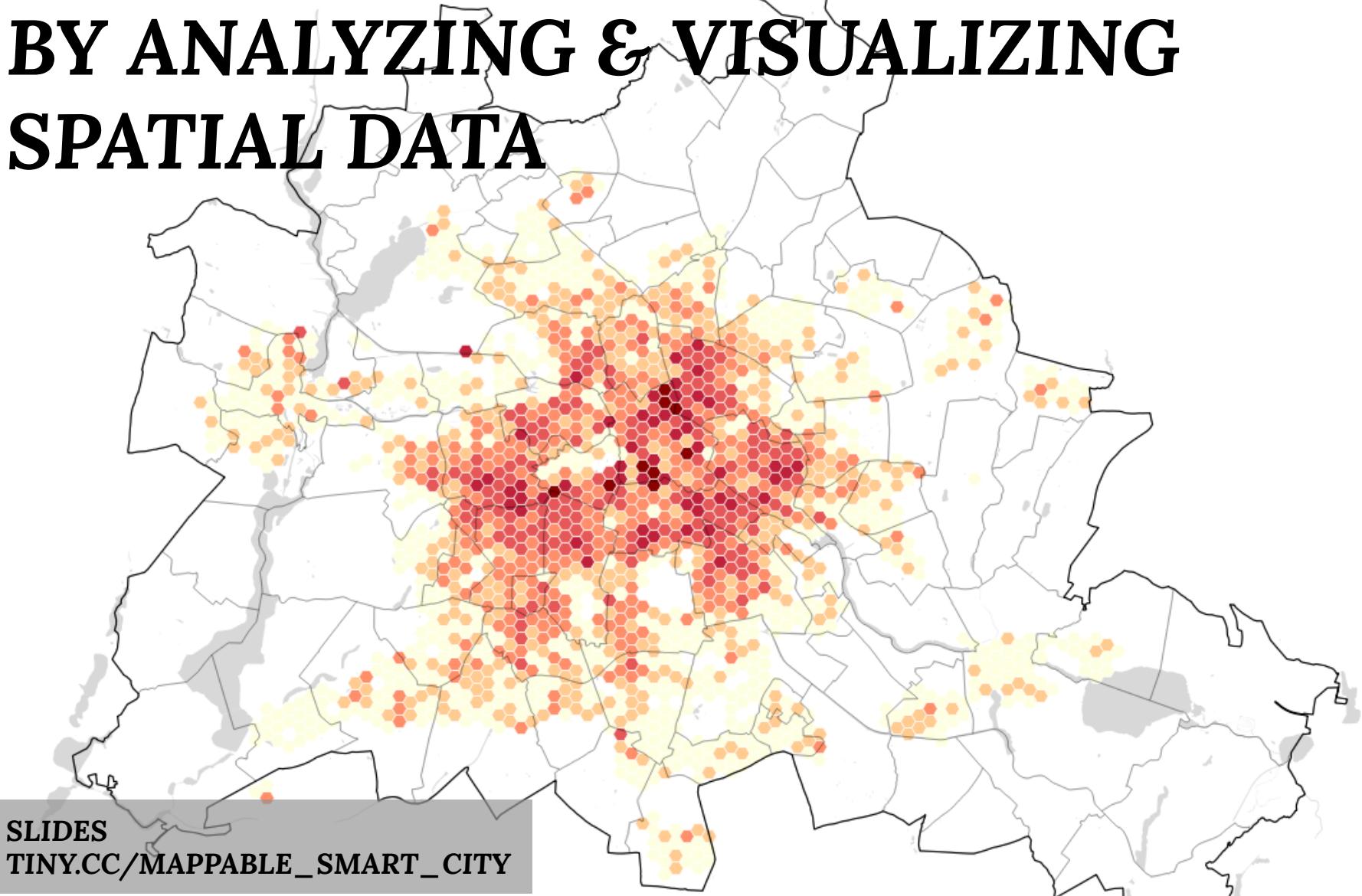
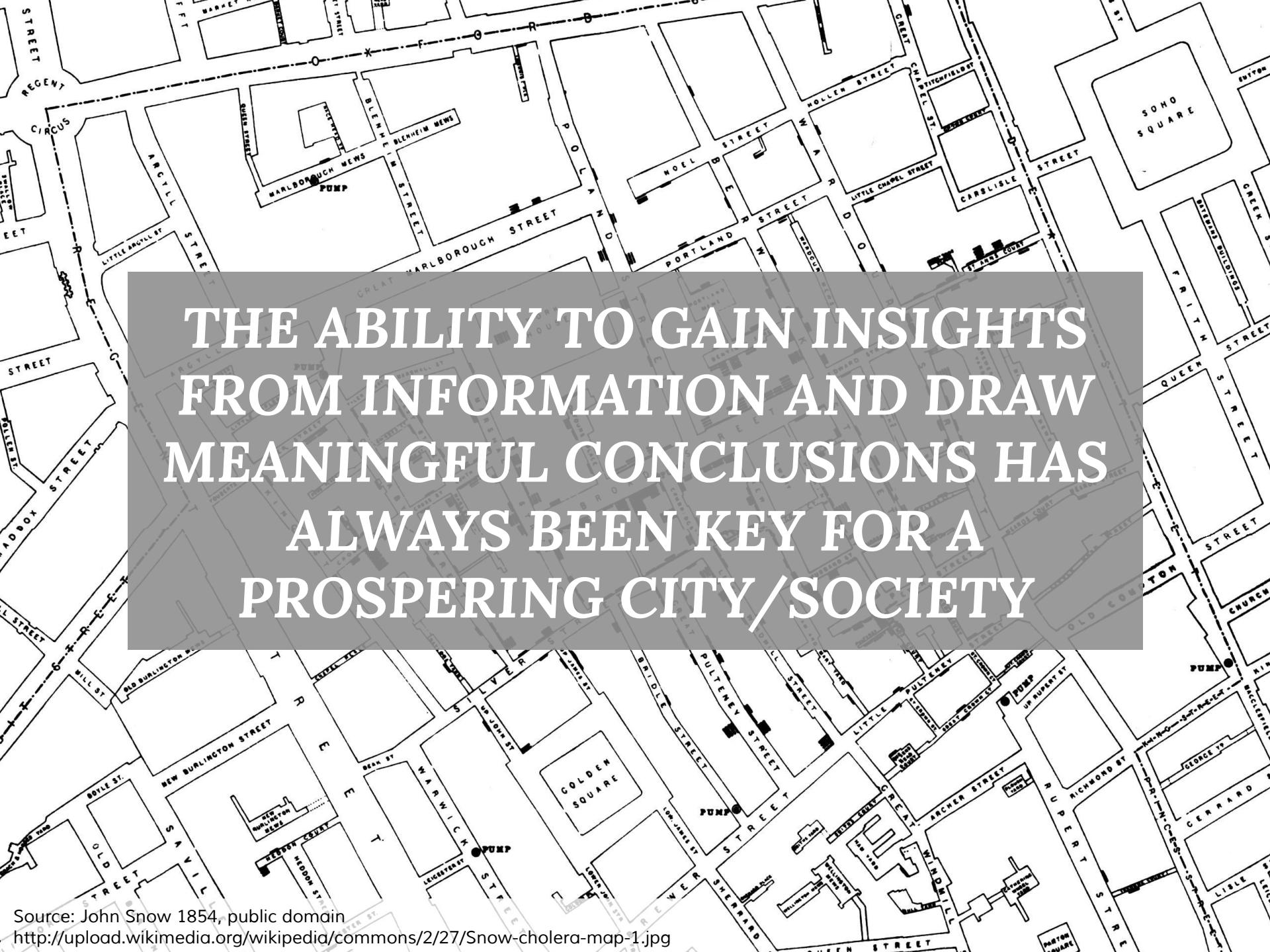


# BECOMING A SMARTER CITY BY ANALYZING & VISUALIZING SPATIAL DATA



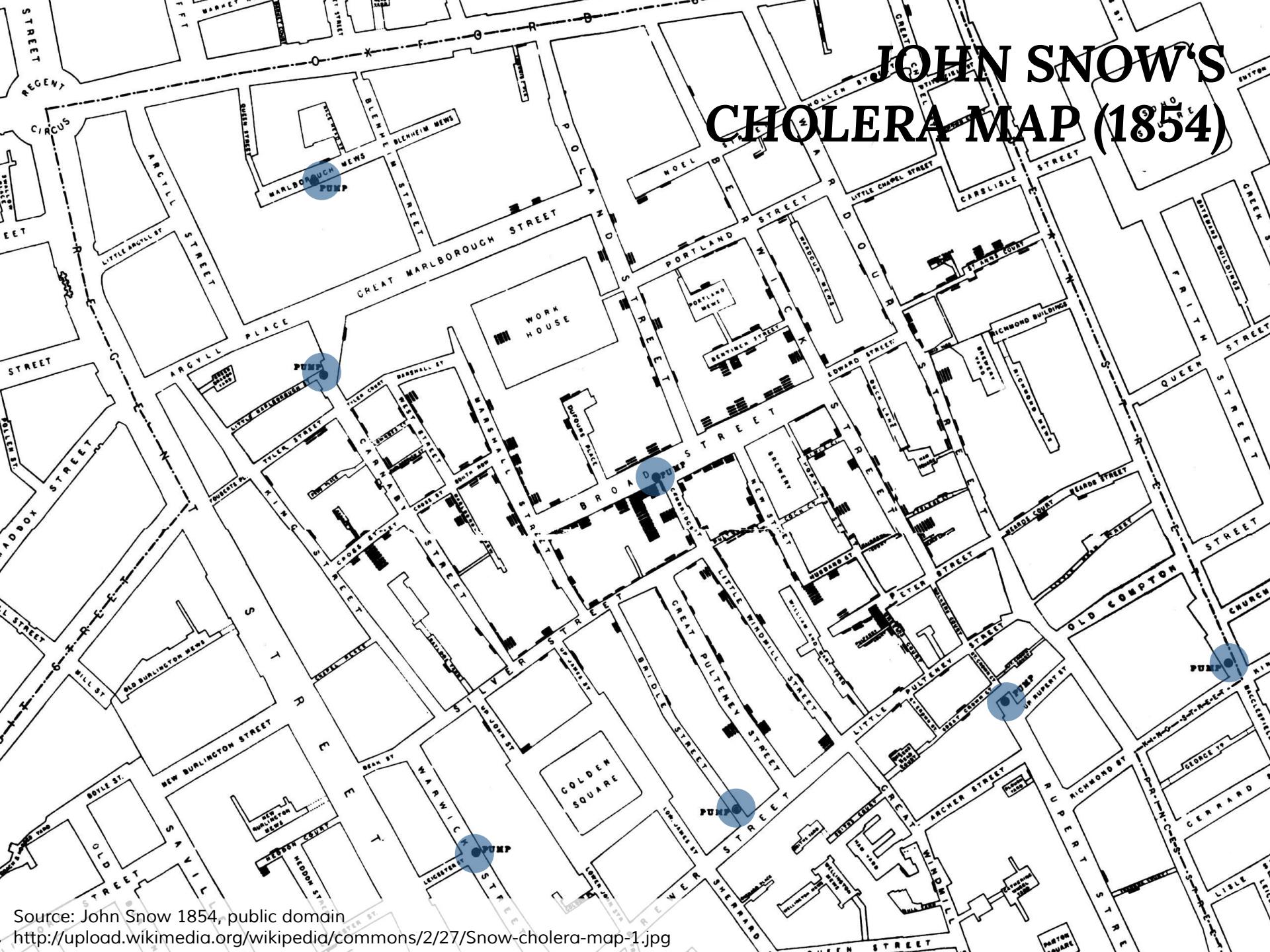
SLIDES  
[TINY.CC/MAPPABLE\\_SMART\\_CITY](http://TINY.CC/MAPPABLE_SMART_CITY)



The map illustrates the 1854 cholera outbreak in Soho, London. It shows the locations of several cholera pumps (marked with a black dot and labeled "PUMP") and clusters of deaths (marked with a black cross). The map includes labels for various streets and squares, such as MARLBOROUGH STREET, SOHO SQUARE, and GOLDEN SQUARE. The text "PUMP" is also visible on some of the street labels.

THE ABILITY TO GAIN INSIGHTS  
FROM INFORMATION AND DRAW  
MEANINGFUL CONCLUSIONS HAS  
ALWAYS BEEN KEY FOR A  
PROSPERING CITY/SOCIETY

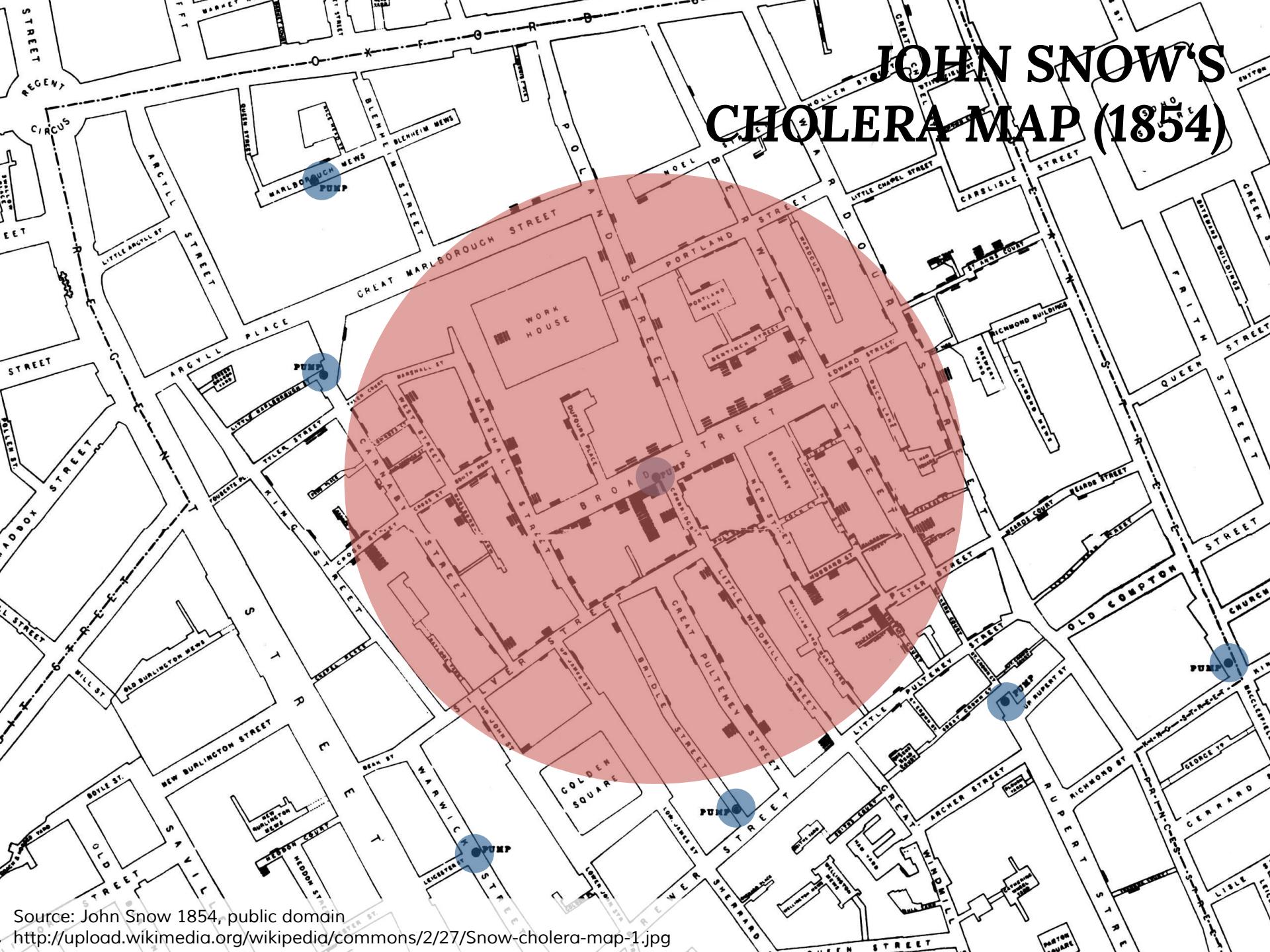
# JOHN SNOW'S CHOLERA MAP (1854)



Source: John Snow 1854, public domain

<http://upload.wikimedia.org/wikipedia/commons/2/27/Snow-cholera-map-1.jpg>

# JOHN SNOW'S CHOLERA MAP (1854)

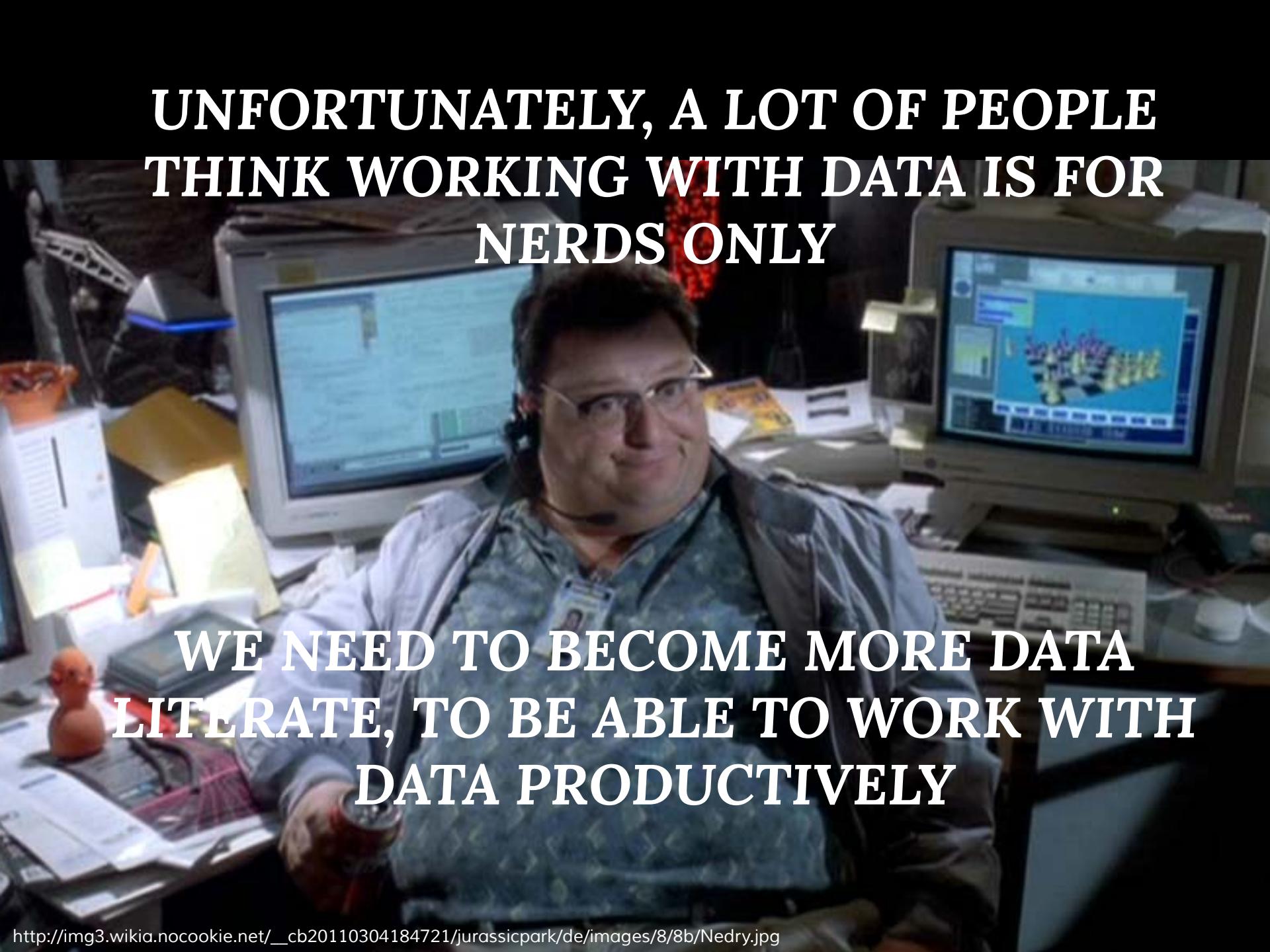


Source: John Snow 1854, public domain

<http://upload.wikimedia.org/wikipedia/commons/2/27/Snow-cholera-map-1.jpg>

UNFORTUNATELY, A LOT OF PEOPLE  
THINK WORKING WITH DATA IS FOR  
NERDS ONLY

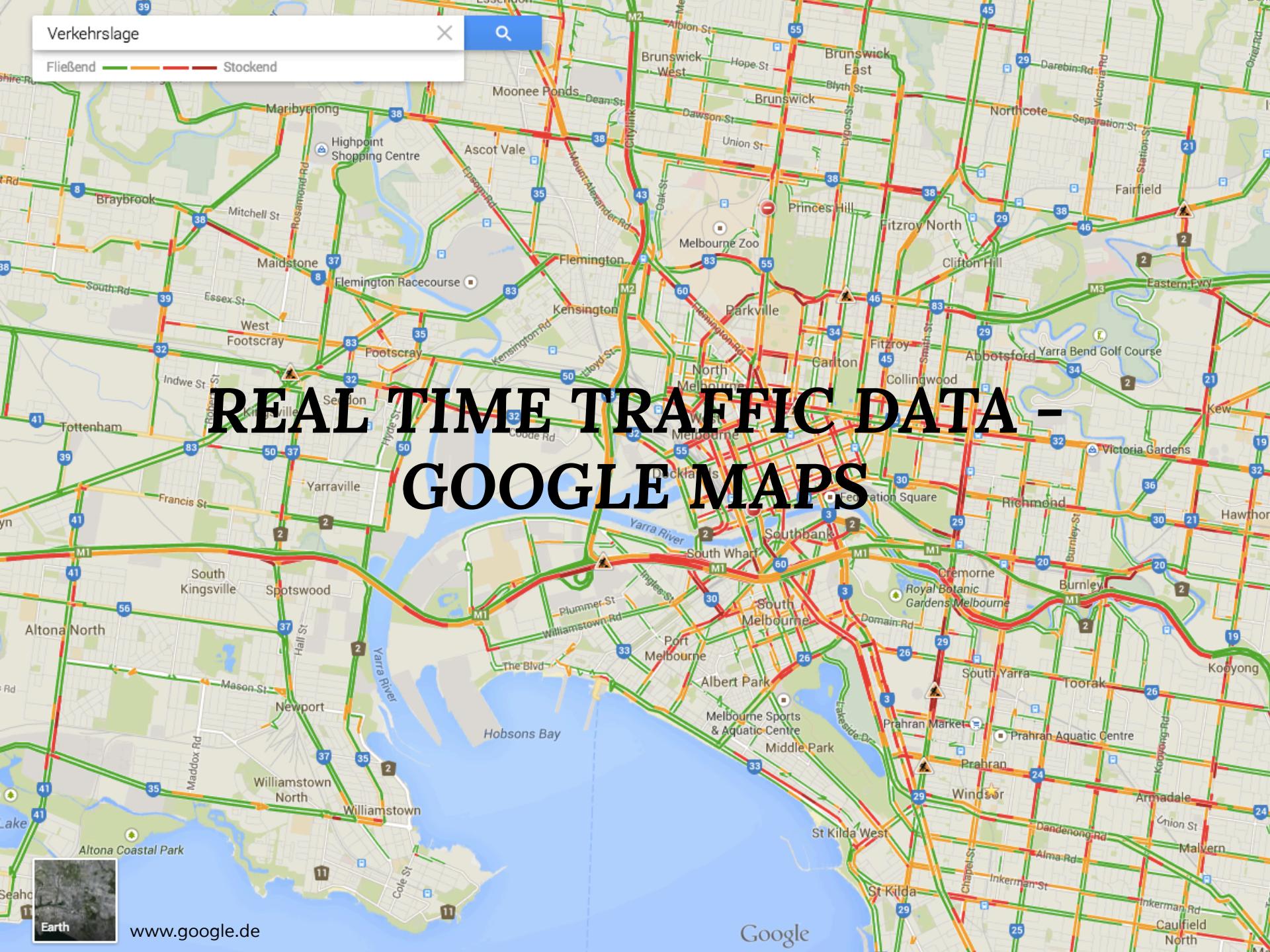
WE NEED TO BECOME MORE DATA  
LITERATE, TO BE ABLE TO WORK WITH  
DATA PRODUCTIVELY



# **TALKING ABOUT SMART CITIES – REAL-LIFE EXAMPLES OF ,BIG DATA‘ & THE CITY**

# SMARTCARD TICKETING SYSTEMS IN PUBLIC TRANSPORT - MYKI





# REAL ESTATE DATA - NESTORIA

## Quick and Easy Australian Property Search

Find properties  for sale  to rent

e.g. Parramatta



[advanced search options](#) or browse by [area list](#), [other countries](#)

Map data ©2014 Google [Terms of Use](#)

## Vorschläge für Burger-imbisse in der Nähe von New York



C

Suche in diesem  
Gebiet

Anzeigen: [Specials](#) [Nicht hier gewesen](#) [Following](#) [Preis](#) [Jetzt geöffnet](#) [Gespeichert](#)  
 gefällt das

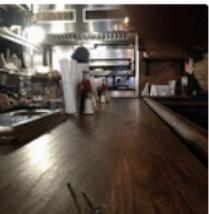
## 1. Black Iron Burger

9.0

540 E 5th St (Btwn Ave A & Ave B)  
Burger • \$ \$ \$ \$ • Menü anzeigen

Thrillist • September 21, 2011

Try the double patty/horseradish/cheddar/onions meatstrosity called the Iron Horse -- but don't make a habit of it, or you'll never be able to shake your caboose.

[Speichern](#)

## 2. J.G. Melon

9.3

1291 3rd Ave (at E 74th St)  
Burger • \$ \$ \$ \$ • Menü anzeigen

Eater • September 18, 2010

Pubs don't come more oldschool, and some peg Mellon's burger as the best in the city. It's not, but along with Mellon's crispy waffle-cut fries and cold beer, it is a damn good show. [Eater 38 Member]

[Speichern](#)

## 3. Burger Joint

9.2

119 W 56th St  
Burger • \$ \$ \$ \$ • Menü anzeigen

Bravo • Januar 27, 2010

Find the best burger in the city in this old school burger shack hidden in the lobby of the Parker Meridien. -Andy Cohen, Watch What Happens Live!



# BUSINESS DIRECTORIES – FOURSQUARE

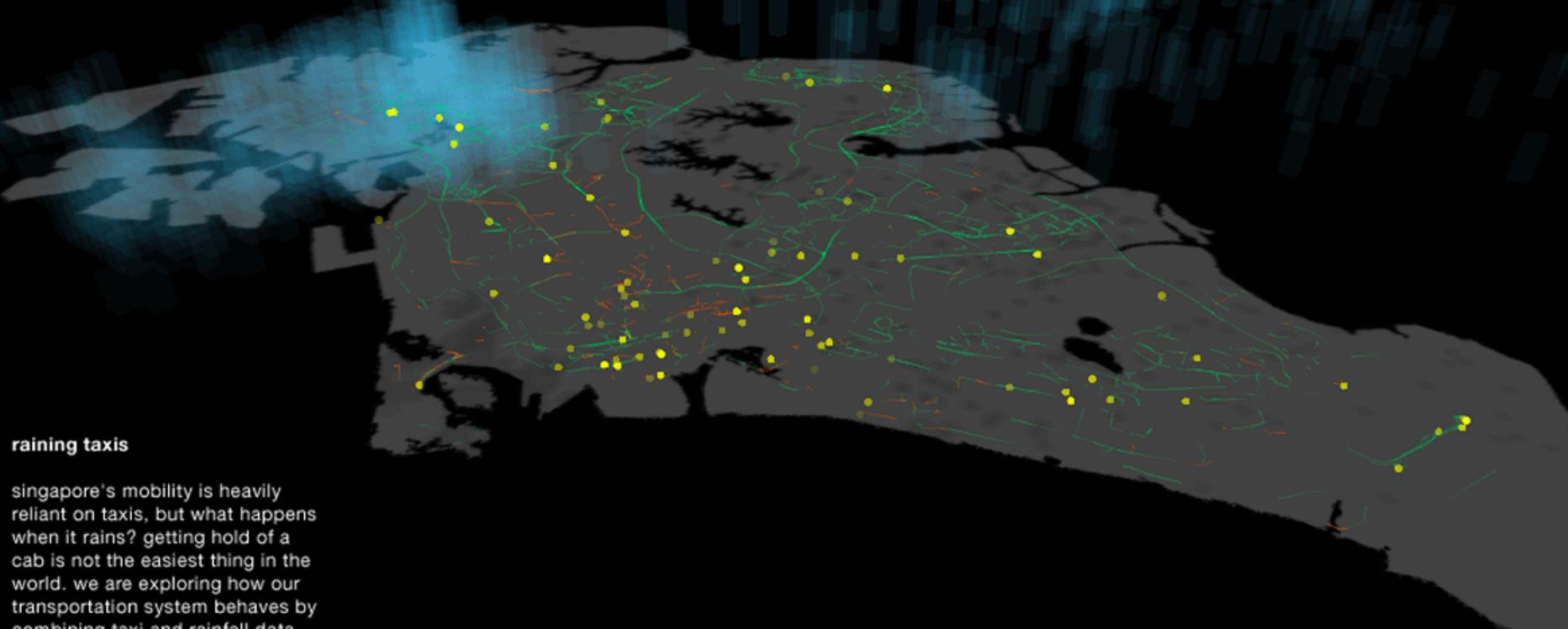
Datenschutz AGB © Mapbox © OpenStreetMap

**HOW CAN WE MAKE  
PRODUCTIVE USE OF THESE  
DATA SETS? - A FEW EXAMPLES**

LIVE Singapore!

51.495

# STREAMLINING TAXI SUPPLY AND DEMAND IN SINGAPORE



raining taxis

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

data sources ComfortDelGro | NEA

01 august 2010 | 00:09

rain



free taxi



on-call taxi



trip start



senseable city lab:::

[senseable.mit.edu/livesingapore/images/raining\\_taxis\\_lg.png](http://senseable.mit.edu/livesingapore/images/raining_taxis_lg.png)

Meine Apps

Einkaufen

Spiele

Empfehlungen



## TRAXI

Mike Morán - 6. Juli 2014

Verkehr

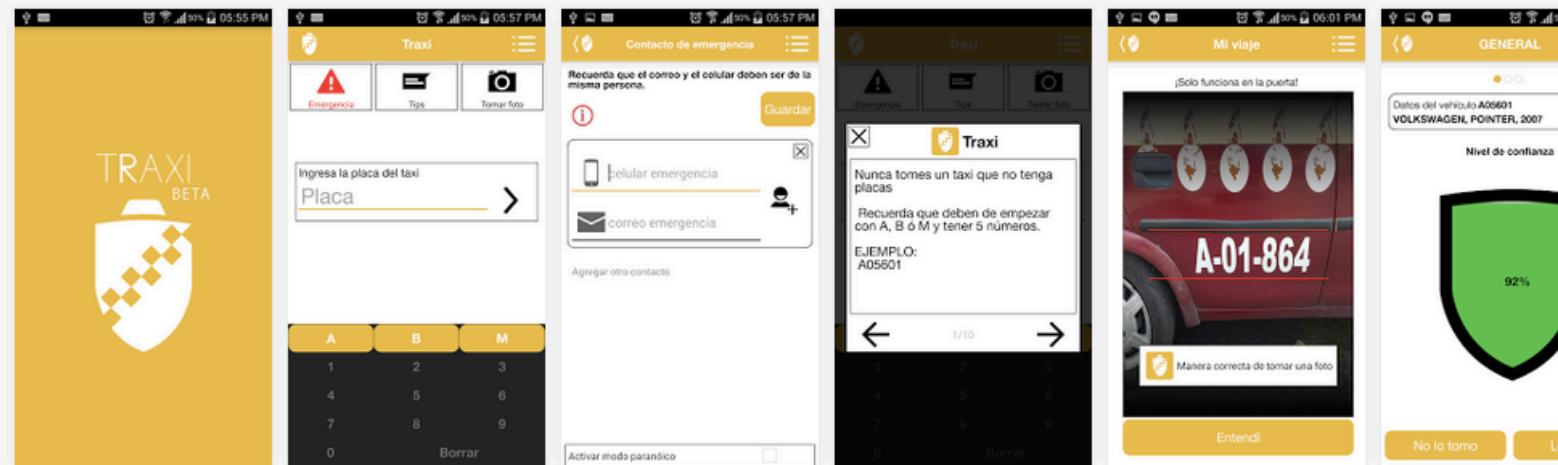
Installieren

Zur Wunschliste hinzufügen

✗ Diese App ist mit keinem Ihrer Geräte kompatibel.

★★★★★ 1★ (32)

+15 Auf Google empfehlen



# IMPROVE THE SAFETY OF TAXI PASSENGERS - TRAXI.MX



# 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

## REPORT LOCAL PROBLEMS VIA CROWDSOURCING - FIXMYSTREET

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

**2,435**

reports in past week

**3,947**

fixed in past month

**525,252**

updates on reports

Street Light No 3 Not working never lit

00:11 today



Street light No 5 not working never lit

00:08 today



Stinging nettles overgrown onto path

22:05, Tuesday

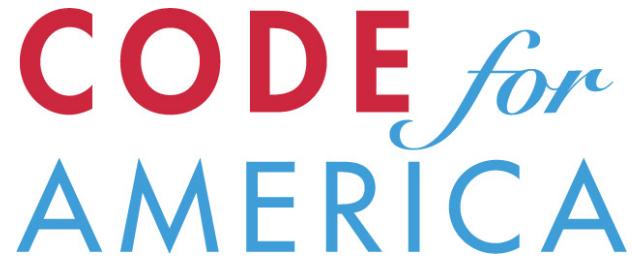


Inoperative traffic lights

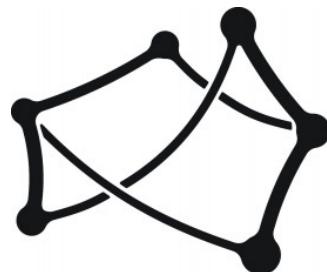
21:53, Tuesday



# **PERSONAL EXPERIENCE - SPATIAL DATA & DATA VISUALIZATION**



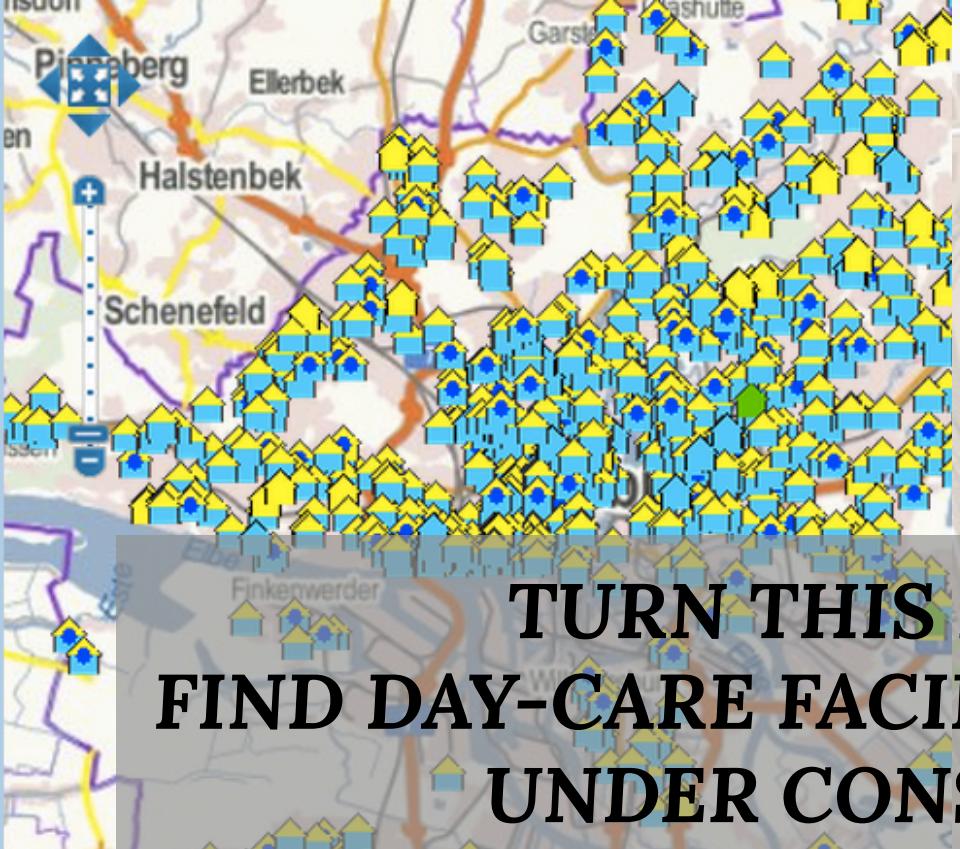
CODE FOR WHAT?



CODE for  
AUSTRALIA



for Germany



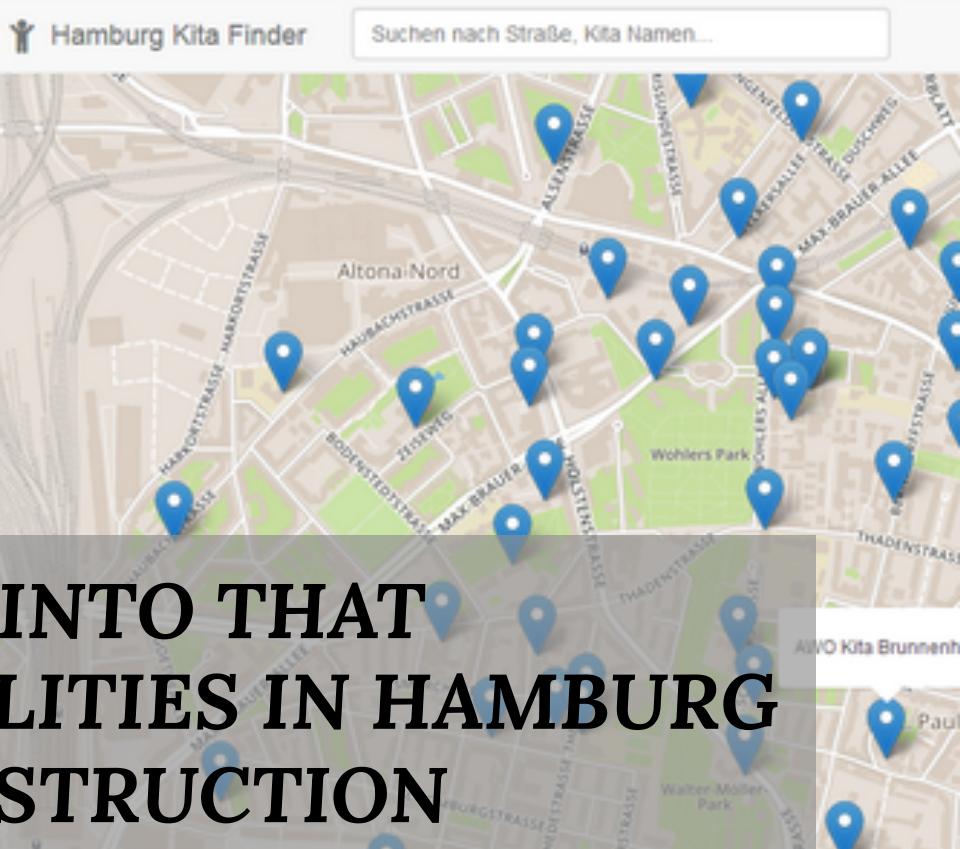
**TURN THIS INTO THAT  
FIND DAY-CARE FACILITIES IN HAMBURG  
UNDER CONSTRUCTION**



- Krippe
- Krippe, Elementar und Eingliederungshilfe

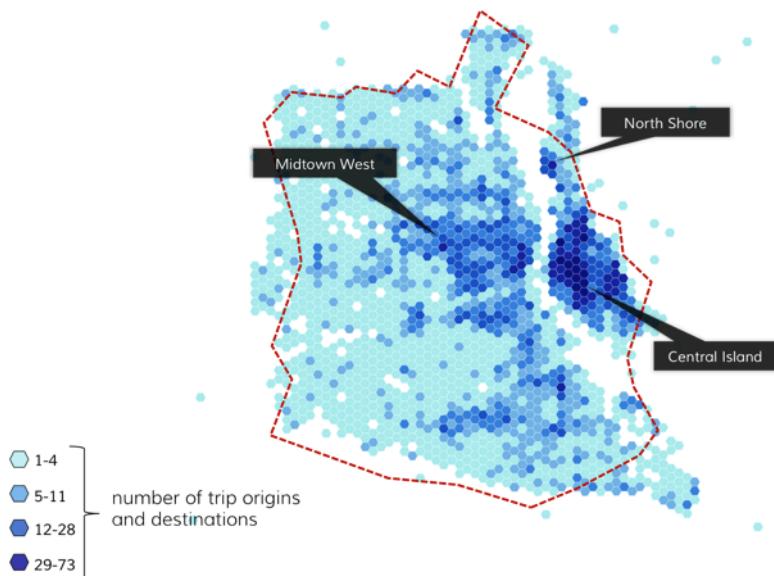
<https://gateway.hamburg.de/hamburggateway/fvp/fv/BSF/KitaInfo/wfKitaKarte.aspx?Sid=95>

- Elementar
- Elementar und Einglie
- Elementar und Hort



one week of carsharing

## Identifying Carsharing Hotspots - Someplace ABC



# ANALYZING CAR-SHARING DATA

one week of carsharing

## Carsharing Routes in Someplace ABC

Someplace ABC



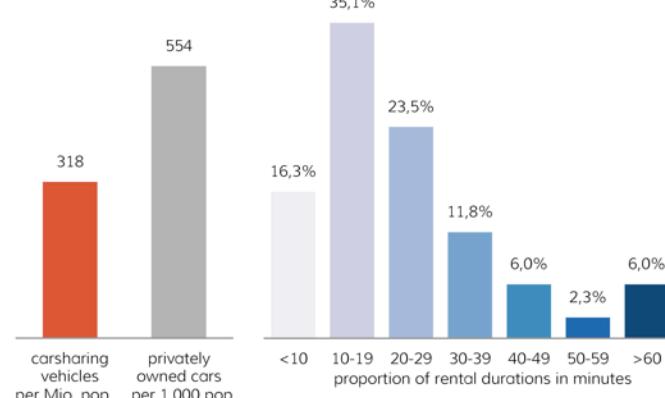
Population:

2,35 Mio.

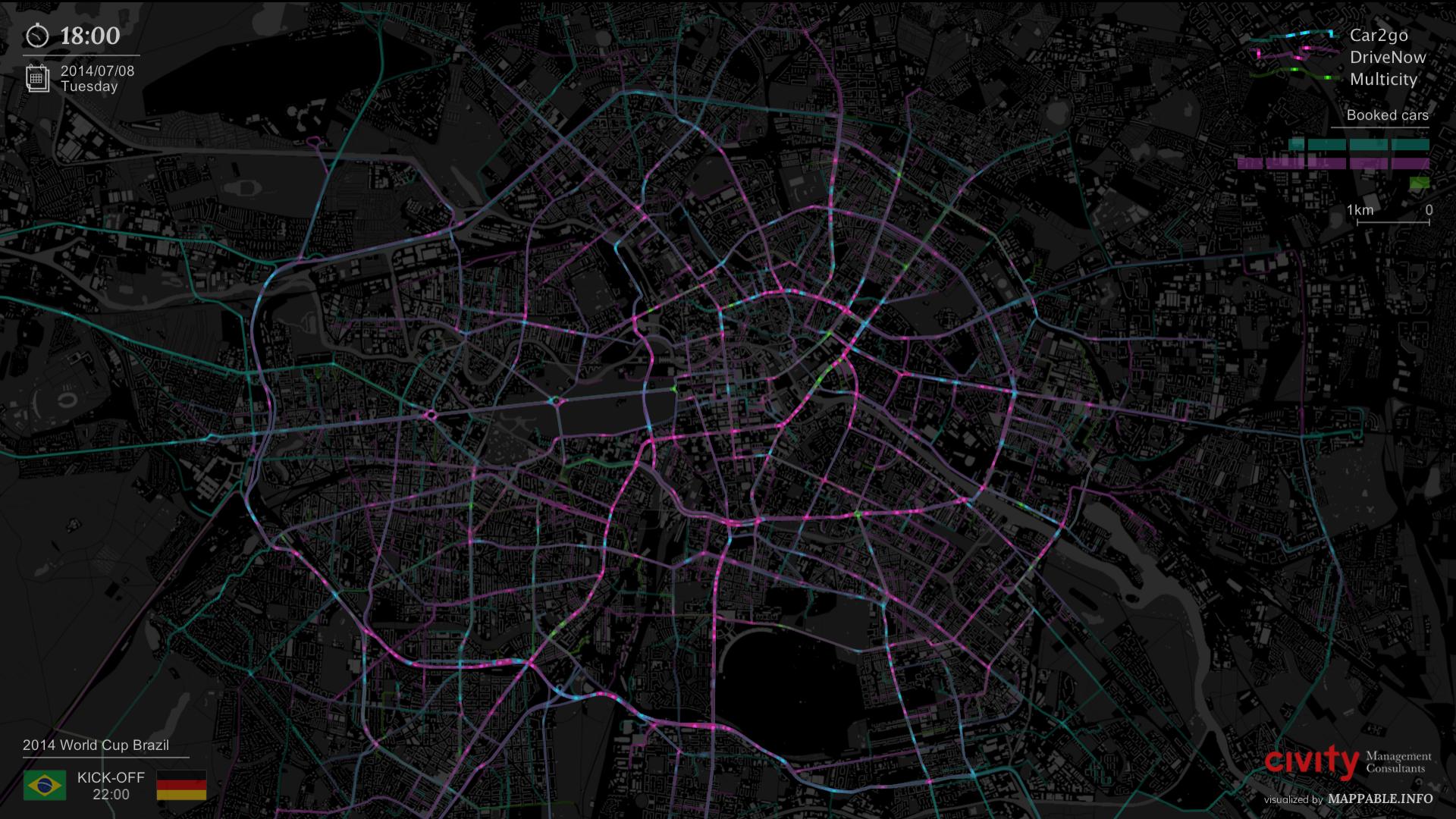
Carsharing vehicles:

747

0 0 5,4 km  
average trip length



# TIME-LAPSE 24H OF CARSHARING IN BERLIN

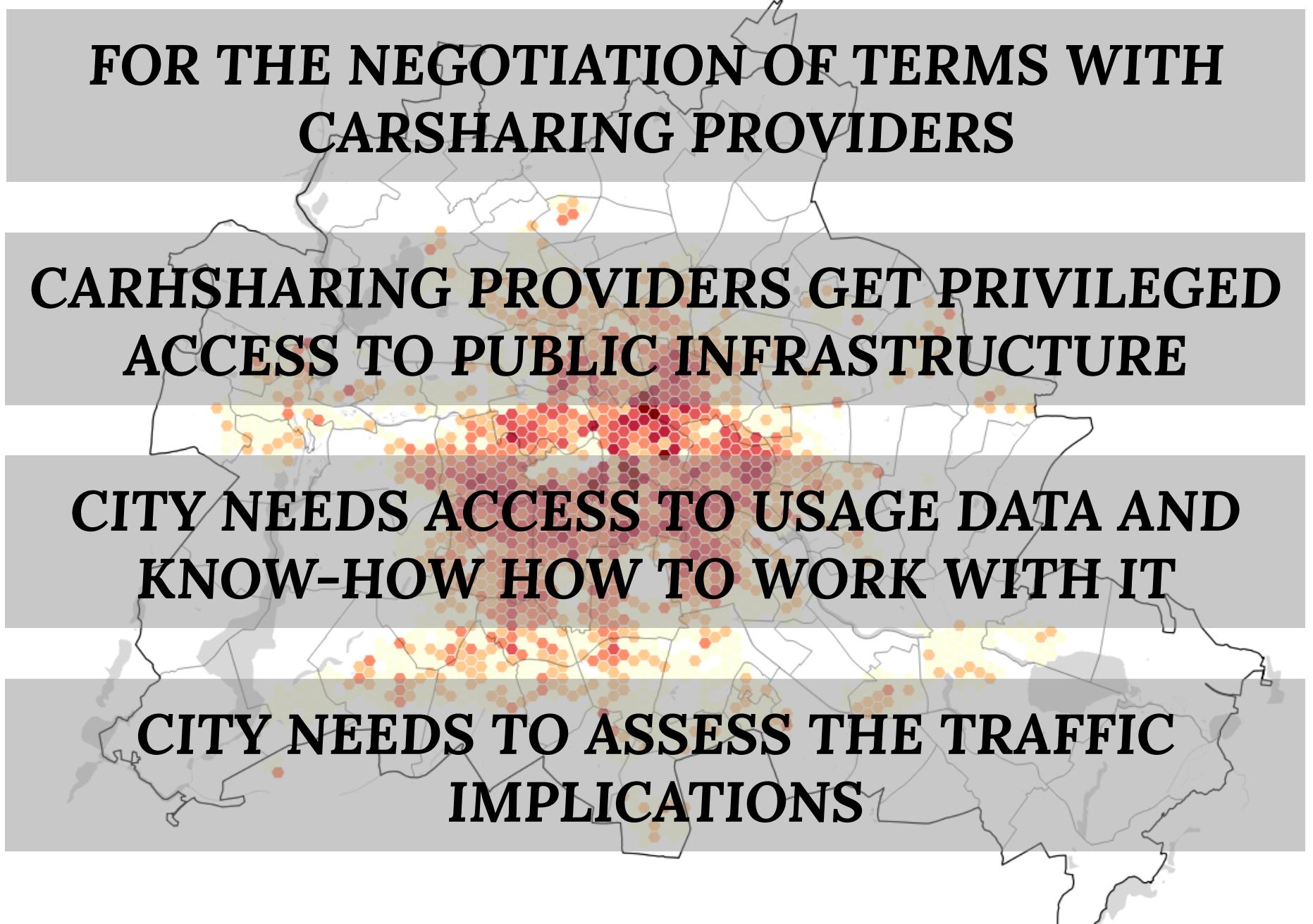


WATCH VIDEO ON YOUTUBE:  
[YOUTUBE.COM/WATCH?V=OZN\\_EM4CHOI](https://www.youtube.com/watch?v=OZN_EM4CHOI)



**WHY SHOULD INFORMATION LIKE  
THIS BE IMPORTANT TO A CITY?**

# FOR THE NEGOTIATION OF TERMS WITH CARSHARING PROVIDERS



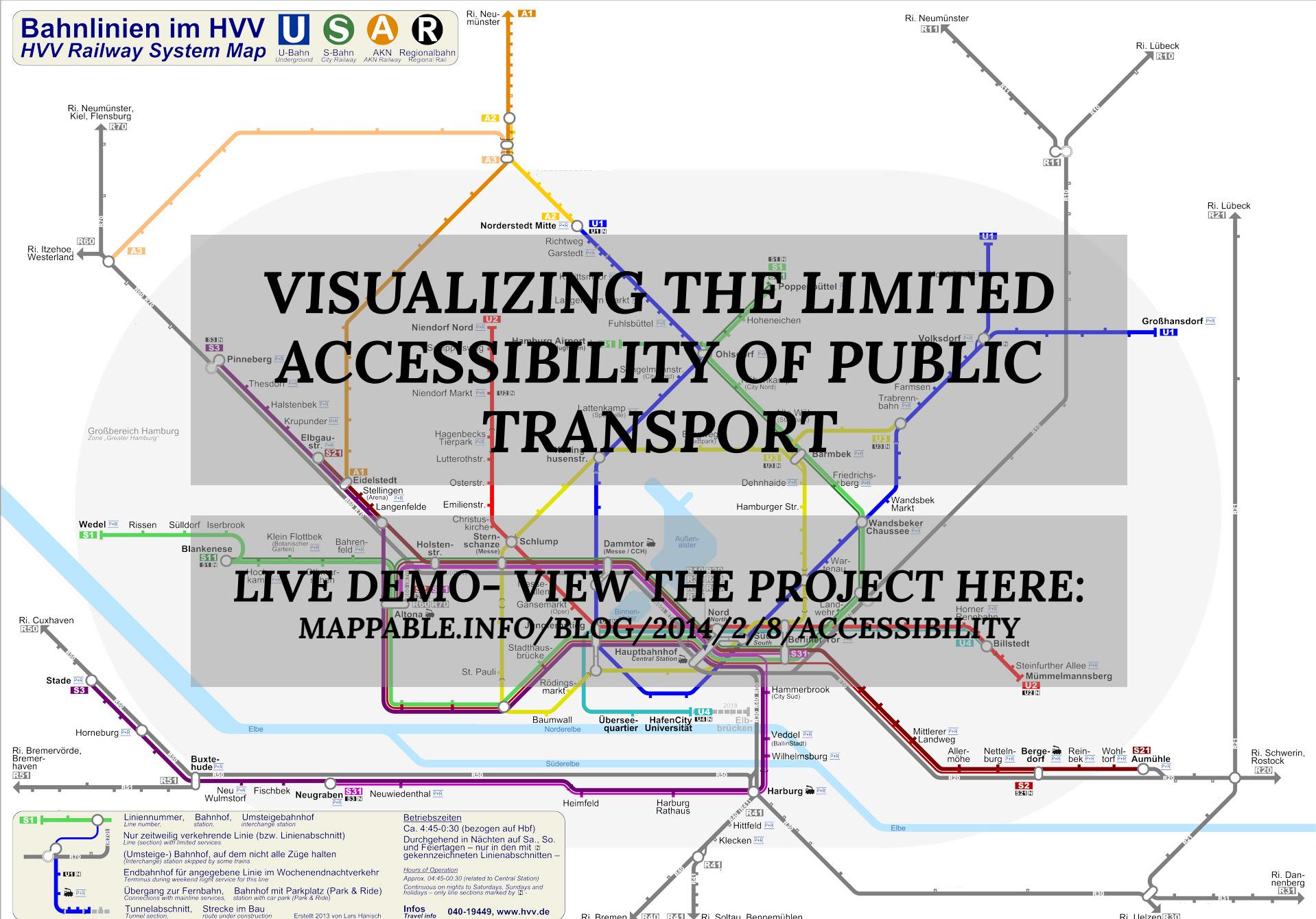
CARSHARING PROVIDERS GET PRIVILEGED  
ACCESS TO PUBLIC INFRASTRUCTURE

CITY NEEDS ACCESS TO USAGE DATA AND  
KNOW-HOW HOW TO WORK WITH IT

CITY NEEDS TO ASSESS THE TRAFFIC  
IMPLICATIONS

# Bahnlinien im HVV

## HVV Railway System Map



**A SMART CITY SHOULD...**

**...PROMOTE OPEN DATA**

**...FOSTER THE UNDERSTANDING OF  
DATA DRIVEN APPROACHES IN  
EDUCATION AND INSIDE  
INSTITUTIONS**

**...COOPERATE WITH CIVIC HACKERS,  
DESIGNERS, ACTIVISTS ETC.**