarbeiterinnen und Mitarbeiter des [Dienstleistungszentrums](#) unterstützen Sie dabei.

Die angebotenen Darstellungsdienste basieren auf den internationalen Standards ([OGC](#)). Download- und Darstellungsdienste erfüllen die [INSPIRE-Agreement](#).

#### Digitale Landschaftsmodelle (DLM)

Digitale Landschaftsmodelle beschreiben die topographischen Objekte auf der Erdoberfläche im Vektorformat. Die Objekte werden einer bestimmten räumlichen Lage, ihren geometrischen Typ, beschreibende Attribute und Werte zugeordnet.



#### Digitale Geländemodelle (DGM)

Digitale Geländemodelle beschreiben die Geländeformen der Erdoberfläche. Sie sind eine georeferenzierte Punktmenge, die mit einem bestimmten Höhenwert (Höhenwerte) angeordnete, in Lage und Höhe georeferenzierte Punktmenge.



NUMBER OF COUNTRIES **70**

NUMBER OF DATASETS **700**

NUMBER OF OPEN DATASETS **84**

PERCENTAGE OPEN **12%**

The Open Data Index is an initiative of the [Open Knowledge Foundation](#) based on contributions from open data advocates and open government supporters around the world. The index results are a fixed snapshot from October 28th, 2013, compiled from the data collected from the national Open Data Censuses. You can see a list of our global community of contributors [here](#). We cannot make any changes to this data, but encourage you to contribute to the national Open Data Census if you spot any outdated data.

Key: ■ Yes ■ No ■ Unsure ■ No data

Sort

- alphabetically
- by score

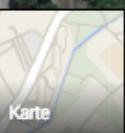
	Transport Timetables	Government Budget	Government Spending	Election Results	Company Register	National Map	National Statistics	Legislation	Postcodes / Zipcodes	Emissions of pollutants	Total Score
United Kingdom	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	940
United States	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	855
Denmark	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	835
Norway	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	755
Netherlands	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	740
Finland	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	700
Sweden	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	670
New Zealand	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	660
Australia	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	660
Canada	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	590
Iceland	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	560
Moldova	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	530
Bulgaria	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	520
Malta	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	515
Italy	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	515
France	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	510
Austria	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	505
Portugal	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	495
Slovenia	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	485
Switzerland	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	480
Israel	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	475
Czech Republic	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	465
Spain	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	460
Ireland	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	450
Isle Of Man	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	445
Croatia	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	445
Japan	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	440

GERMANY ↓

Hugh-Greene-Weg 1, 22527 Hamburg



Hugh-Greene-Weg 1  
22527 Hamburg  
53.596102, 9.946790



Street View



# GEOCODING ADDRESSES

Google

MAPPABLE.INFO

Bilder © 2014 Google, Kartendaten © 2014 GeoBasis-DE/BKG (©)

**SELF GENERATED**  
**e.g. GPS TRACKING**

# Deutschland (Germany)





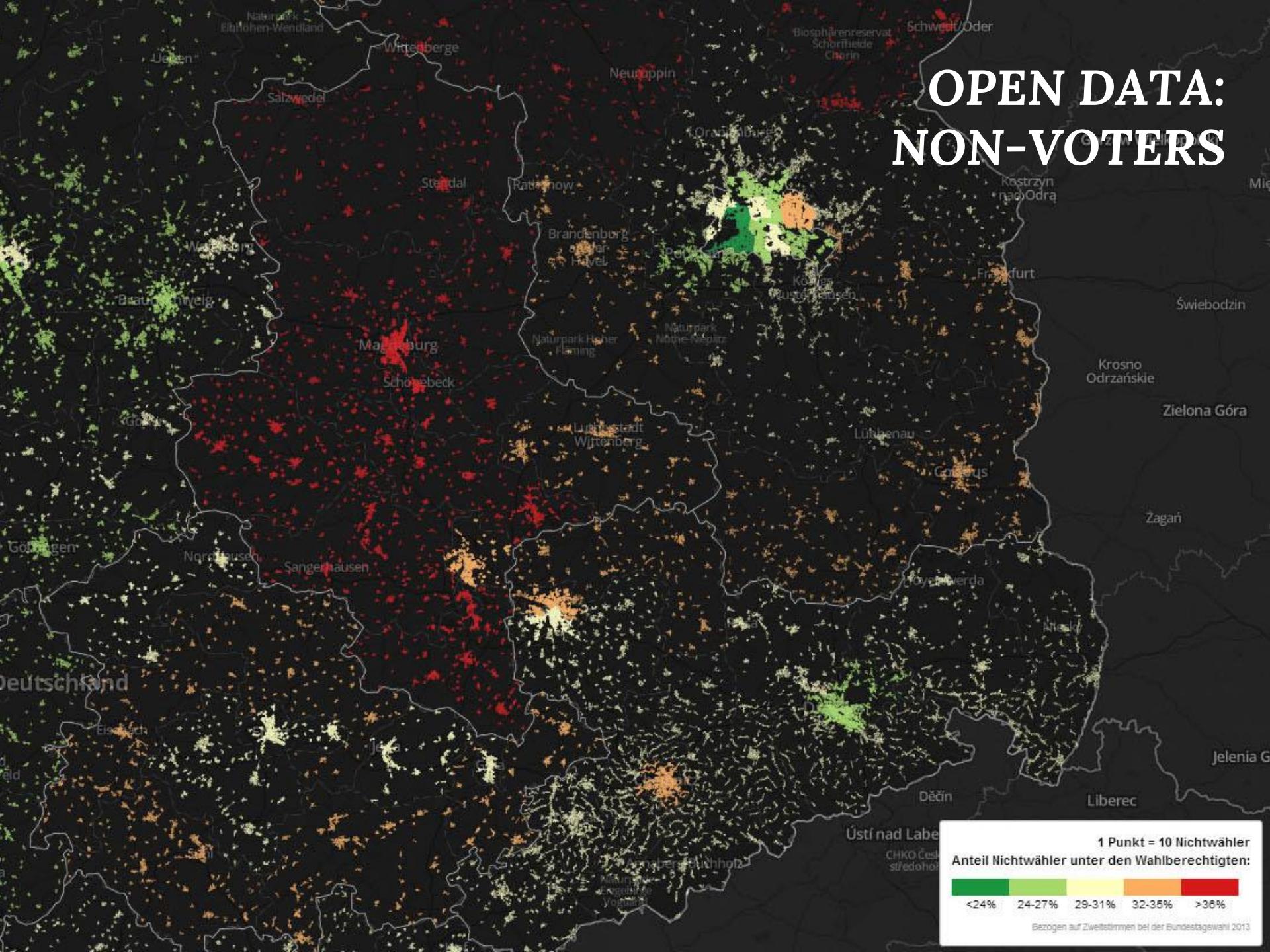
**SELF DRAWN**  
**e.g. QGIS**



# WE ❤️ UNUSUAL DATA SOURCES

Examples from **MAPPABLE.INFO**

# OPEN DATA: NON-VOTERS



# GEOCODING: PHONE DIRECTORIES

RESET VIEW

WILMERSDORF

Migration in: 1254

Migration out: 1147

Net migration: 107

NET CHANGE (SELECTED DISTRICT)



TOGGLE LINE VISIBILITY BY CLICK:

POSITIVE

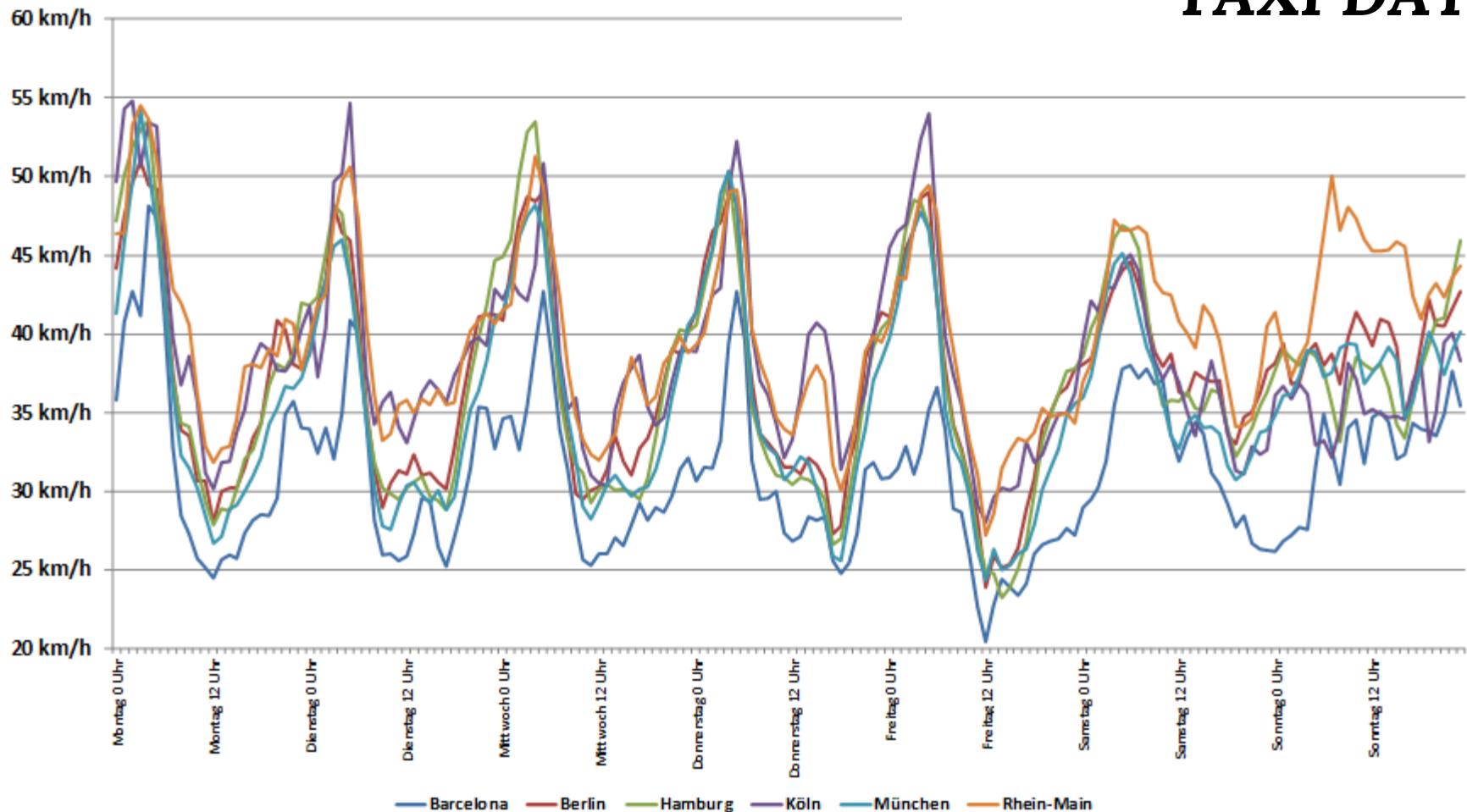
NEGATIVE

# SCRAPING: TAXI DATA

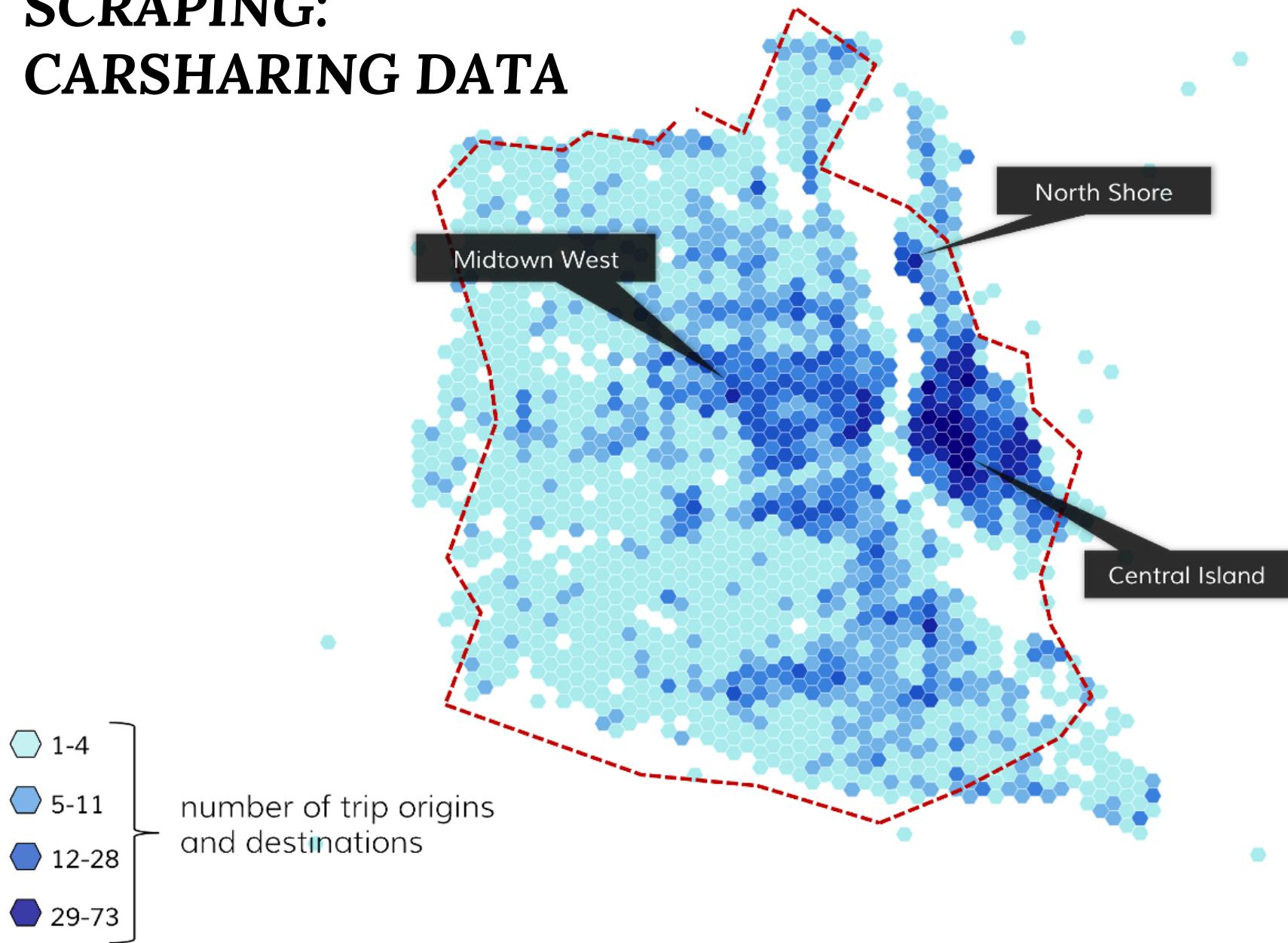


# SCRAPING: TAXI DATA

Average speed



# SCRAPING: CARSHARING DATA



Population:

2,35 Mio.

Carsharing vehicles:

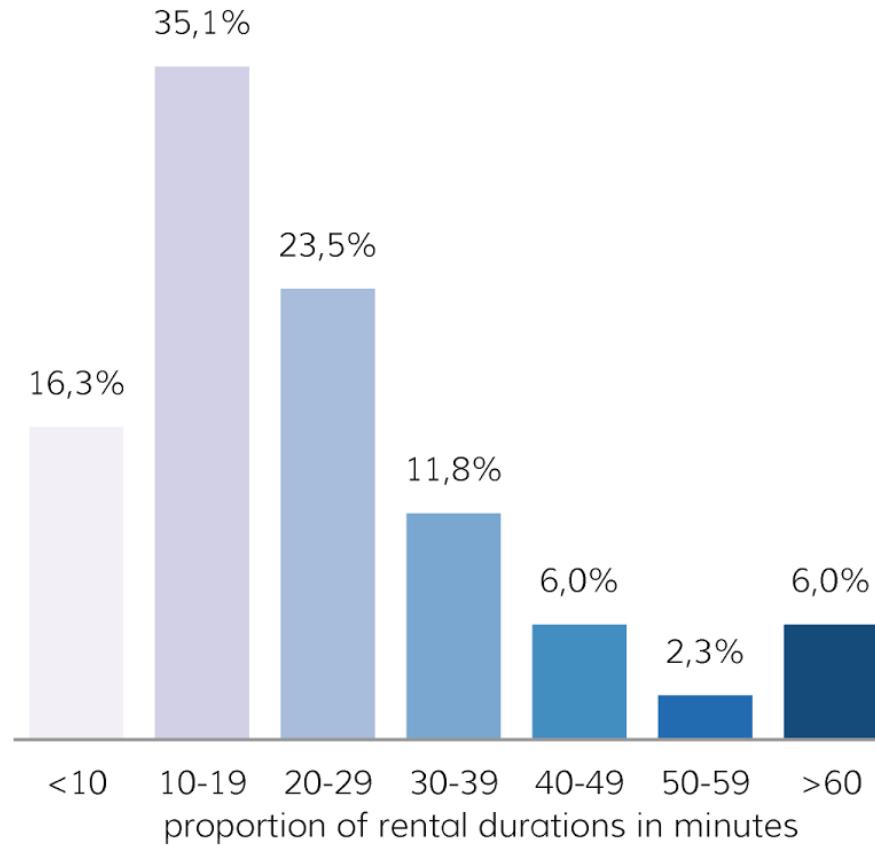
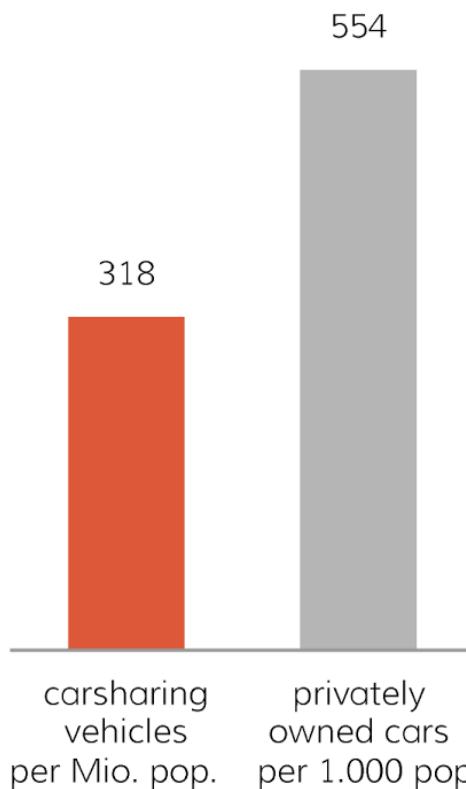
747

0 0 5,4 km

average trip length

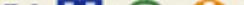


average number of trips per car and day

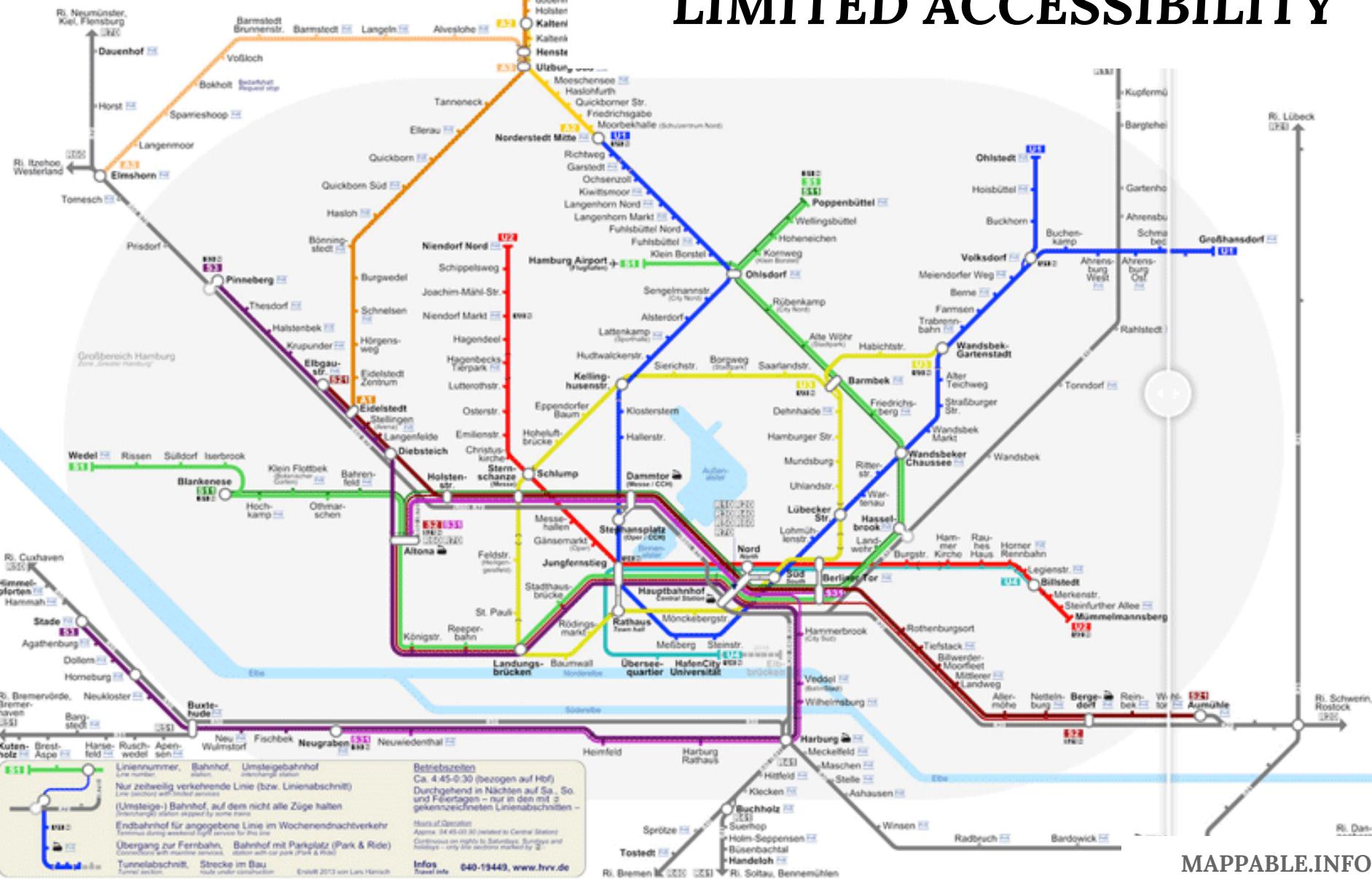


# **SELF DRAWN DATA: LIMITED ACCESSIBILITY**

# Bahnlinien im HVV HVV Railway System Map



original map by Lars Hänisch (wikimedia)



Warning:  
nerdy stuff

# ② IS THIS ALL COMPLICATED GIS STUFF?

A look into our toolbox

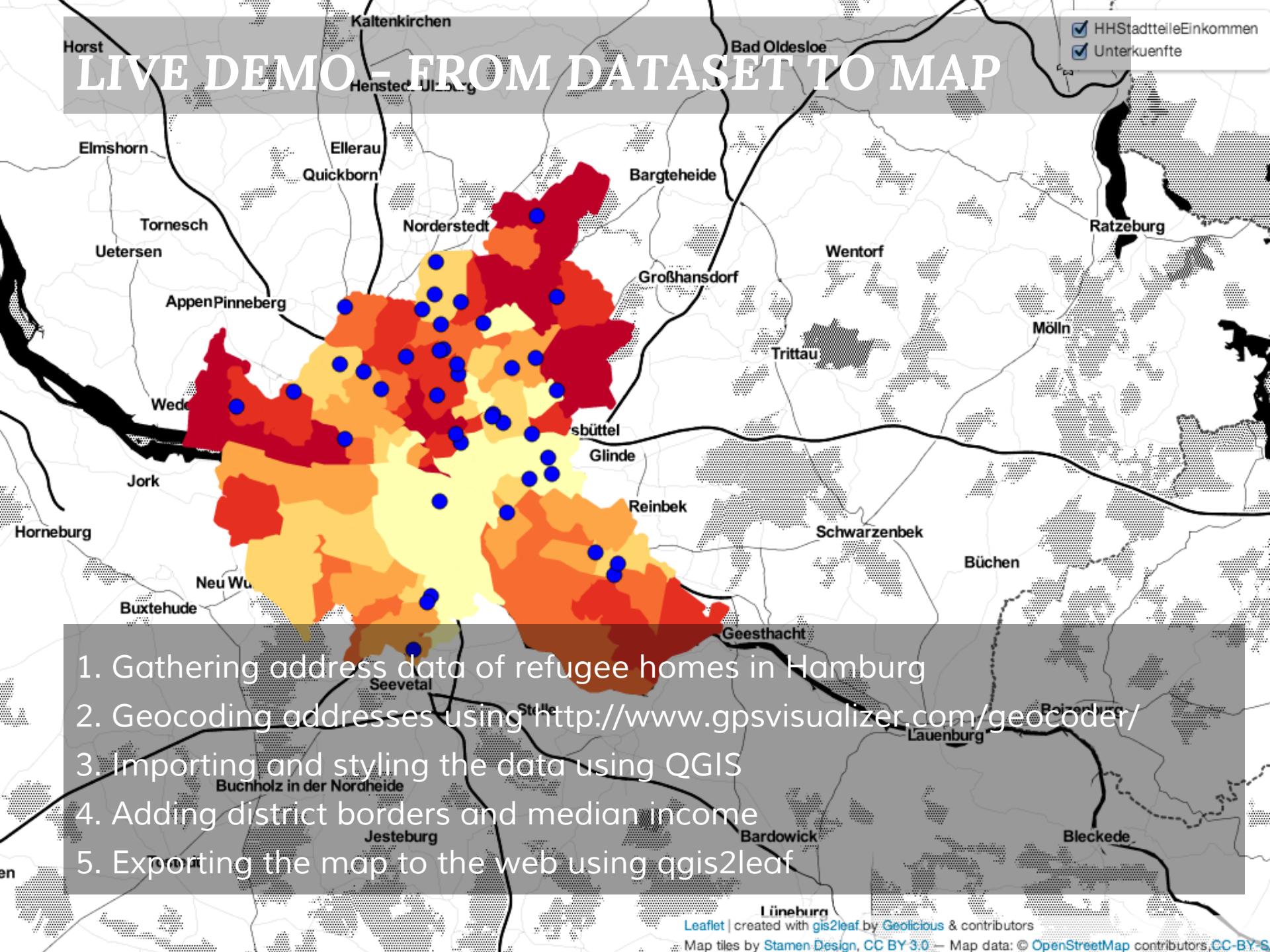
Horst

Kaltenkirchen

Bad Oldesloe

- HHStadtteileEinkommen
- Unterkünfte

# LIVE DEMO – FROM DATASET TO MAP



# CHOOSING THE RIGHT TOOLS - OUR TOOLBOX

Mapbox

Leaflet



[http://tiny.cc/mappable\\_tools\\_en](http://tiny.cc/mappable_tools_en)

TileMill

+ a b | e a u  
S O F T W A R E

CARTÓDB  
Geospatial on the cloud

QGIS

python™

# ③ MAPFAILS

## Validating Geodata

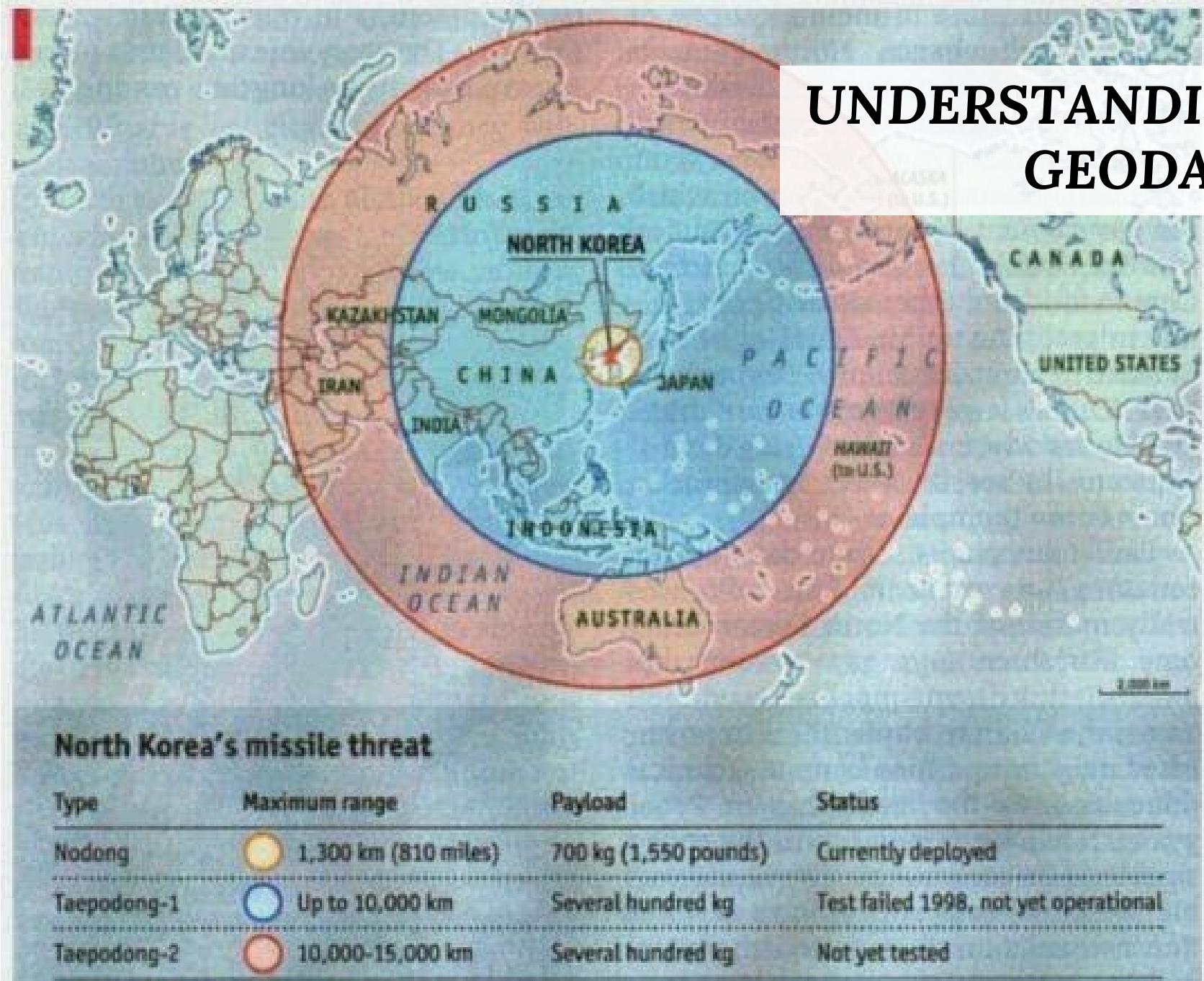
SPEECHLESS

mapfail.tumblr.com /



VÍAS DE ENTRADA DEL GAS RUSO POR UCRANIA

# UNDERSTANDING GEODATA



# UNDERSTANDING GEODATA



## North Korea's missile threat

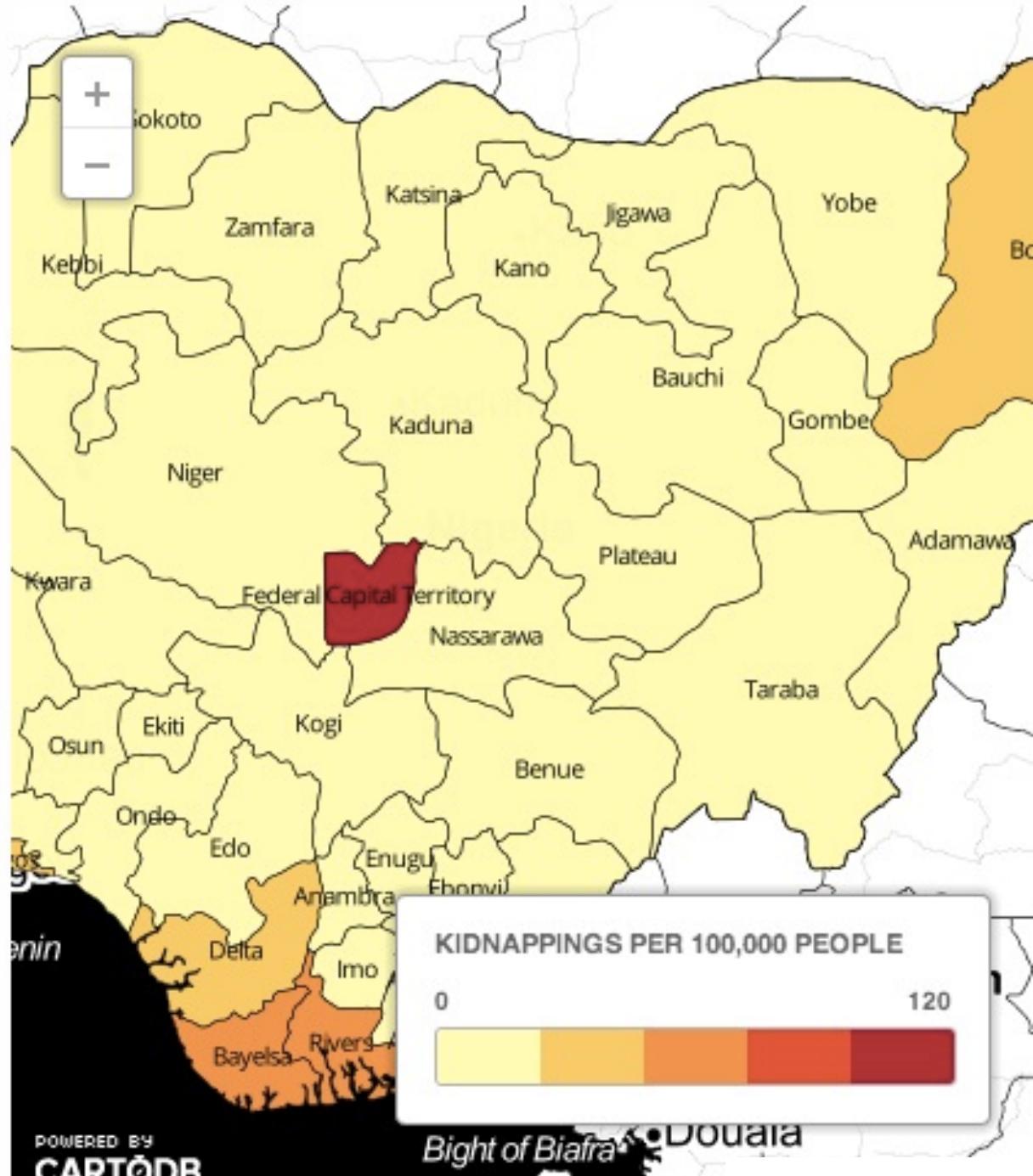
Type	Maximum range	Payload	Status
Nodong	1,300 km (810 miles)	700 kg (1,550 pounds)	Currently deployed
Taepodong-1	Up to 10,000 km	Several hundred kg	Test failed 1998, not yet operational
Taepodong-2	10,000–15,000 km	Several hundred kg	Not yet tested

Source: Task Force for US-Korea Policy, Centre for International Policy

Source: <http://www.economist.com/node/1788311>

MAPPABLE.INFO

# VALIDATING GEODATA



# VALIDATING GEODATA



Jay Ulfelder  
@jay\_ulfelder

@MonaChalabi GDELT also often includes multiple stories on the same event, so it looks like lots of events, esp when it's a big deal.

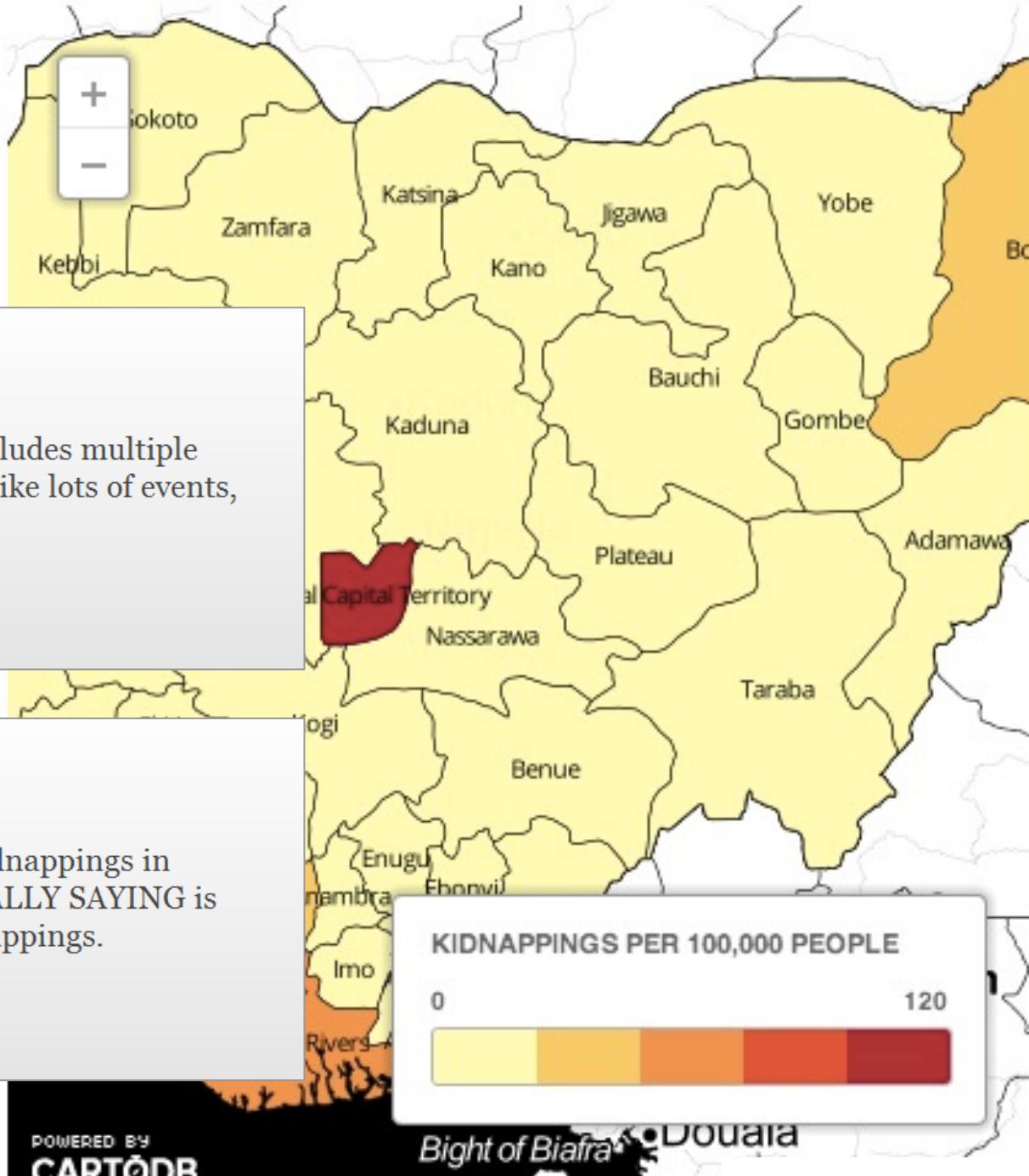
a month ago



EM Simpson  
@charlie\_simpson

So if #GDELT says there were 649 kidnappings in Nigeria in 4 months, WHAT IT'S REALLY SAYING is there were 649 news stories abt kidnappings.

a month ago



# MAPPABLE CHEAT-SHEET

A simple checklist for creating geovisualizations in data journalism

[http://tiny.cc/mappable\\_checklist\\_en](http://tiny.cc/mappable_checklist_en)

- data handling
- cartographic representation
- visual implementation
- legend and attribution
- interactivity

# MAPPING DATA

questions?



@PatrickStotz



@A\_Tack

