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Berlin, September 2014 - March 2015

# SYNOPSIS



04.05.2015

## A very short overview of city map evolution



### Late medieval maps

A photographic representation of the city, just as it would be seen from the top of a bell-tower: the Cathedral is represented by its very façade.

There is a complete differentiation between the built areas and the empty public space surrounding them.

A very sensitive map, people are walking on the streets, boats are moored, their river seems live.



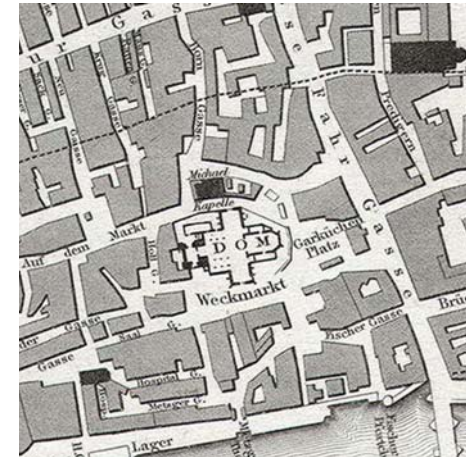
### Pre-industrial maps

The renaissance reintroduced the Greco-Roman conceptual view of the city with a precise topographic layout and vertical view.

The dichotomy built/unbuilt is maintained with important buildings highlighted.

All streets are treated equally since you could walk/ride through them at will.

Some very detailed maps go as far as representing the interior of public buildings (church) as part of the same public space as a street or plaza >>>





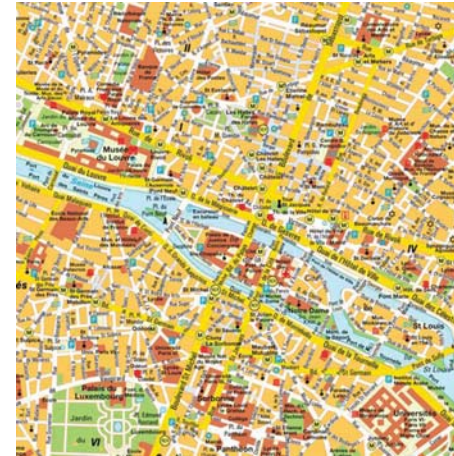
## Europe



### Industrial age maps

Emphasis is given to the communication axes. The built/unbuilt contrast highlights the street pattern, public transport infrastructure is appearing (tramway tracks).

Even though pedestrian/vehicle is now effective with new boulevards and streets having sidewalks this is not reflected on the map. The empty space between building blocks is still shown as an undifferentiated mixed-use public space. Nevertheless some details give a clue to the public space's quality: trees (points), parks (green), squares.



### Automobile era maps

On top of the old layout vehicle information is added: a different color for the main traffic arteries, a particular color for streets where cars are not allowed (pedestrian areas).

Building blocks shading has disappeared.

The map is essentially a patchwork of colored areas, each color representing a function (green: park, beige: pedestrian plaza, light blue: pedestrian street, orange: building block, red: important building...) reflecting the zoning doctrine of modern urban development with highly segregated and precisely defined functions.



Those maps evolved in Europe into 2 main contemporary forms:



### Highly detailed map

Close to the urban planning tools, full of detailed descriptions of streets (size, use) buildings (type, entrance location), administrative boundaries (yellow lines), transit stations etc.



### Multi use basic map

Building blocks, streets, parks, main buildings and that's it.

No traffic/pedestrian differentiation, no building blocks details.

Quite close actually to the renaissance maps but with flat design.



# America

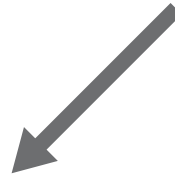


## Industrial age maps

In the beginning maps match their contemporary European counterparts.



Then they evolve in two opposite directions



## Schematic maps



## European style maps



The gridded nature of most cities street patterns allows for an early simplification of the streets representation emphasizing orientation at the expense of urban landscape particularities (plazas, squares...)

Eventually the public space and buildings almost completely disappear leaving only an efficient traffic diagram.





## Then comes the digital era

We can now compile vast sums of tangible data about the city and we have got the tools to select it, represent it, and publish it.

We can make changing, adaptable maps, perfectly calibrated for each user.

Nevertheless we face 2 challenges:

- Define the user's needs
- Provide beautiful maps

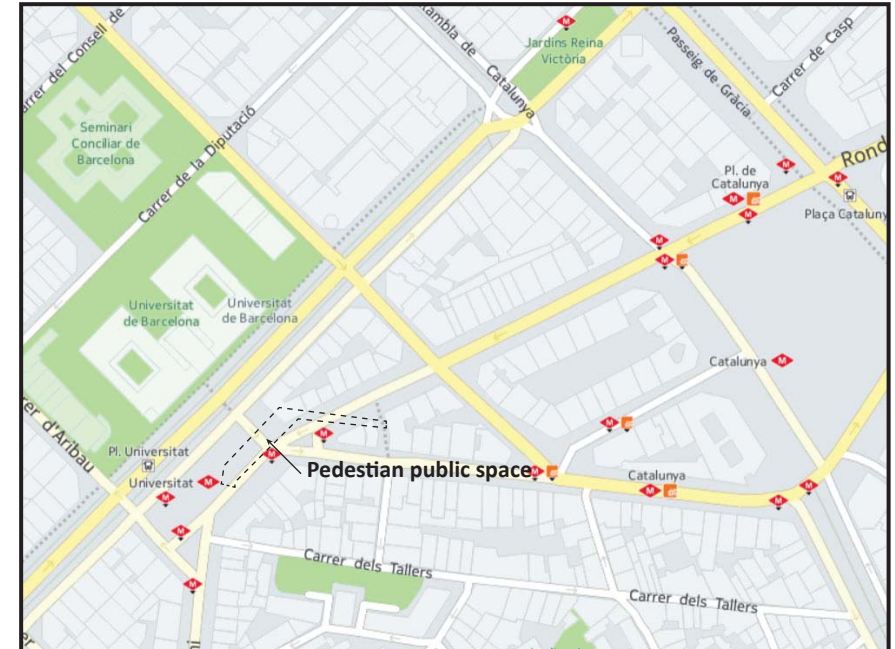
### Defining the user's needs:

Although the maps are malleable they must show only the necessary information required without cluttering the space with available but superfluous data.

- First stage in digital mapping will be the provision of a set of predefined map settings to cover a small number of situations (driving, biking, walking...)
- The second stage is allowing and teaching the user to interact with the map and to fine tune it to its needs.
- Third stage is a map-user dialogue, a dialectic communication where subject and object are mingled.

### Provide beautiful maps:

A map is like a book, it is a medium of constant exploration and discovery. It cannot be reduced to a mere tool (even though it is expected to be a good one). Pleasant look and an invitation to discovery, those are the basics for a successful map. The user must love it to trust it, then it will allow him to venture out in the cityscape without fear and enjoy the mystery of the metropolis.



Contemporary digital maps, like HERE's, offer a powerful new feature that up to now existed only in professional urban planning tools: a detailed representation of pedestrian public space as opposed to the driveways and buildings.

By showing the contours of the buildings in combination with the street boundaries those maps define an interstitial space, the **public pedestrian space**, which is the essence of life and interaction in contemporary cities.

This is the first time since the middle ages (when circulation was not segregated) that pedestrian public space has its rights as such on city maps.

## The architecture of the map

With the vast amount of data we use for building a map and feeding it afterwards there is an urgent need for a clear structure for organizing it and providing a sensible hierarchy in its representation.

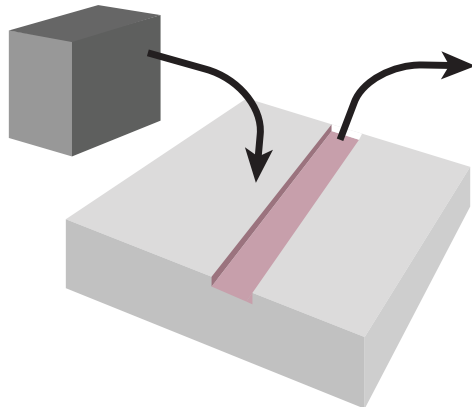
I believe that we need to split the map to the very basic components it is representing, understand their relationship, in reality and representation, and then only add additional features, qualities and flavours.

Here is an attempt.

We can consider that contemporary cities are composed of 3 basic elements:

Roads  
Buildings  
Pedestrian public space

Imagine the Pedestrian public space (I will simply call it public space from now on) as a large flat area. From that mass we carve out the streets, they then become a separate element, dedicated to vehicles. On the remaining public space area we add buildings, this is the 3rd element. Now the basic layout of our city is completed. Of course all those basic elements have their own particular variations or sub-species: Street/boulevard/highway.



We then combine the basic elements with potential uses to define their relationships and optimal representation:

<b>Drive</b>	✓	✓	✗	✗
<b>Bike</b>	✗	✓	✓	✗
<b>Walk</b>	✗	✗	✓	✓
	<b>Road</b> - Highway	<b>Road</b> - Boulevard - Street ...	<b>Public space</b> - Sidewalk - Plaza - Park - Public building (Train station, shopping mall...) ...	<b>Building</b> - Private building with restricted access ...

This is a simplistic classification but it allows us to consciously decide which basic element to emphasize for a given use and what its relationship with other elements should be.



# HERE Beta

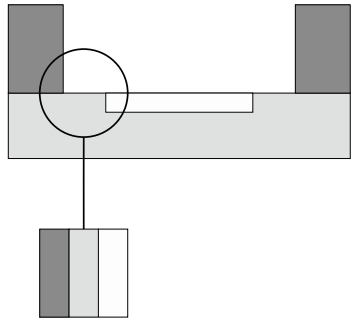


Buildings + Walking + Driving  
all in one

Today' HER map shows many thing but without a clear hierarchy, the map shows public space as well as traffic arteries without emphasizing one or the other thus placing the user in a confusing position.

Maybe a greater differentiation would help achieve a more efficient result. Through the use of relative contrast one or the other of the elements can be emphasized in order to produce use orientated maps focusing on one main topic and retaining of course all the rest of the information but shown as secondary.

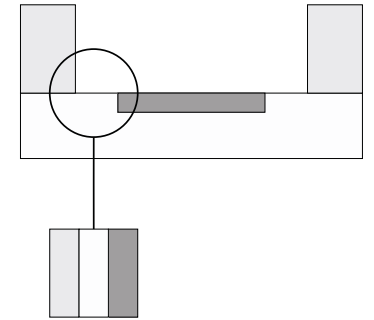
Examples:



1. Buildings



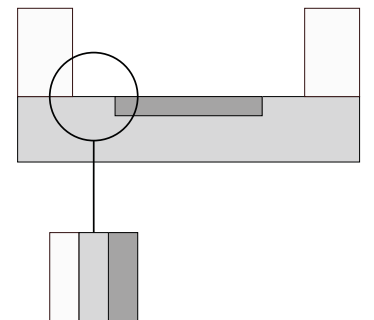
2. Biking



3. Walking



4. Driving



Then we add color for sub-category informations, mood, looks etc.

The main point is that a clear and simple structure allows for infinite variations while at the same time maintaining the consistency of the map.

It is necessary to define that basic structure and then the protocols for its transformation on different scales depending on the function which is to be emphasized.



Buildings



Biking



Walking



Driving



# Transit maps: what is to be done

## Geographic maps

- Represent well the stations showing the lines that serve them and the connections.

On small scale detailed position of the platforms, on large scale icons.

- Decide at which scale to show the transit lines and stations, how to represent them and which transit category to show (bus, metro...)

Do we scale the lines or is there a fixed representation that best fits each scale? (similarity streets)

- Straighten the lines to make them fit geography (streets) better. Keep the angles curved.

- How to represent the bus system?

All lines, corridors, relevant lines.

Scale simplification.

## Schematic maps

SCALE

- Which transit system to represent according to scale: hierarchy

- How to represent a simplified system

- Scale transition: fading out of irrelevant information

- From neighbourhood to continent

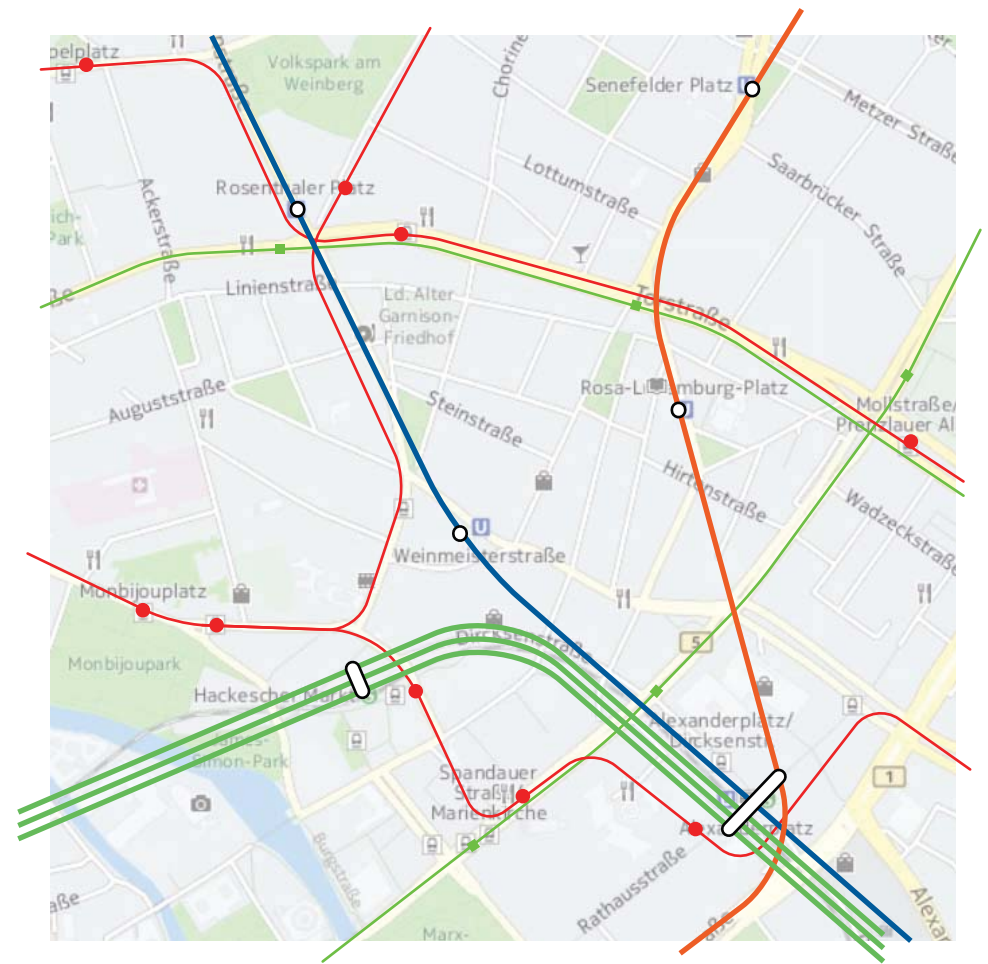
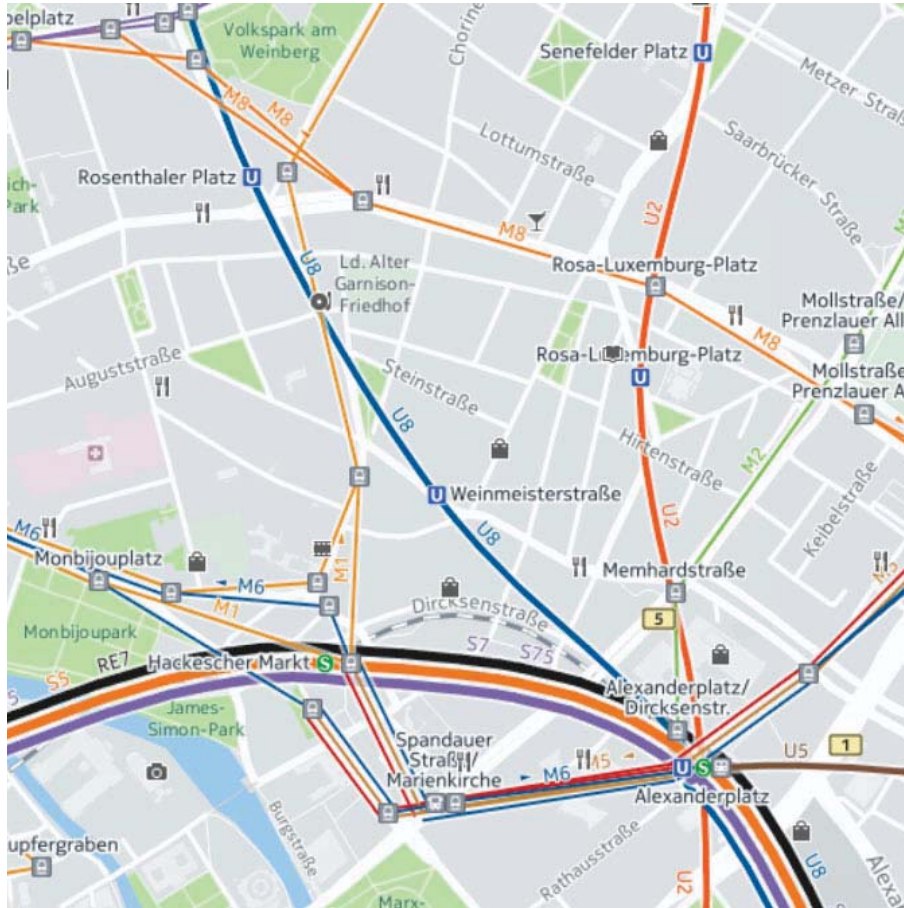
INCOMING TRAINS

- Physical representation of carriages or symbolic shape?

- Showing the time to station

- Showing qualities (crowded, express...)

## Geographic transit maps



The public transport representation is to be highly precise and highly legible. Combined with real time data on traffic it will allow HERE maps to become the primary medium for information, exploration and journey planning for users all around the world.

When the right balance is reached between cityscape and different transit modes representation, city administrations will switch from homemade transit maps HERE maps adapted to their needs and identity.

The goal: Make automatically generated maps as beautiful and legible as hand made maps >>> The “Beauty protocol”



## Schematic maps

**WHICH** transit category to show

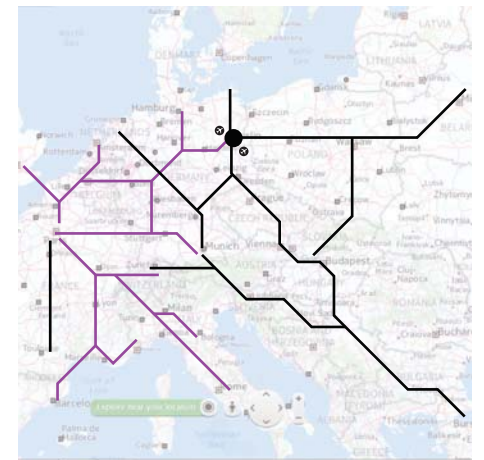
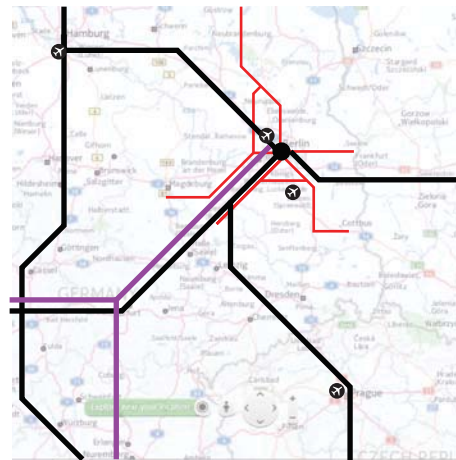
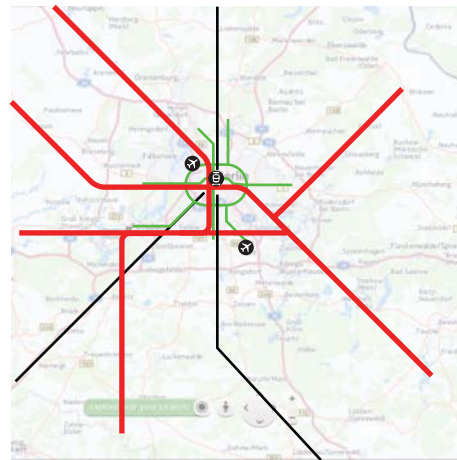
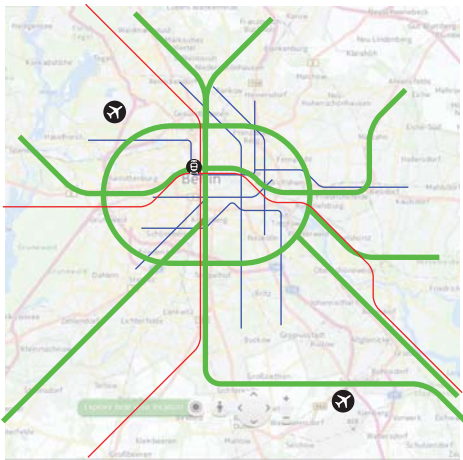
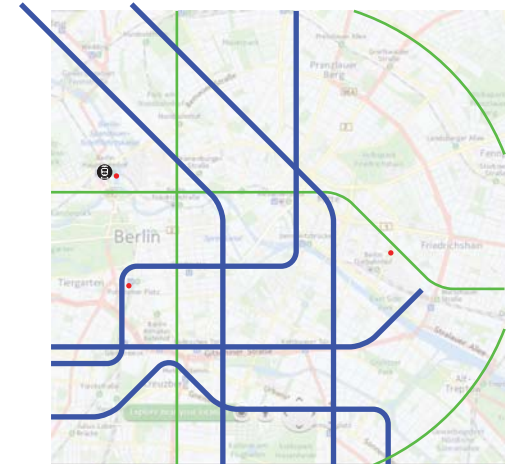
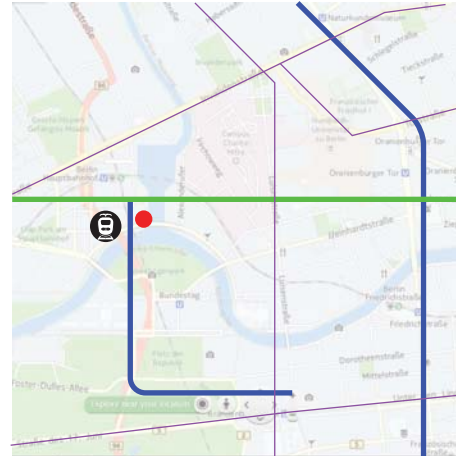
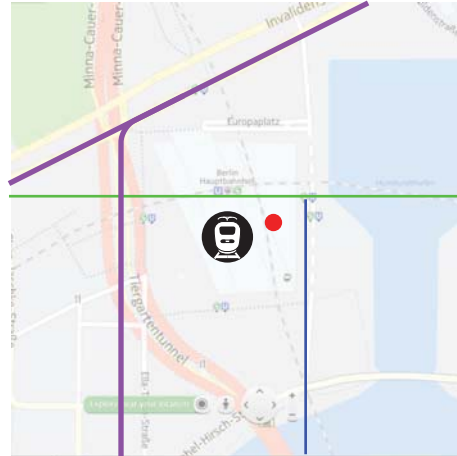
**HOW** to represent it

**WHEN** to show it (scale)

	Bus Tram	Metro Local Ferry	Commuter rail Regional rail	National rail Highways International Ferry	Airlines
Local					
Neighbourhood					
City					
Metropolis					
Region					
Country					
Continent					

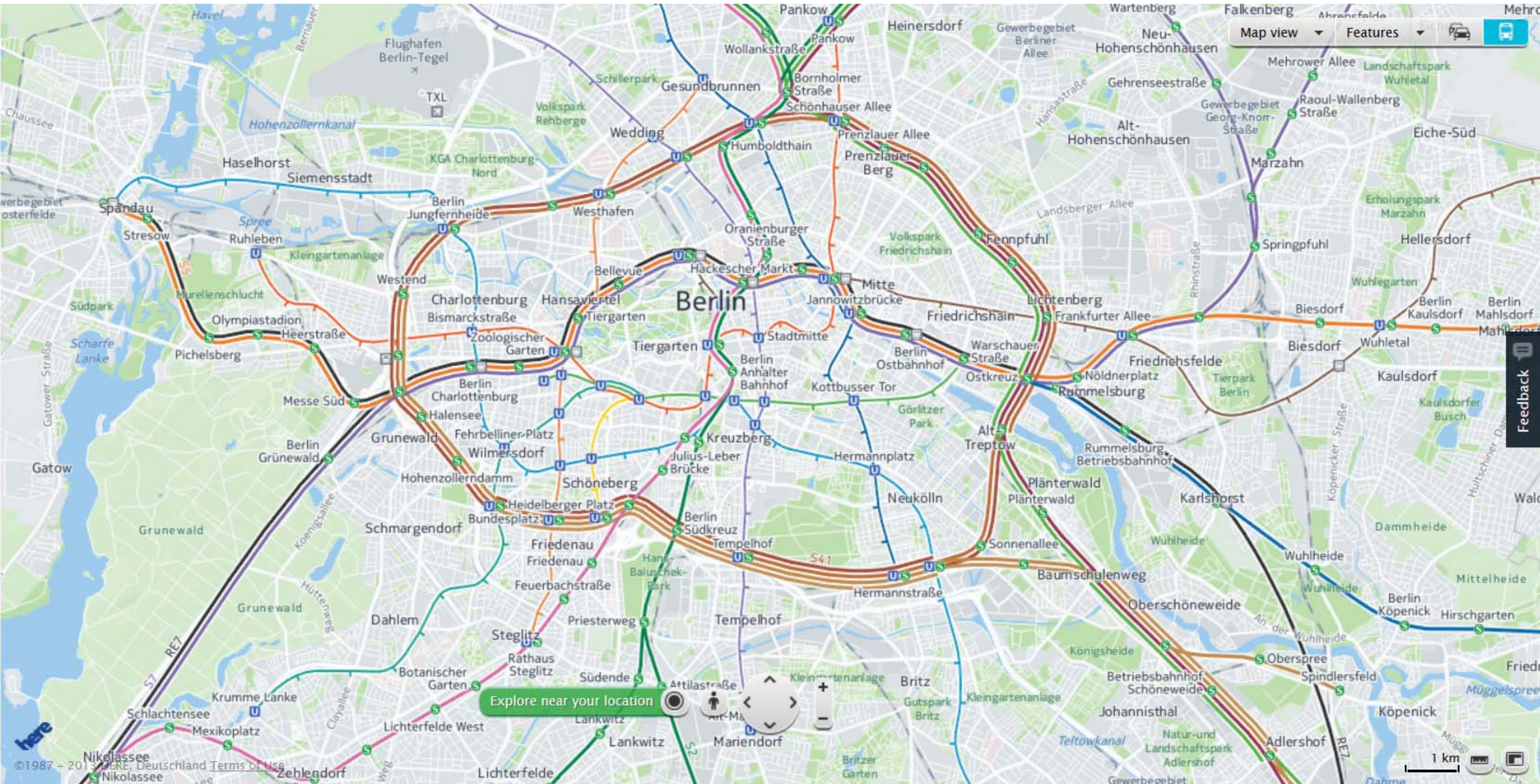
# Example: Berlin

Transition according to scale



What features do we add to the maps? Cities, rivers, mountains...





Map view Features

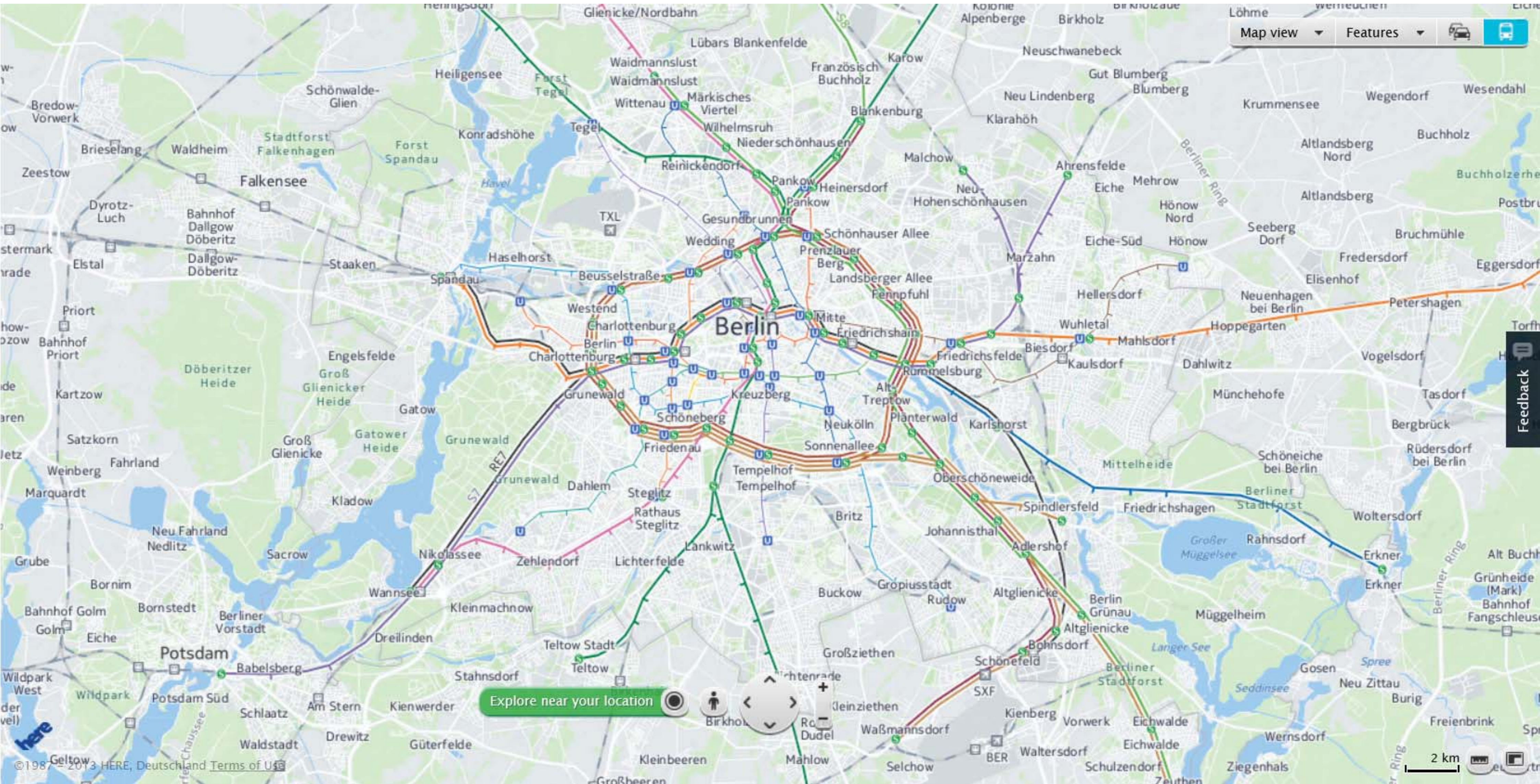
Explore near your location

Feedback

1 km

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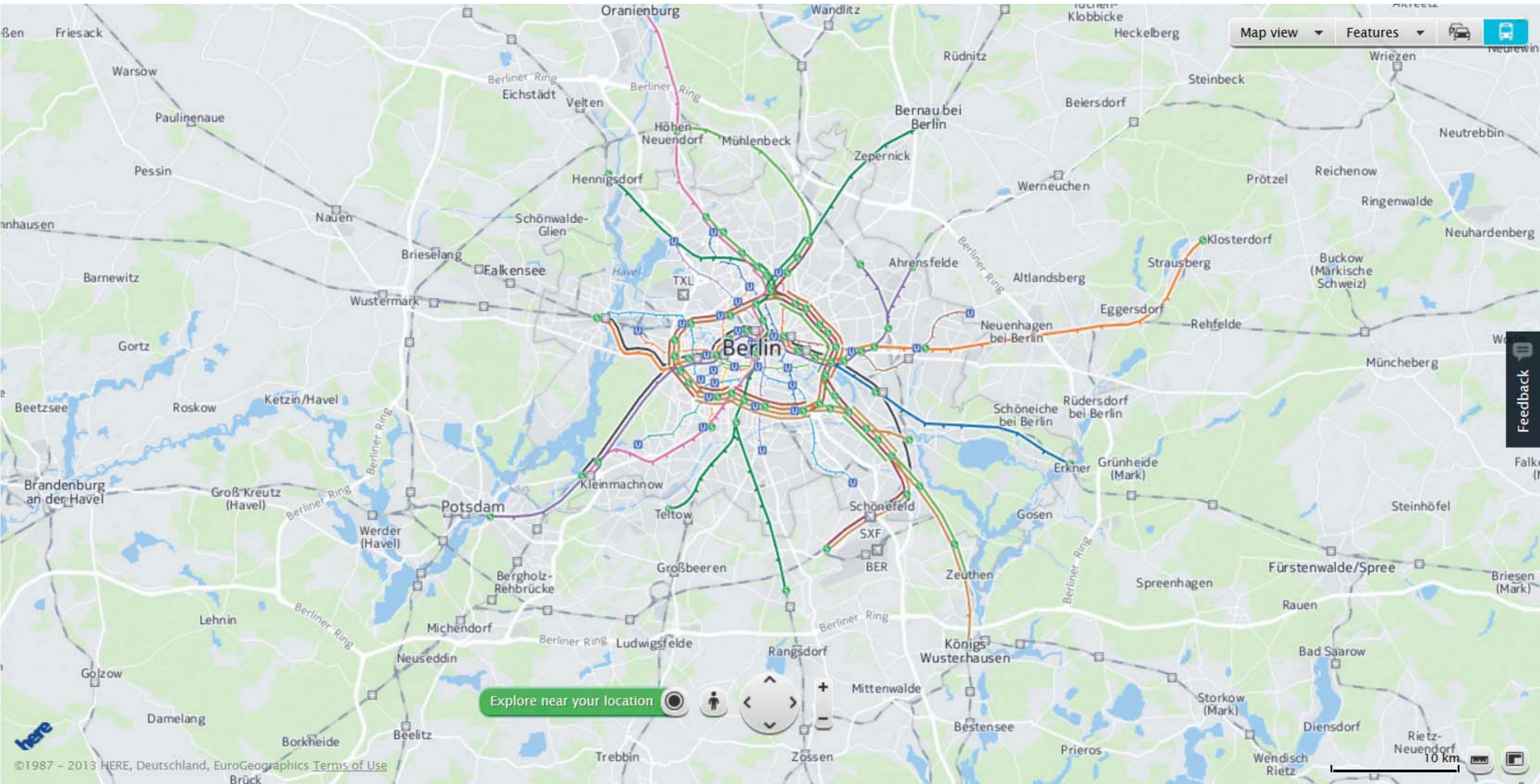
Map view Features

Feedback

Explore near your location

2 km





Map view Features [Car icon] [Train icon]

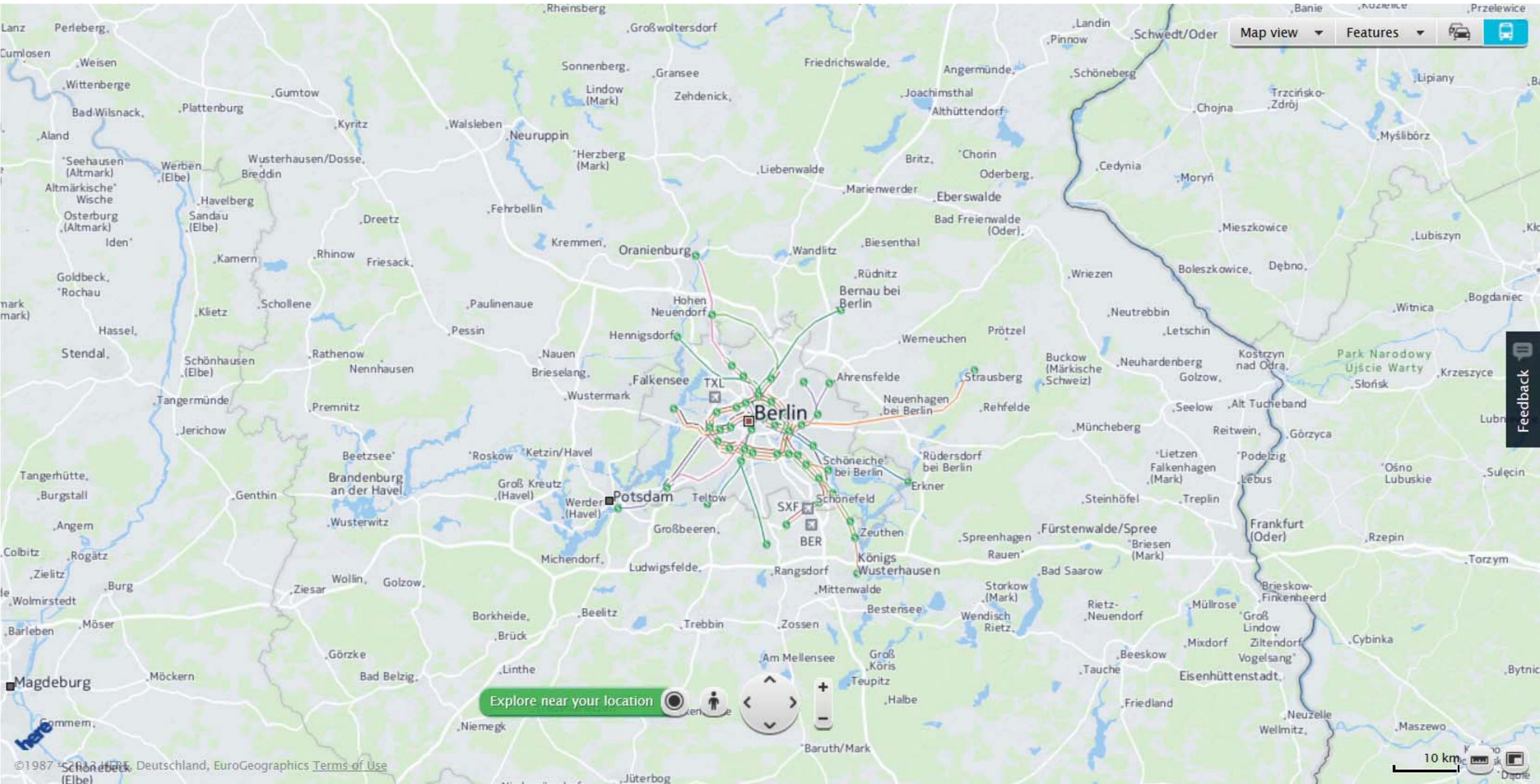
Feedback

Explore near your location [Location icon]

10 km

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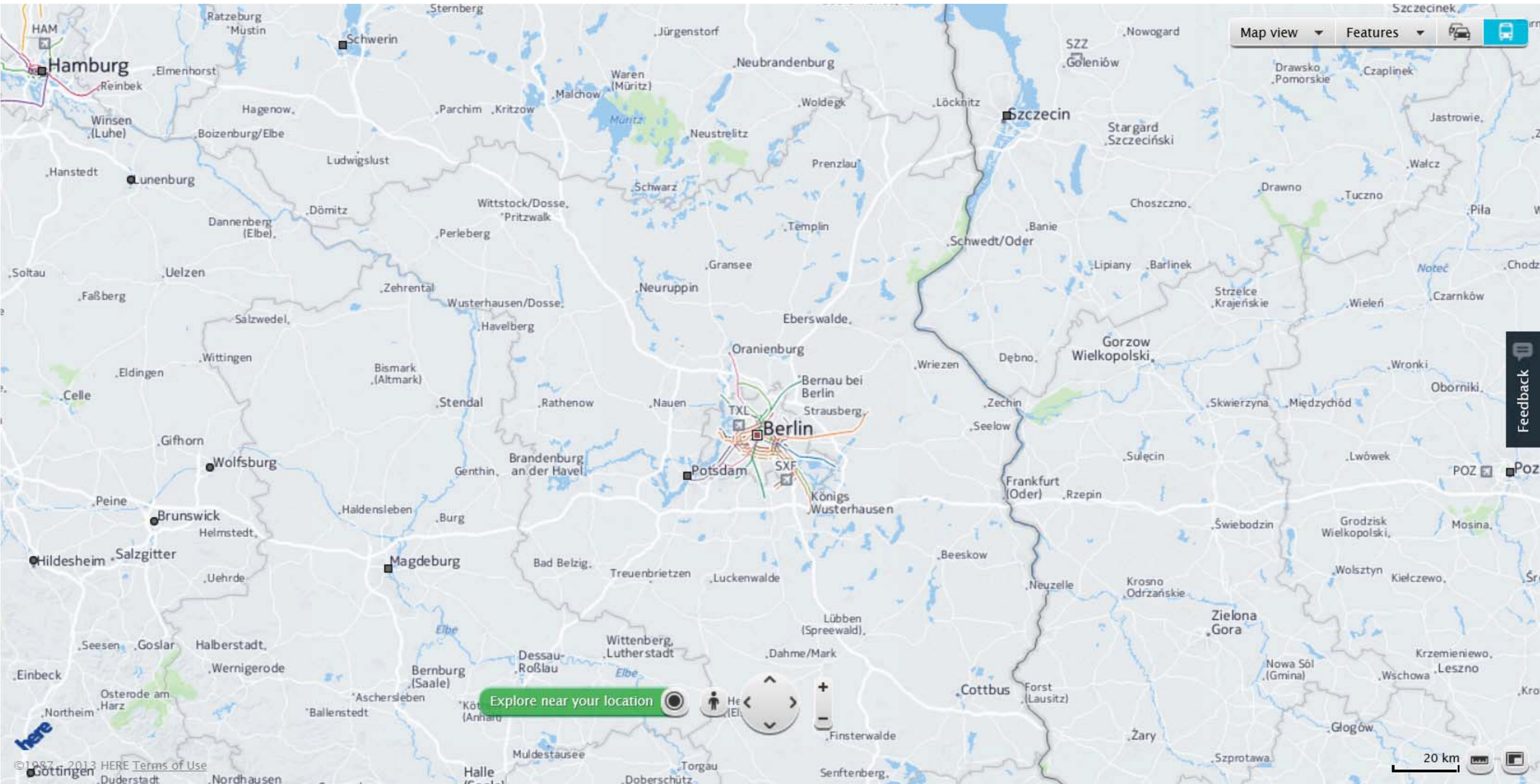
Map view Features

Explore near your location

Feedback

10 km





Map view Features [Car icon] [Bus icon]

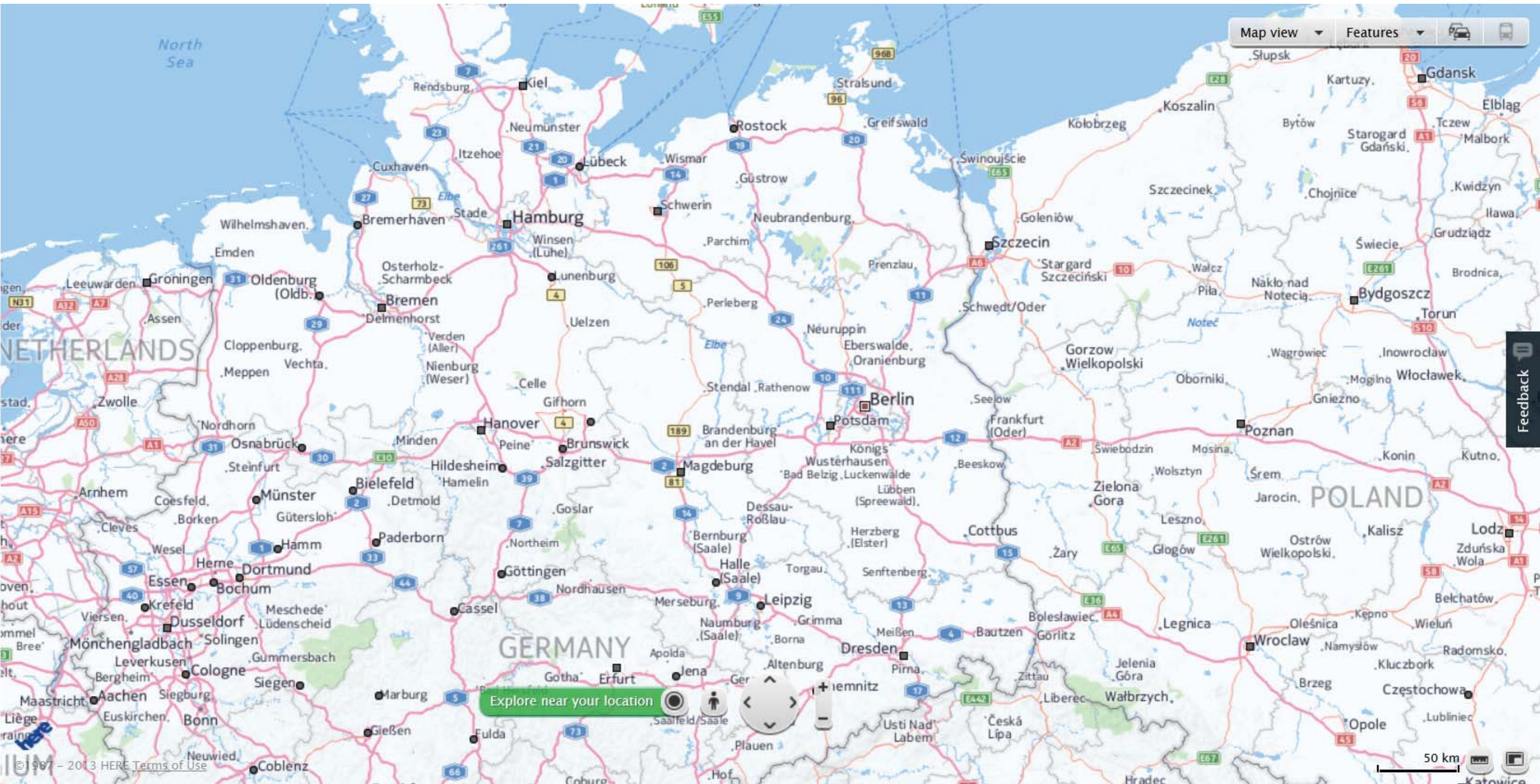
Explore near your location [Location pin icon]

Feedback

20 km [Scale bar icon]

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Map view Features

Feedback

Explore near your location

50 km





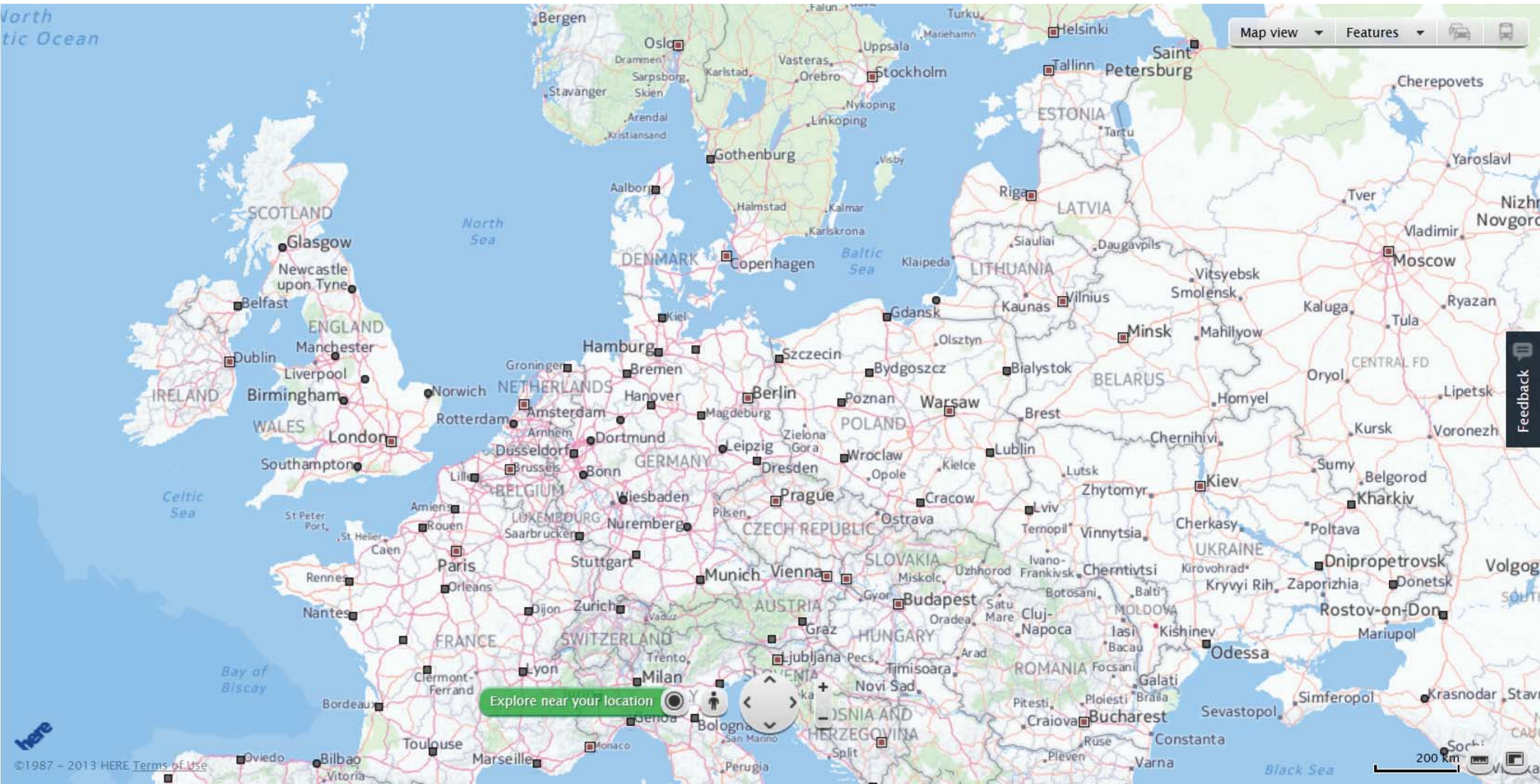
Map view Features

Feedback

Explore near your location

100 km





Map view Features

Feedback

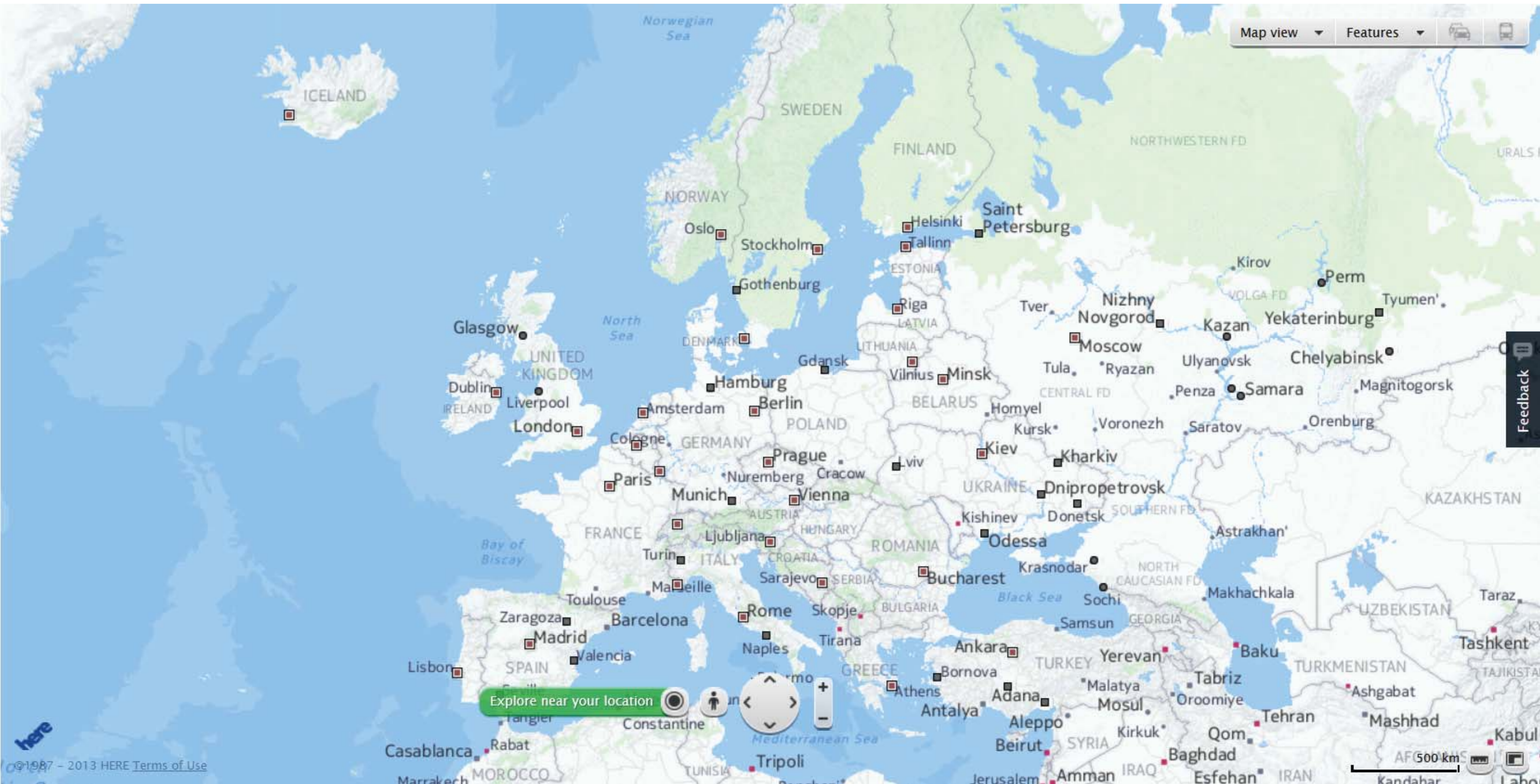
Explore near your location

200 km

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here





Map view ▾ Features ▾

Feedback

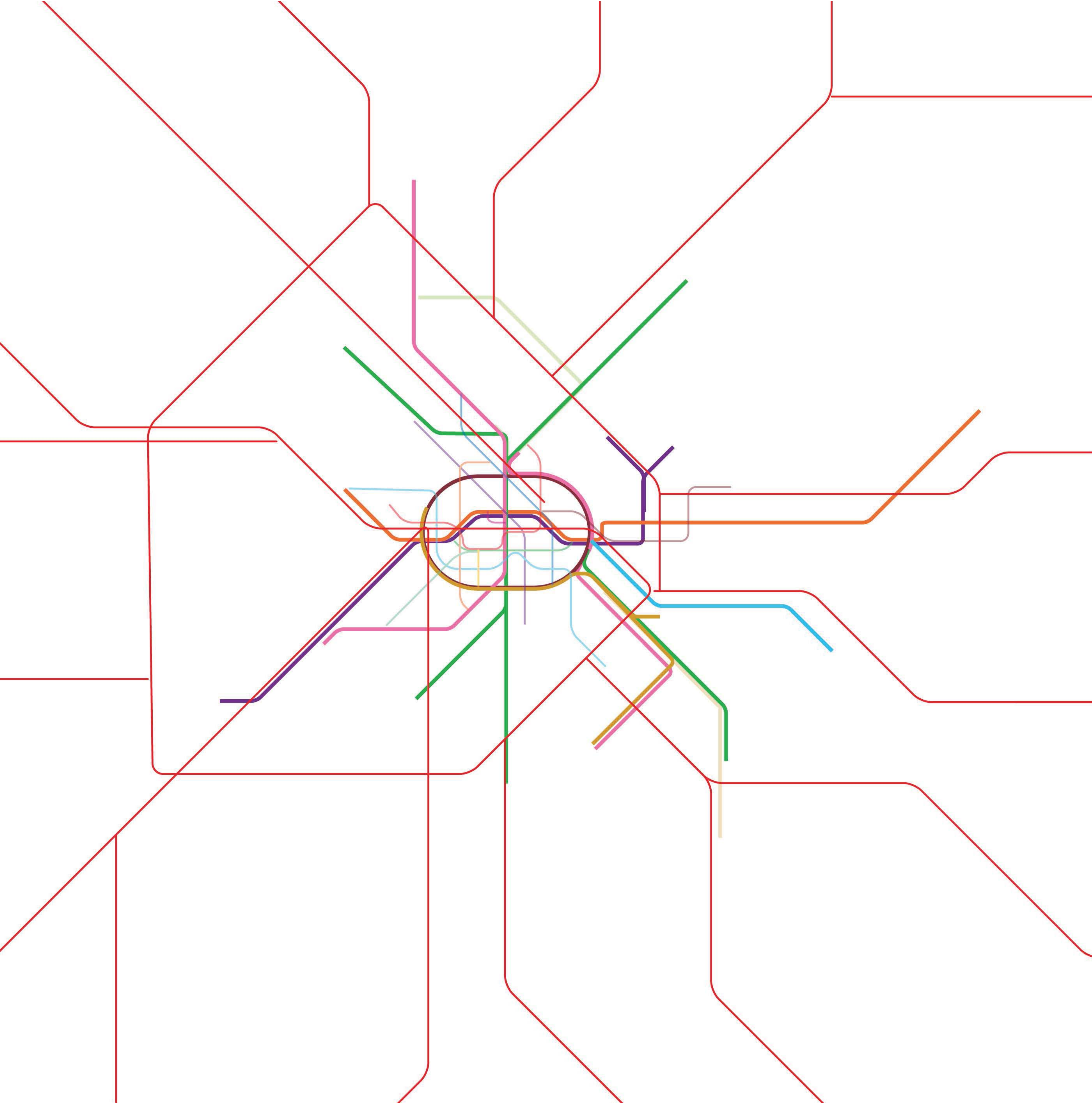
Explore near your location

AF 500 km  
Kandahar

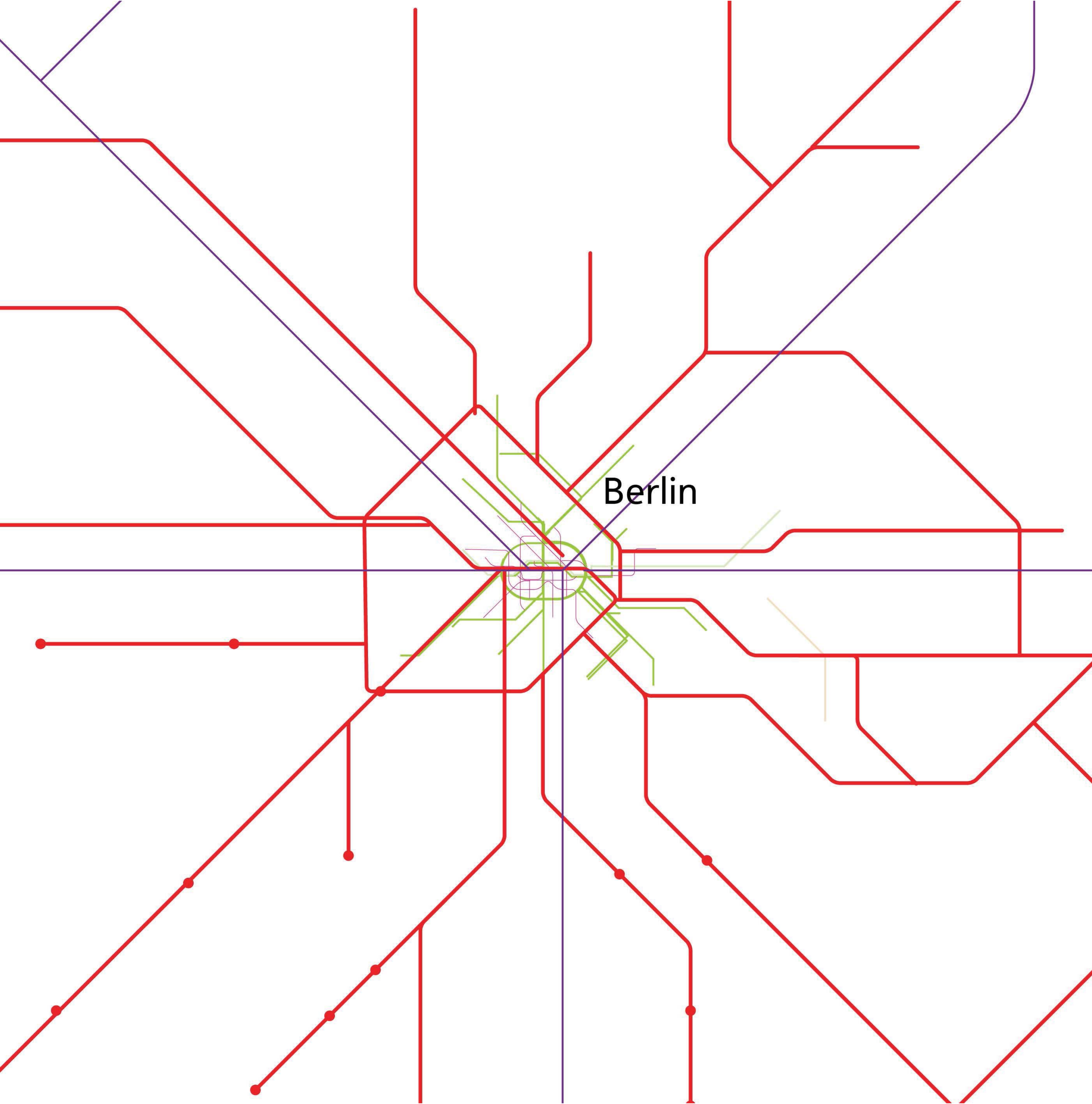




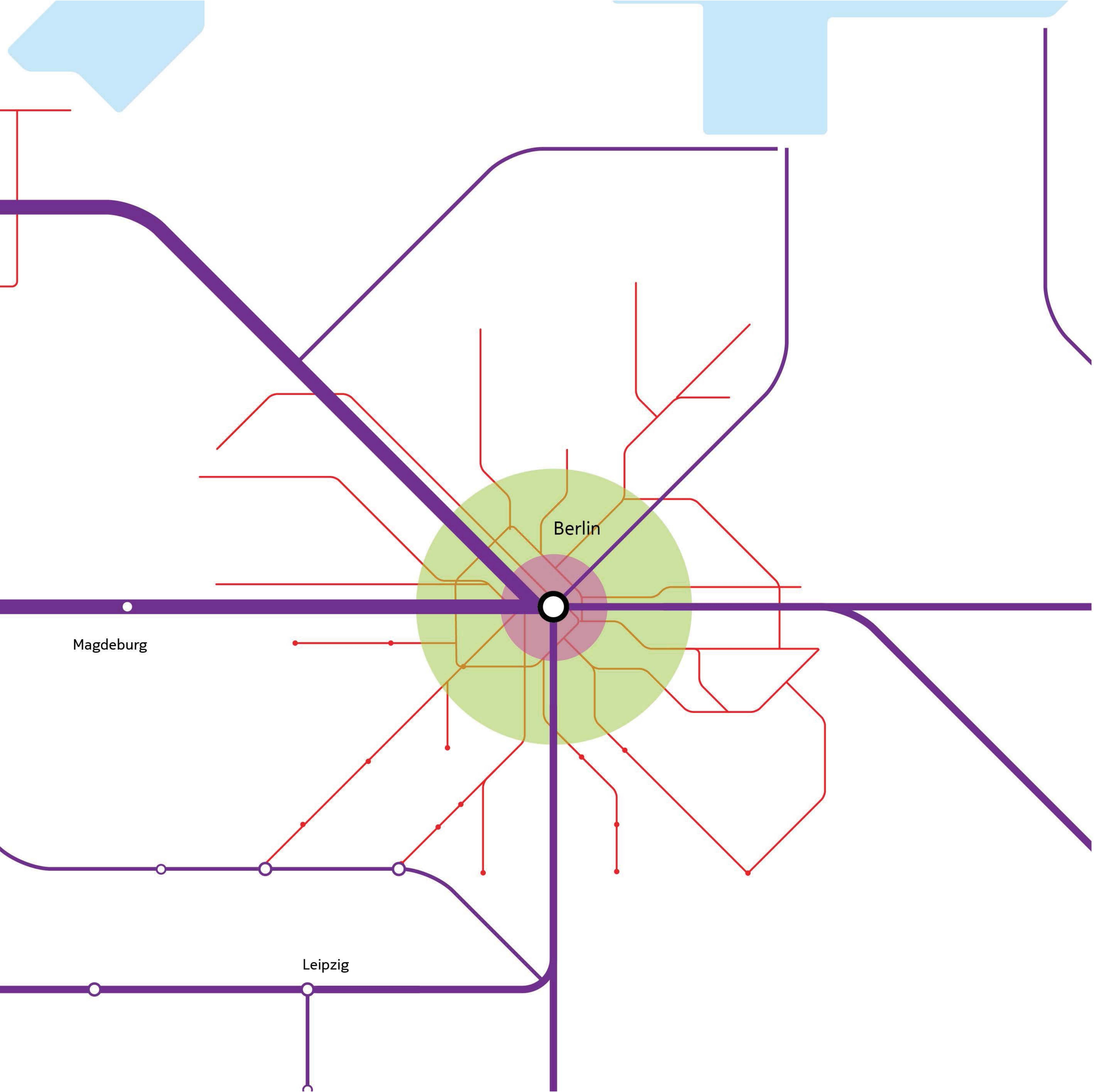










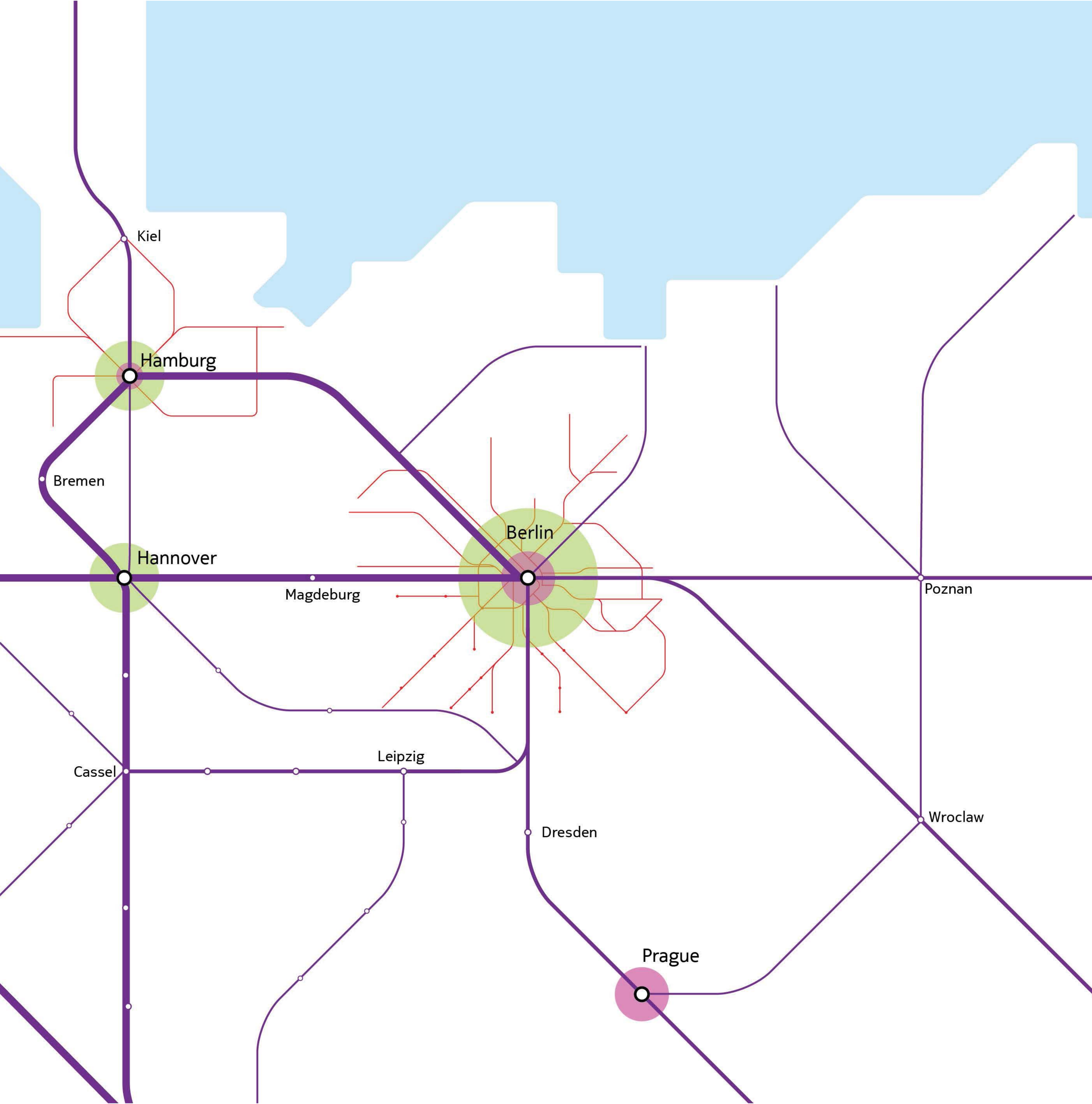


Berlin

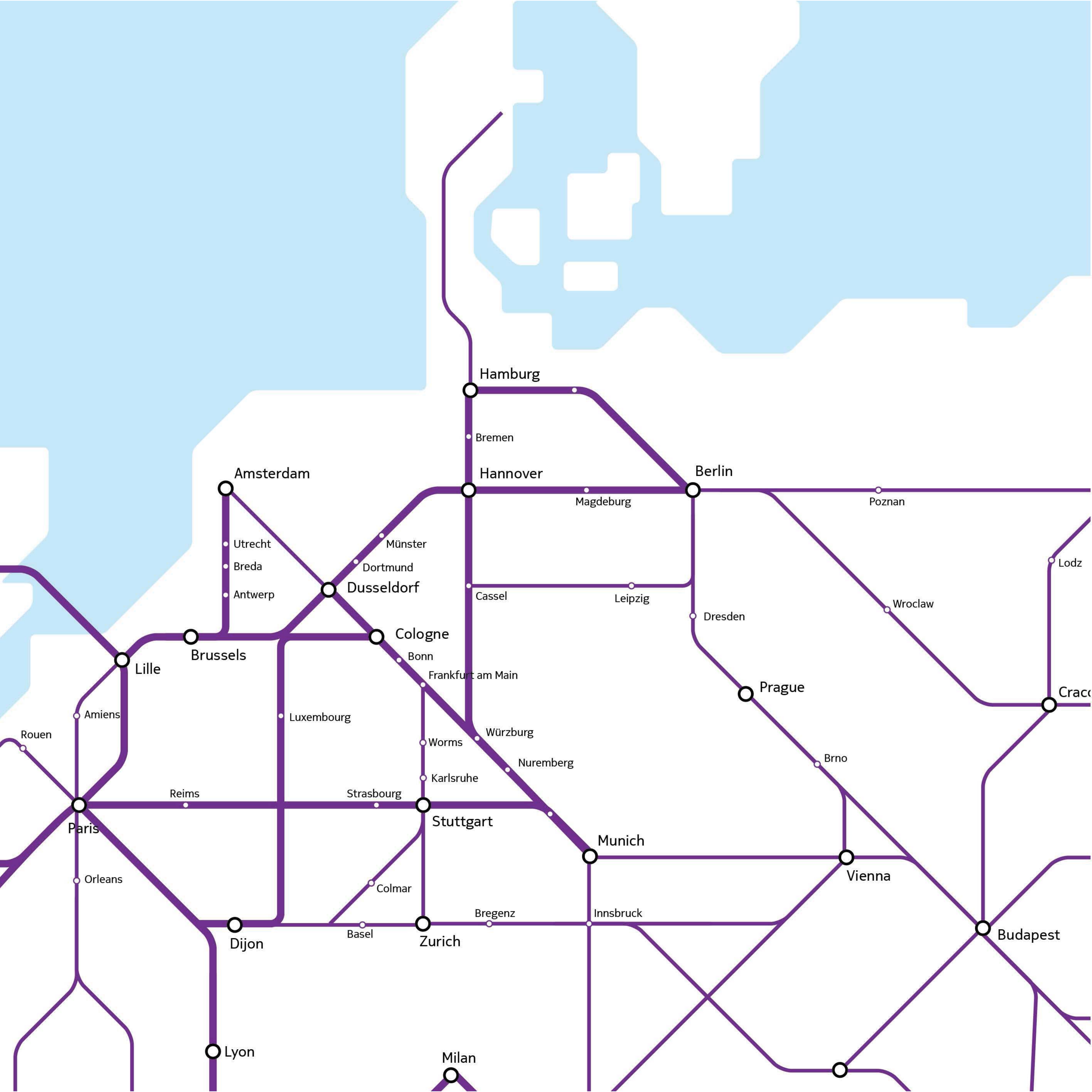
Magdeburg

Leipzig

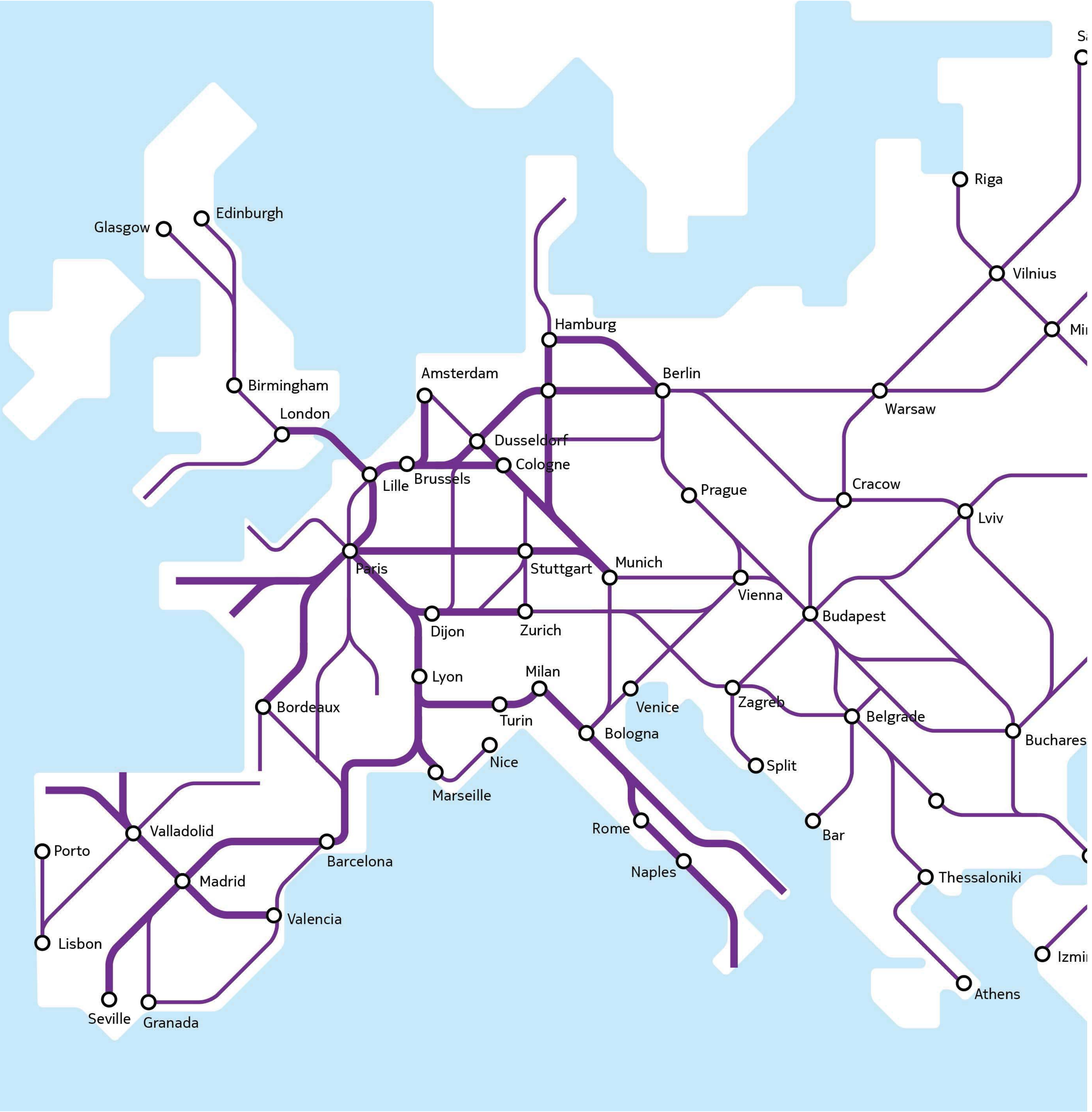












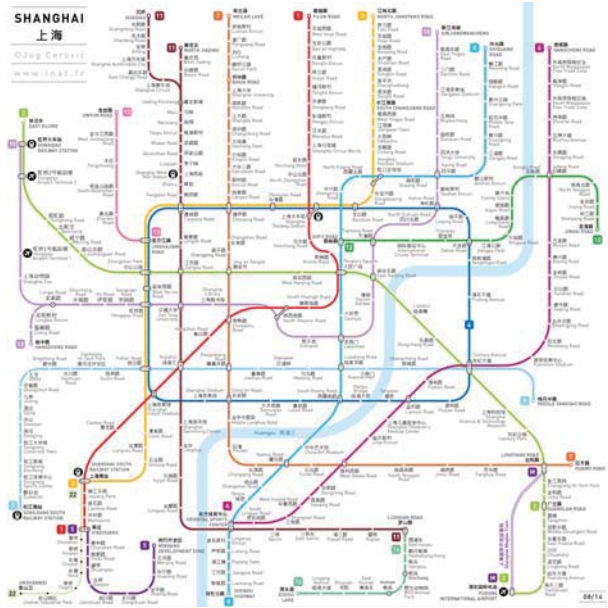
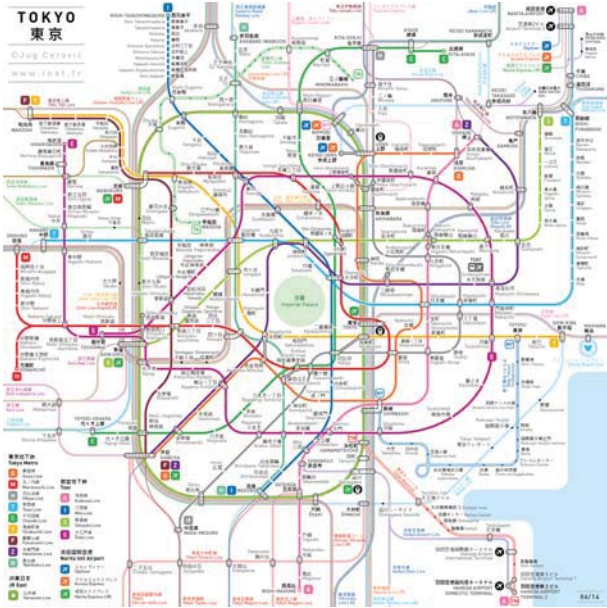


# ARCHITECTURE





# GRAPHIC LANGUAGE





# GLOBAL HARMONIZATION

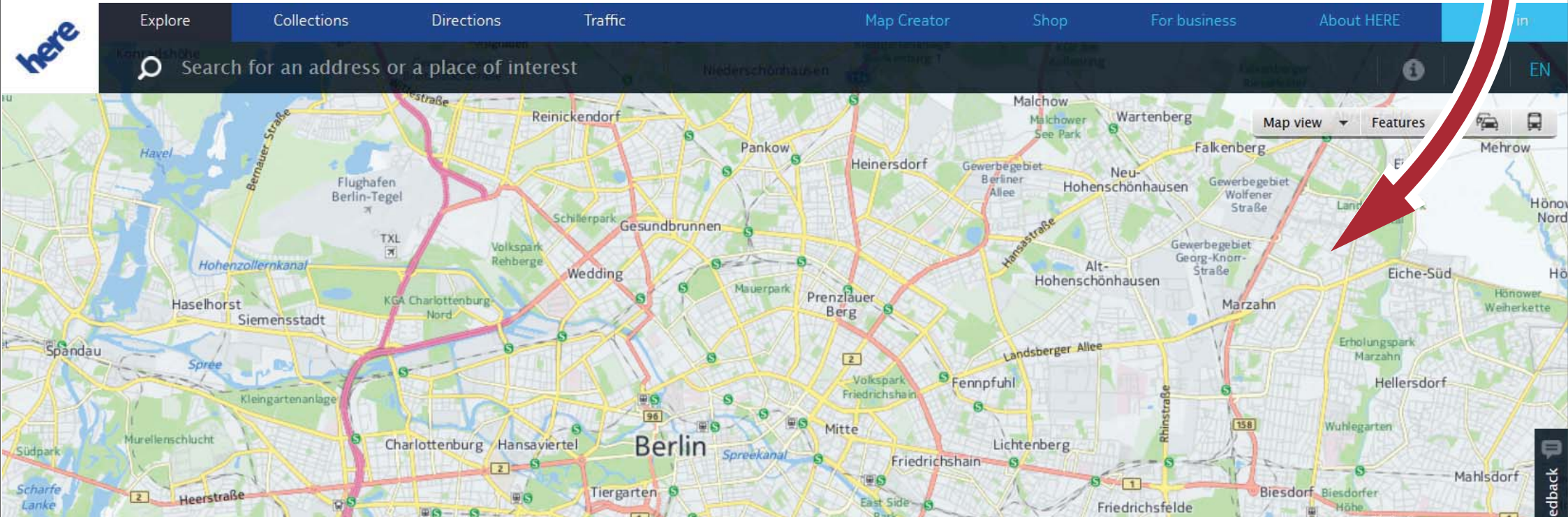
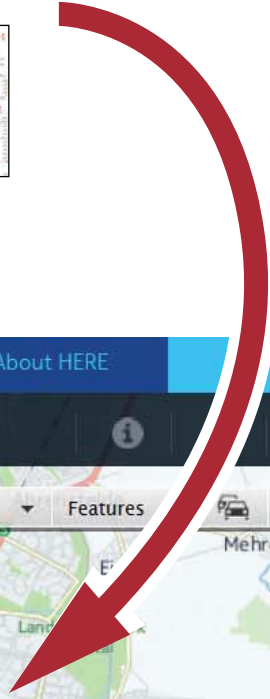
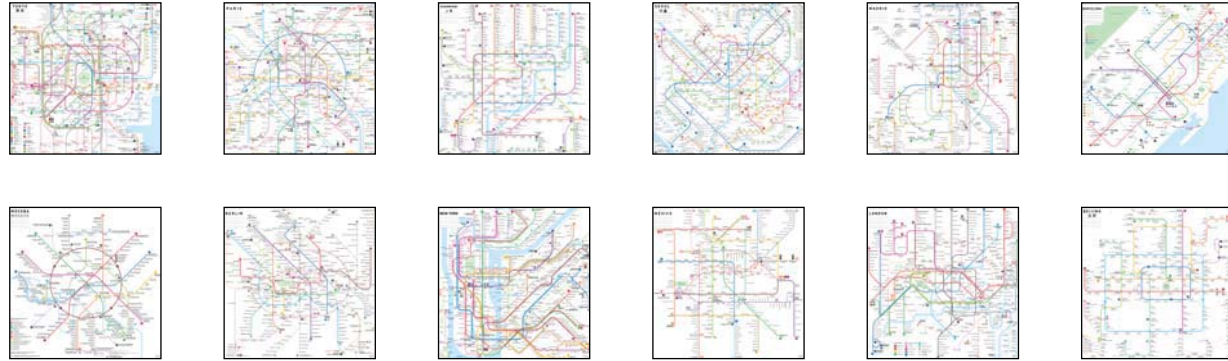


inat.fr



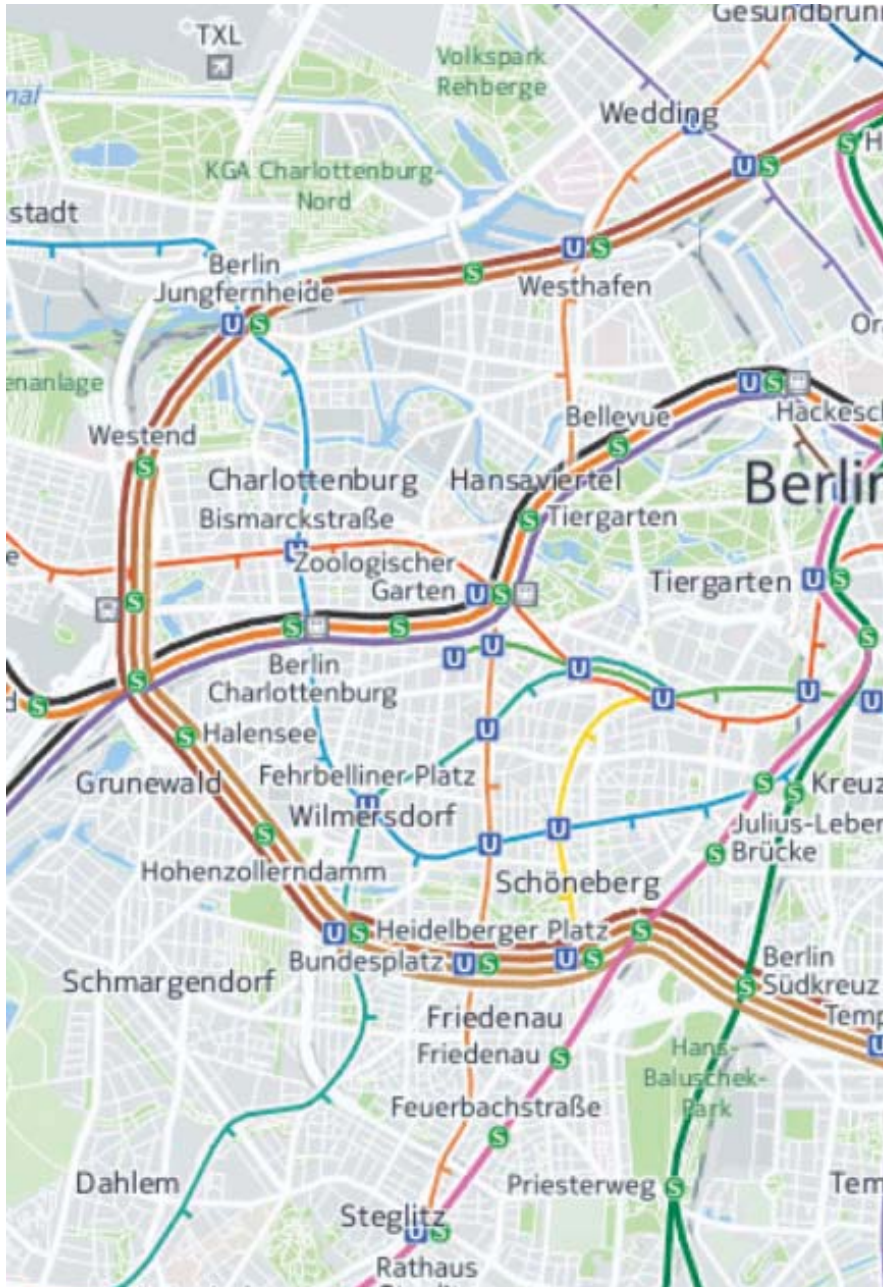
# INAT + HERE

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# GEOGRAPHIC ∞ SCHEMATIC





# TEAMWORK

**CARTOGRAPHY**

**TRANSIT**

**MOBILE**

**here**

**RENDERING**

**WEB**



# TRANSIT MAP



TIMISM

LN CAR DEST  
10 11  
No 11

LN CAR DEST MIN  
10 11 2  
No 11  
No Passenger

Metro Centre

Metro Centre

Metro Centre

Metro Centre

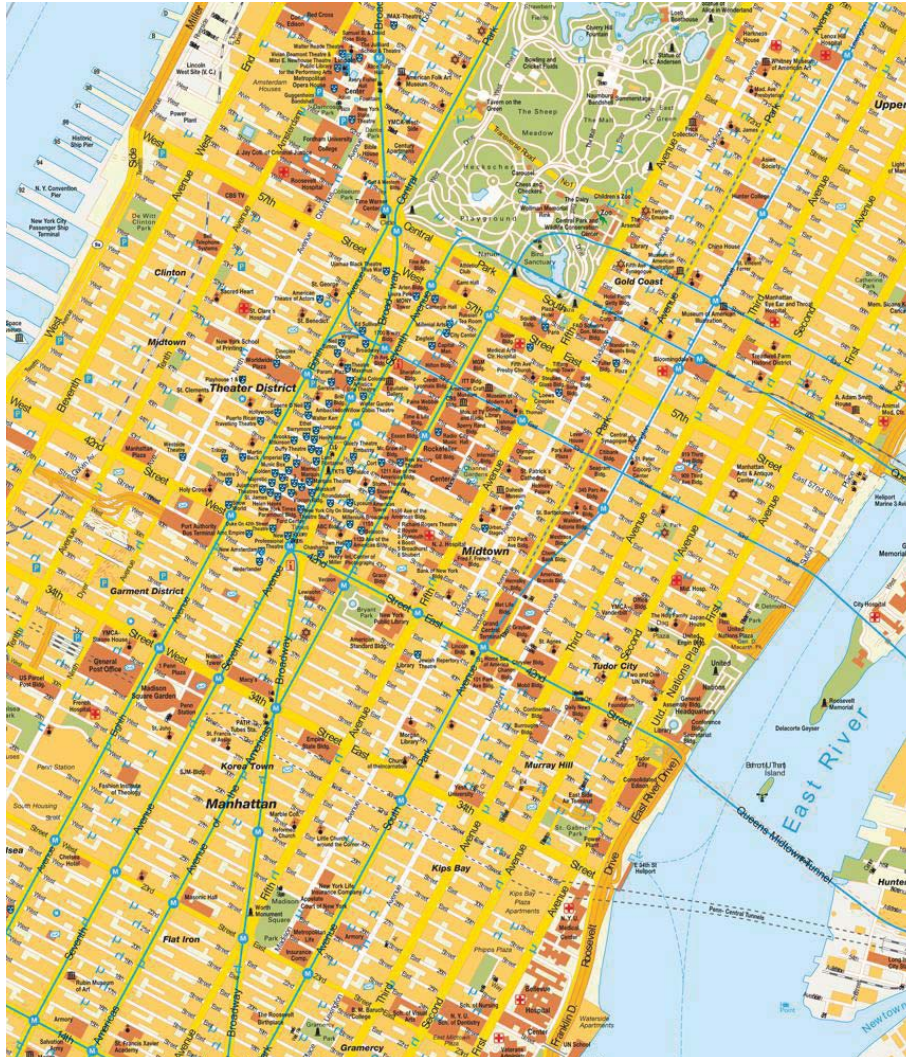


# CITY MAP





# MAP STYLES



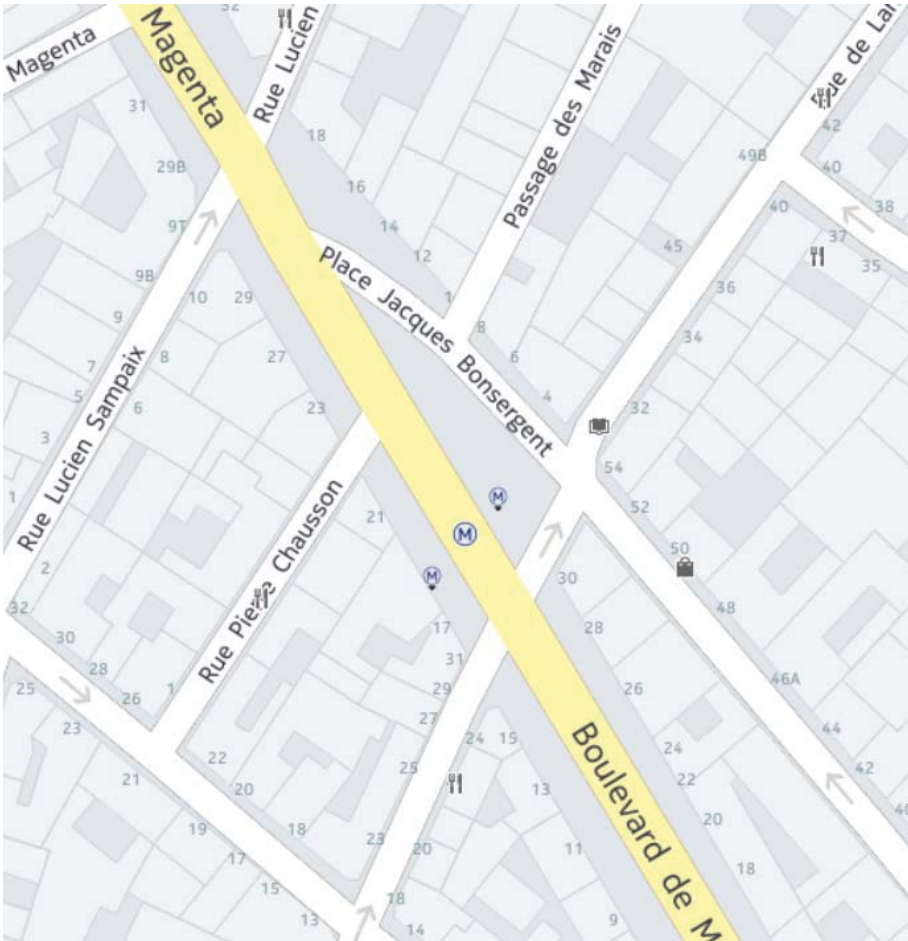
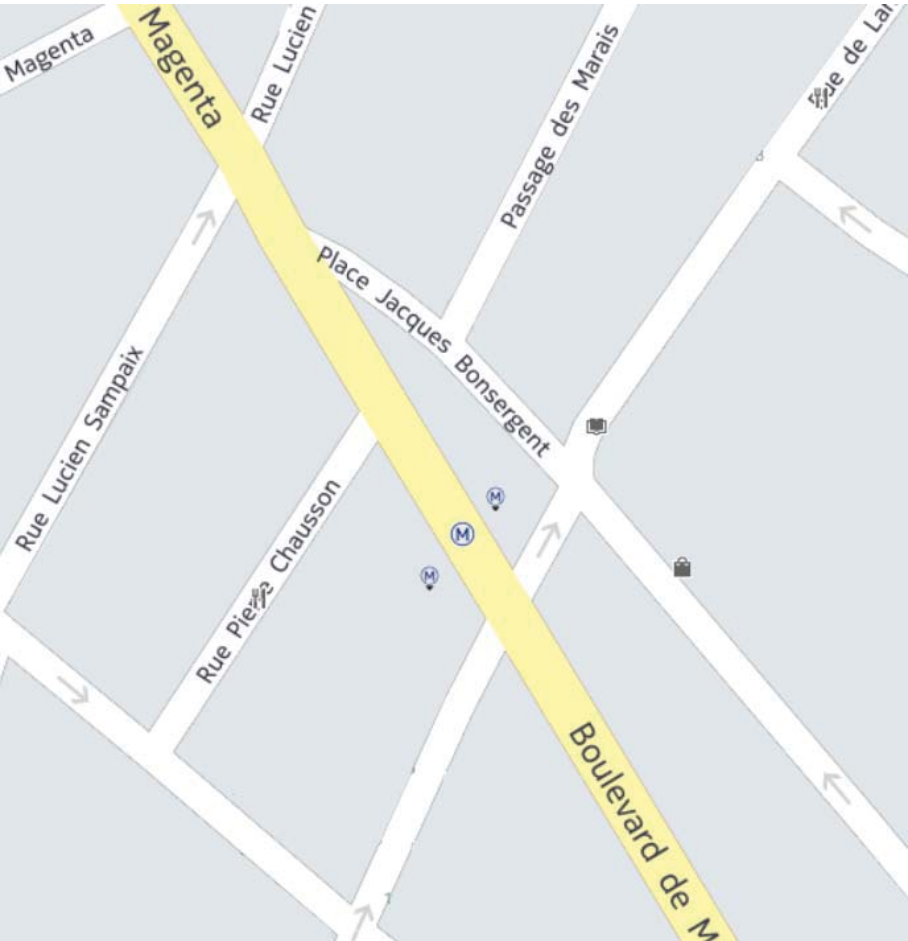


# COMPLEX PUBLIC SPACE



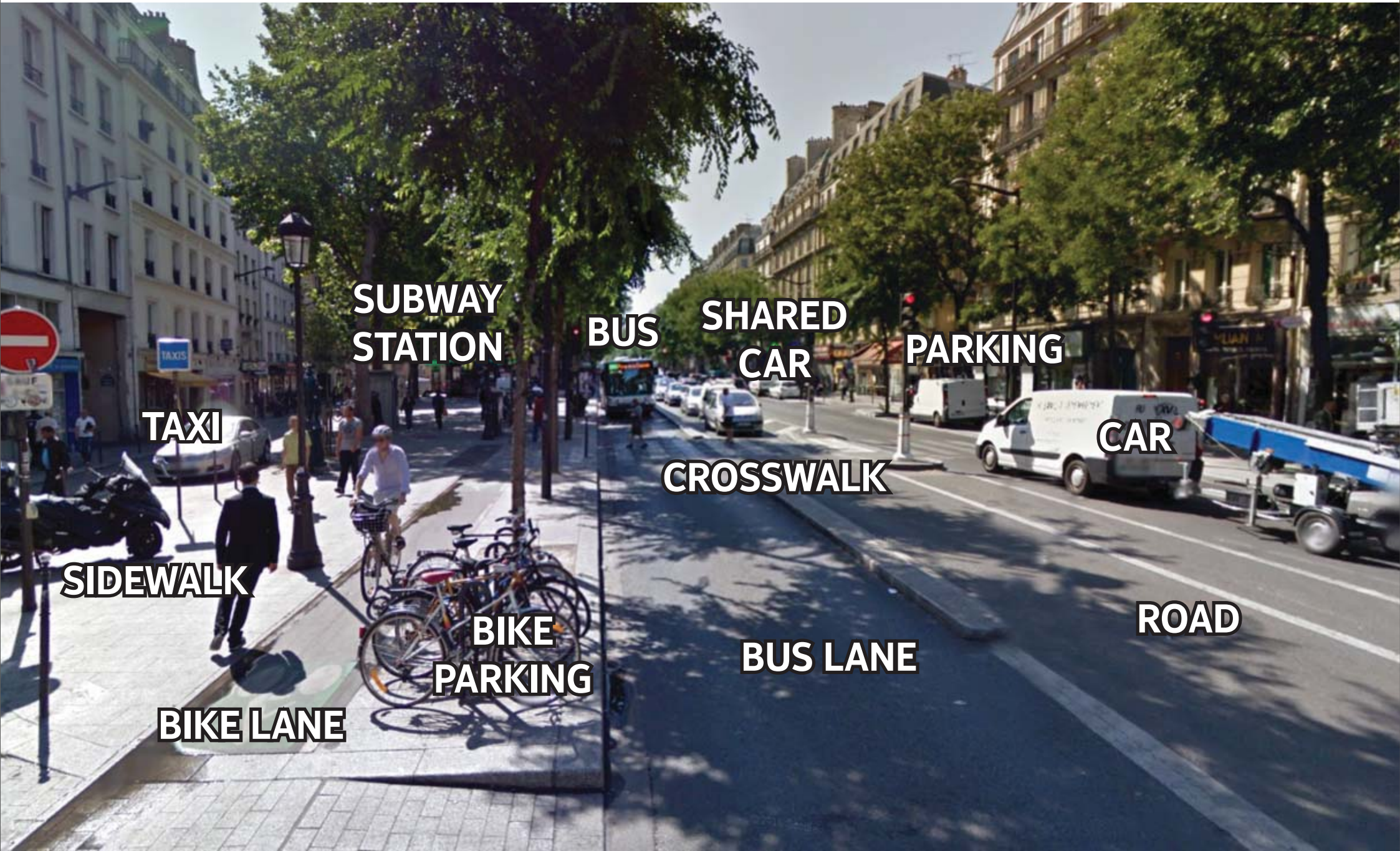


# BUILDINGS SHOW PUBLIC SPACE





# PUBLIC SPACE COMPONENTS



**SUBWAY  
STATION**

**BUS**

**SHARED  
CAR**

**PARKING**

**TAXI**

**CAR**

**CROSSWALK**

**SIDEWALK**

**BIKE  
PARKING**

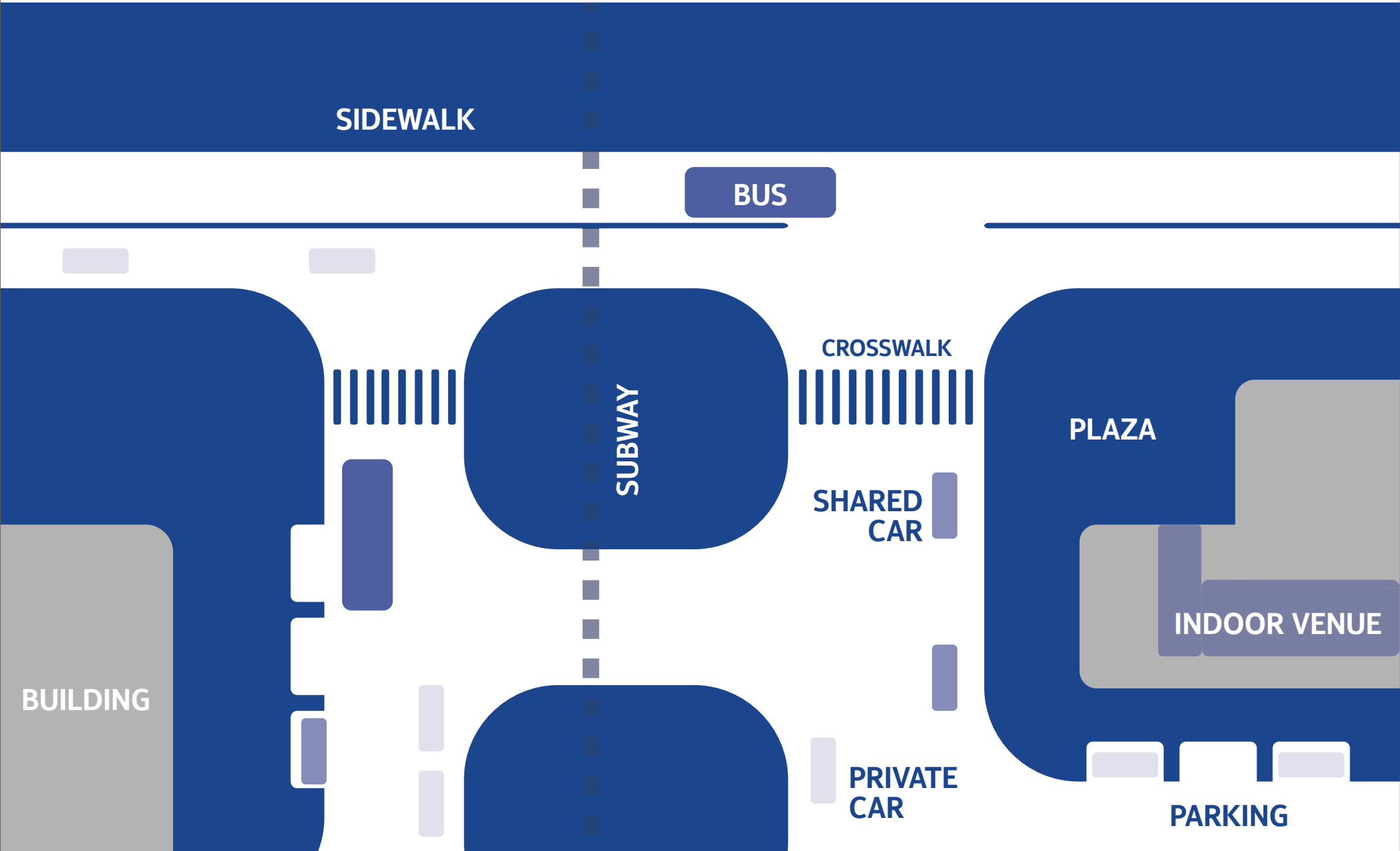
**ROAD**

**BIKE LANE**

**BUS LANE**



# PUBLIC SPACE COMPONENTS



SIDEWALK

BUS

SUBWAY

CROSSWALK

PLAZA

SHARED  
CAR

INDOOR VENUE

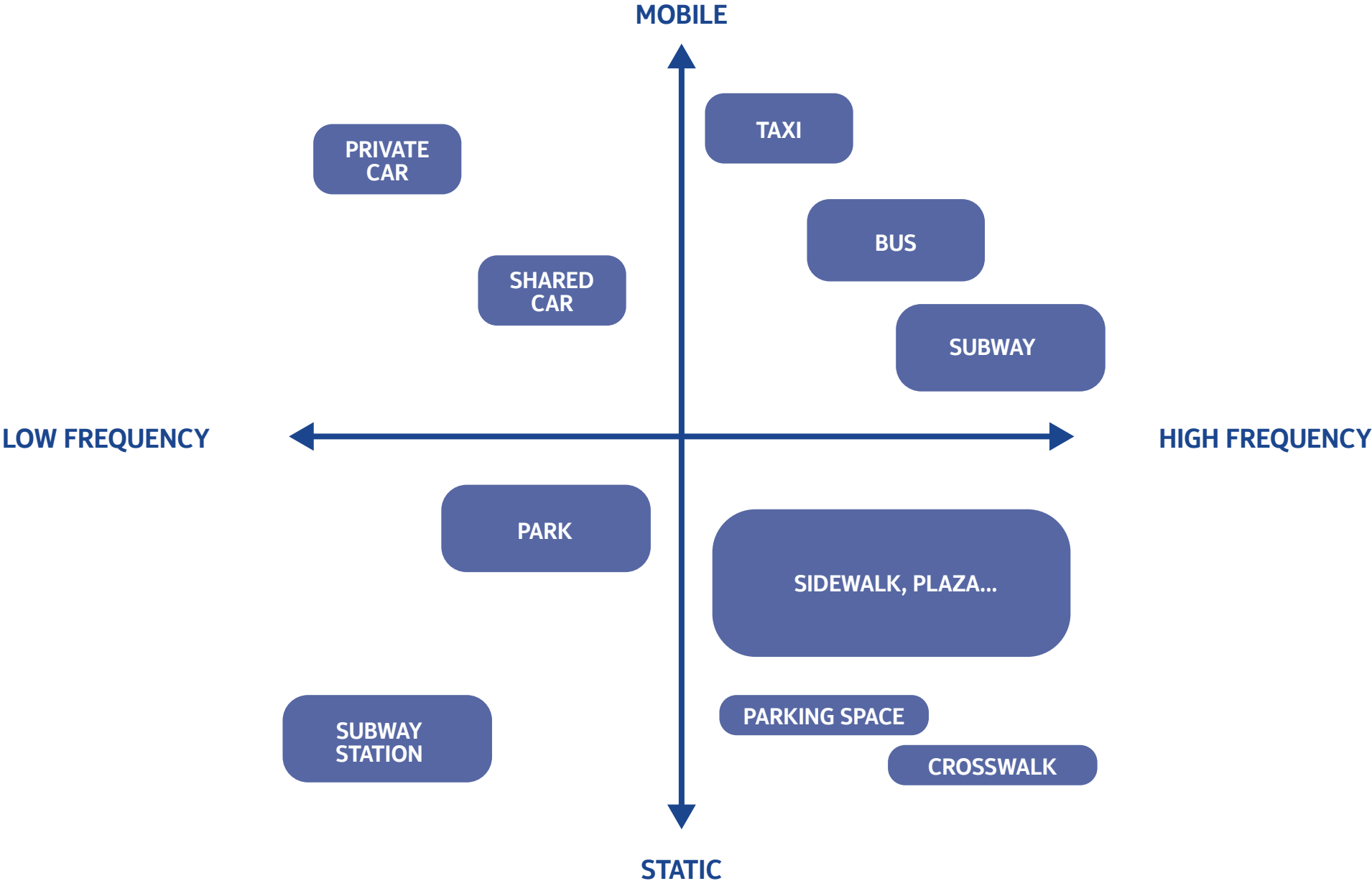
BUILDING

PRIVATE  
CAR

PARKING



# PUBLIC SPACE AVAILABILITY





**COMPONENTS + FREQUENCY**

**=**

**MELODY**





# URBAN SYMPHONY





# INTERPRETATION



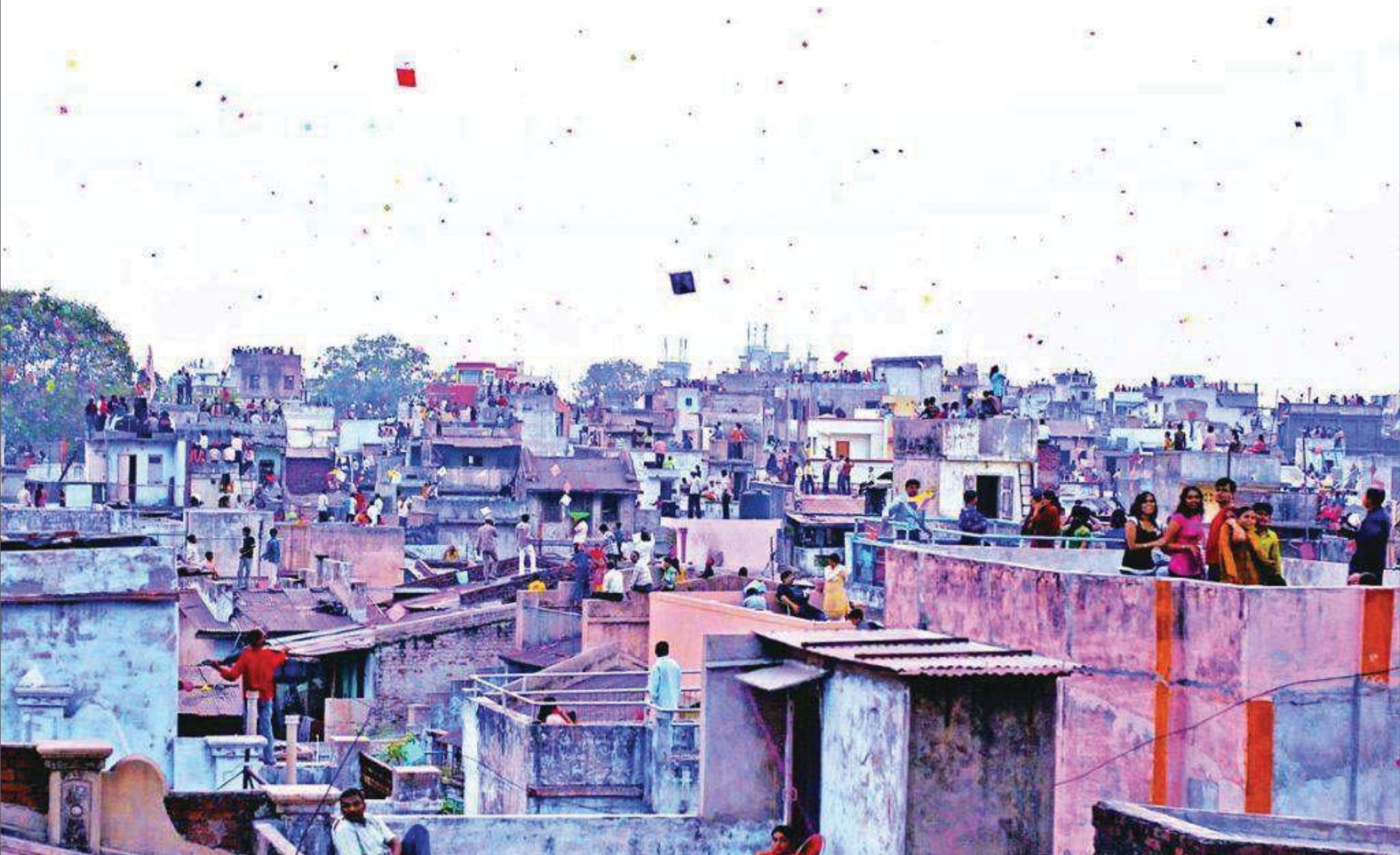


# CITYSCAPE : EMOTION





# CITYSCAPE : INSPIRATION









here





# WHAT COULD BE THE FUTURE OF MAPS IN 5 YEARS?



From a tool for describing the known world to a platform for  
for its transformation



# Maps before the 19th century

## THE AGE OF DRAWING

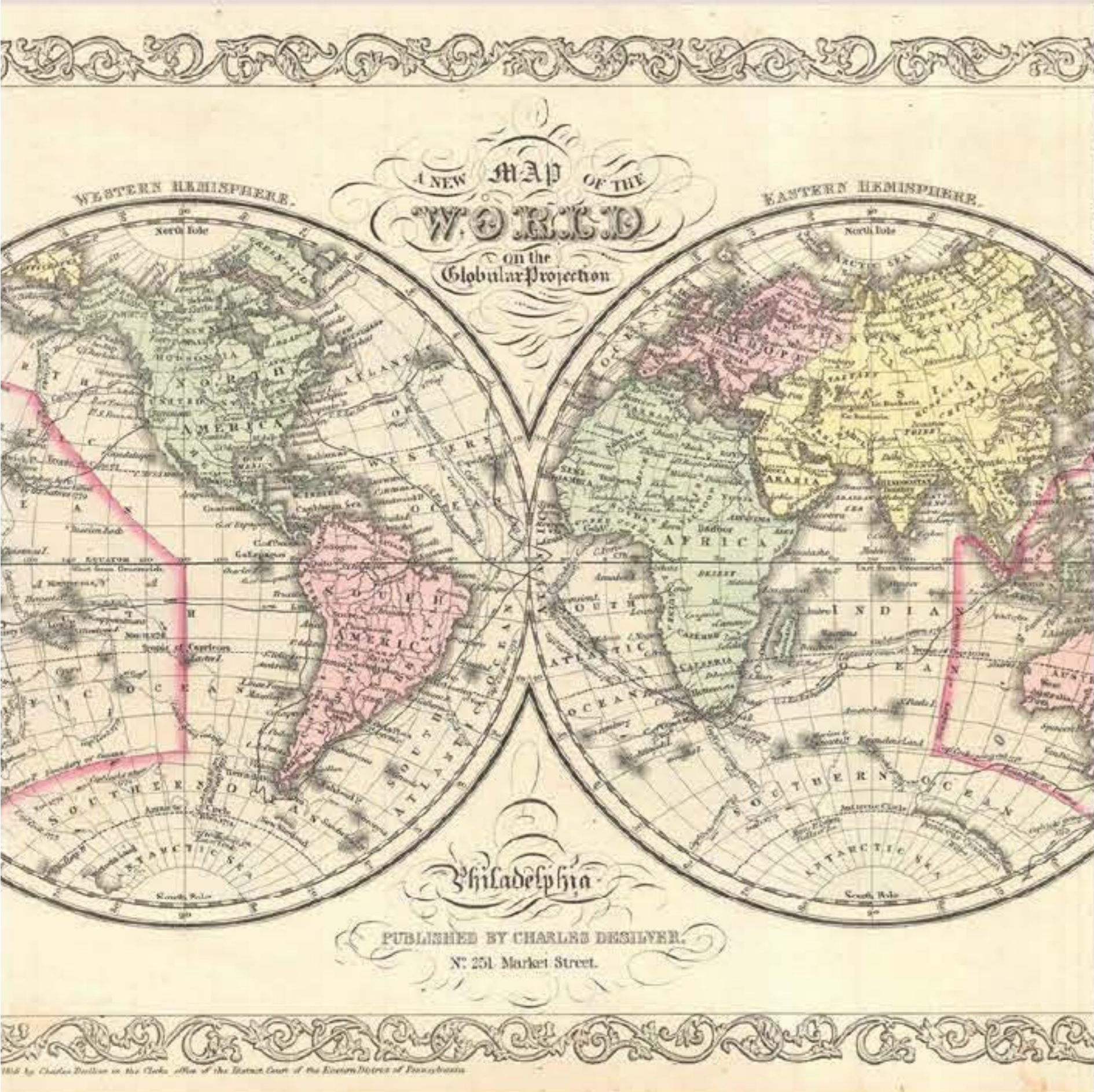


Maps are **rare and precious** items hand made by skilled cosmographers for the members of the ruling classes.

They portray the scarce information available about the world at the time.



19th century  
THE AGE OF PRINTING



Industrialized production of cheap paper and improvements in the printing technology make maps **widely available** to common people, just as newspapers.

Nevertheless the available cartographic information is **selected and edited** by the publisher.



2000s

## THE AGE OF DIGITIZING



The advent of broadband internet enables instant and free access to an immense quantity of **digitized maps and aerial photographs**.

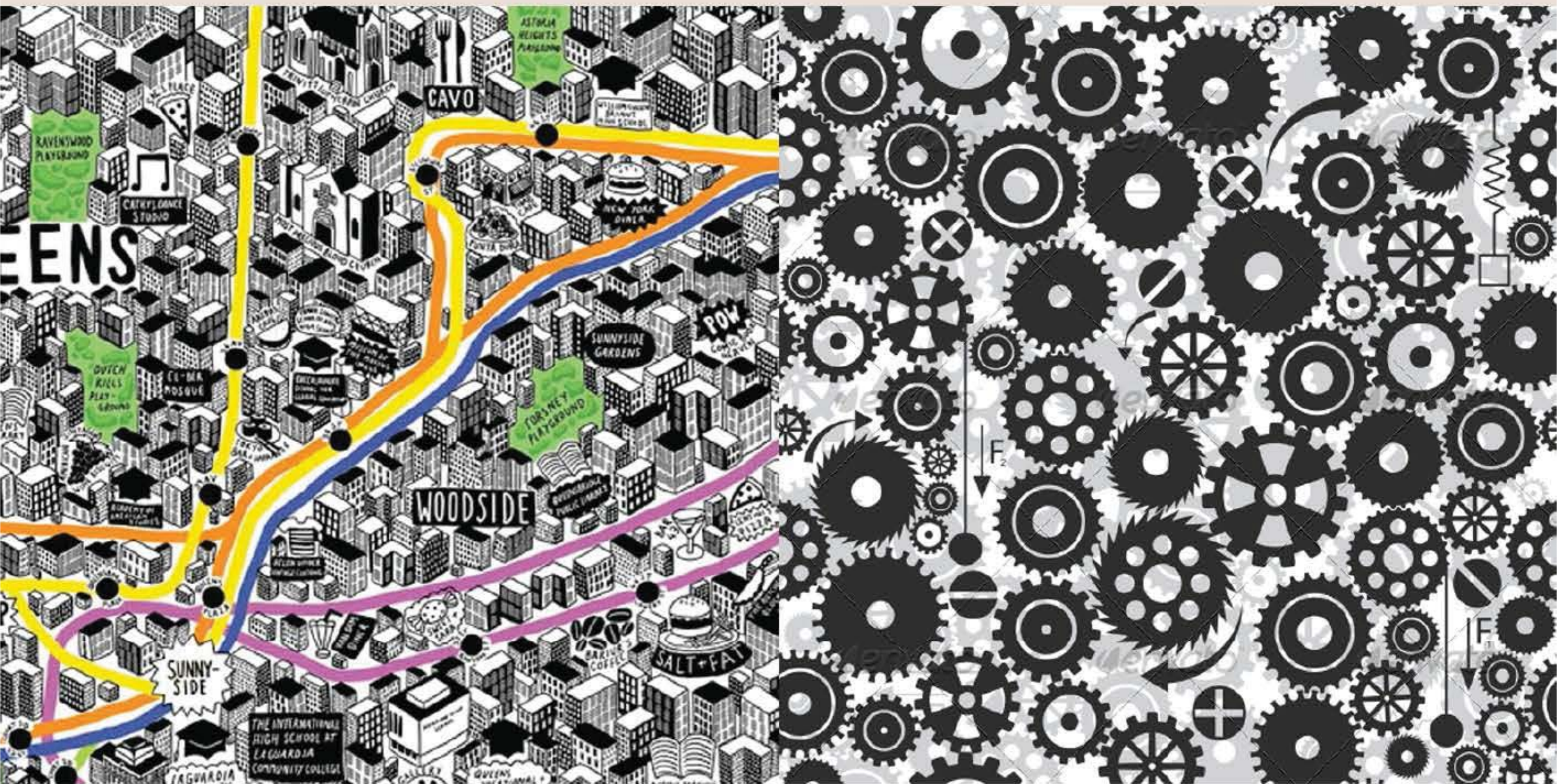
People can now see and use detailed and **comprehensive cartographic data** previously available only to authorities and military.

Maps are still edited and published by a limited number of companies and administrations.



2020

## THE AGE OF EXPRESSION



People take over control of maps content and appearance.

Users cease to be passive receivers and use newly available tools to edit digital maps. They alter the common representation of their environment and express their own **personal perceptions and wishes**.

Selection, edition and publishing of mapped information is decentralized generating **countless** dynamic and immersive digital maps.



2023

## THE AGE OF CREATION



The multiplication and sharing of mapped personal expressions results in a rich and fantasized virtual representation of physical reality which in turns starts **influencing the reality** it is supposed to represent to make it match.

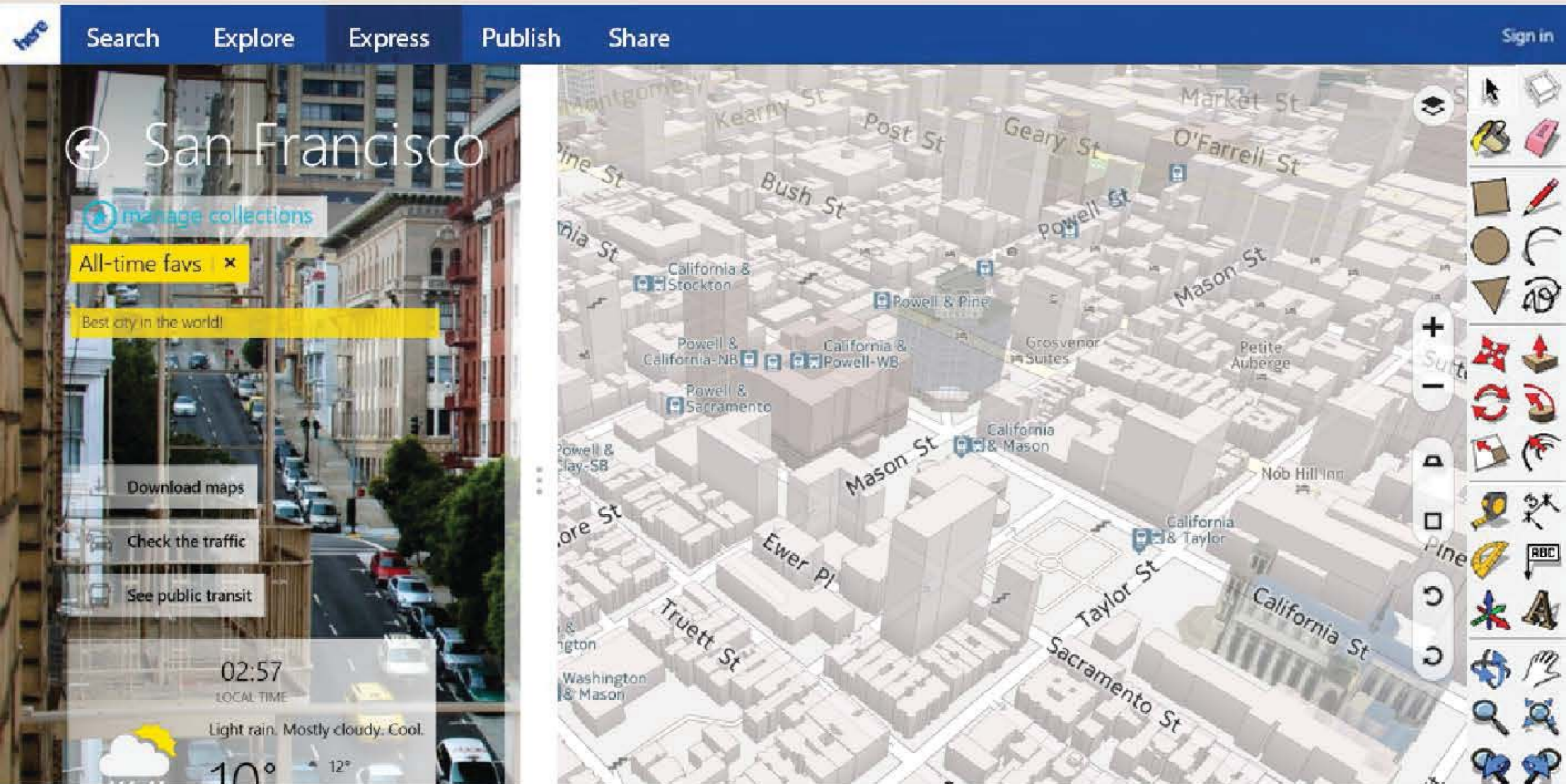
The personal map is perceived as reality > reality is consequently shaped and modified to match the map > the map evolves influenced by the modified reality etc

The combination of individual aspirations and collective will establishes a permanent and powerful **dialectical bond** between the map and reality and the old hypothesis of a 1:1 scale map becomes true.



HERE

The place where we shape our worlds



HERE has evolved from a map editing and publishing company to a worldwide praised **platform** providing necessary quality **tools and space** for personal expression mapping.

### SPACE

Geographic  
Public  
Transport  
Time  
Flows

...


### TOOLS

Edit  
Build  
Publish  
Share  
Search

...

Not only has HERE delivered a promethean contribution to mankind but it has maintained its position as a **beacon** for the community thanks to its design teams creativity and achievements which thrive as **reference, support and inspiration.**

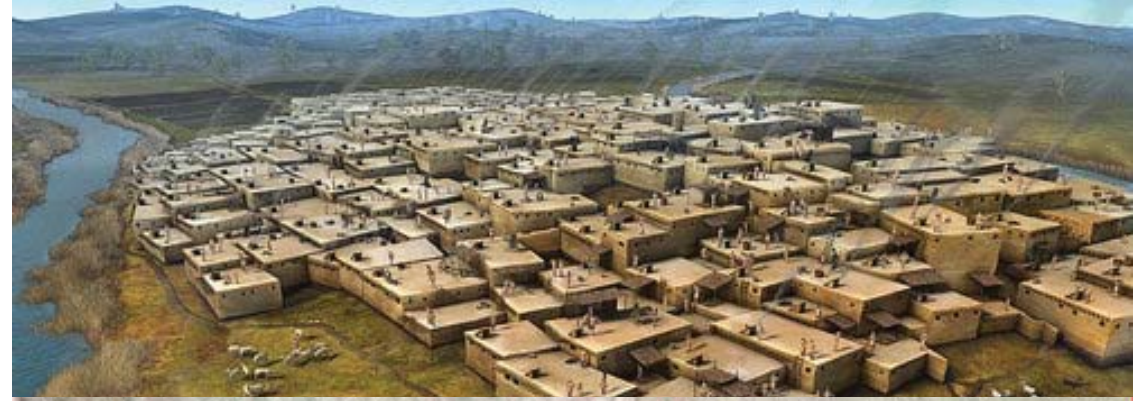




**MAPS 2020**



# The beginning



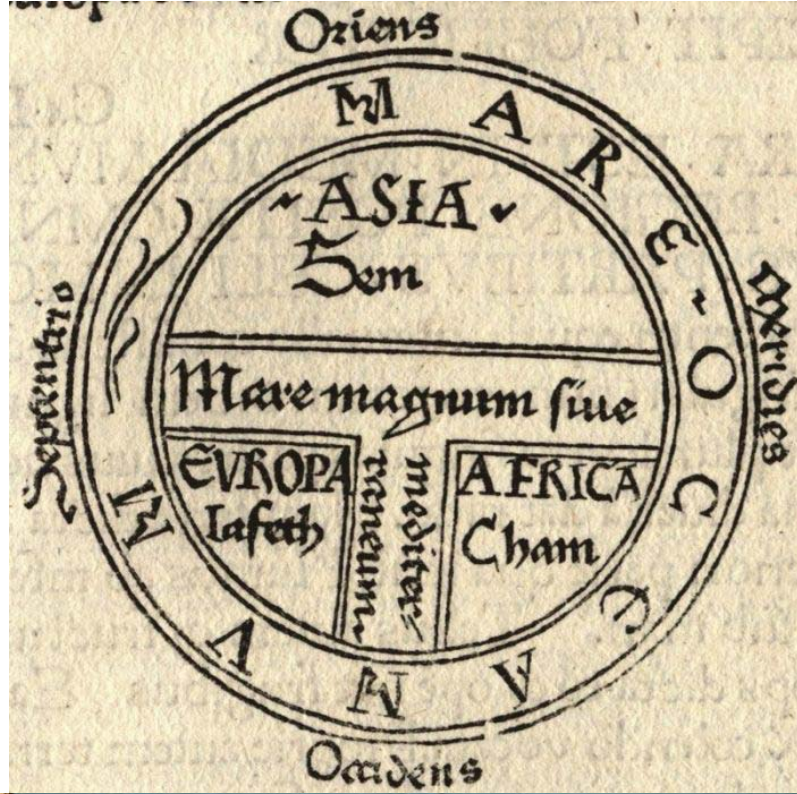


Church





# Medieval symbolism



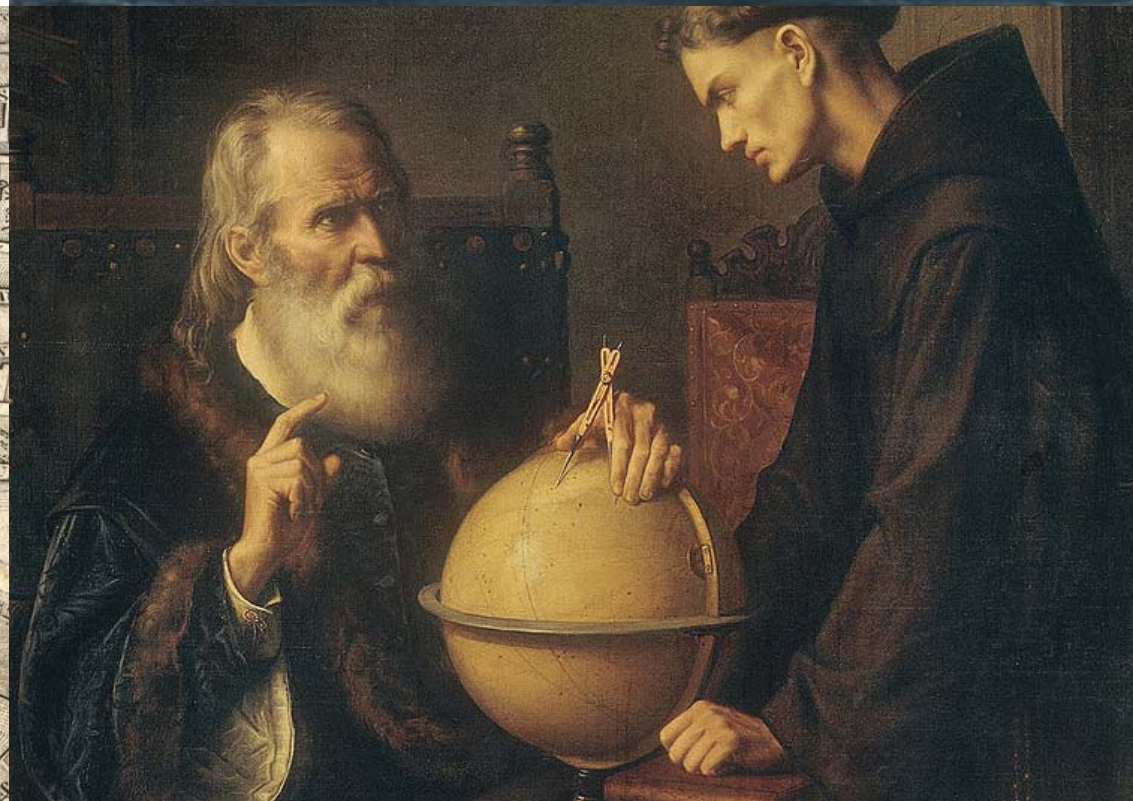


# Cosmographers





# Enlightenment





# Militarism



Les nombres d'hommes présents sont représentés par les largeurs des zones colorées à raison d'un millimètre pour dix mille hommes; ils sont de plus écrits en travers des zones. Le rouge désigne les hommes qui ont été en Russie, le noir ceux qui en sont sortis. — Les renseignements qui ont servi à dresser la carte ont été puisés dans les ouvrages de M. M. Chiers, de Léger, de Fezensac, de Chambray et le journal inédit de Jacob, pharmacien de l'Armée depuis le 28 Octobre. Pour mieux faire juger à l'œil la diminution de l'armée, j'ai supposé que les corps du Prince Jérôme et du Maréchal Davoust, qui avaient été détachés sur Minsk et Mohilow et en rejoignent vers Orscha et Witebsk, avaient toujours marché avec l'armée.

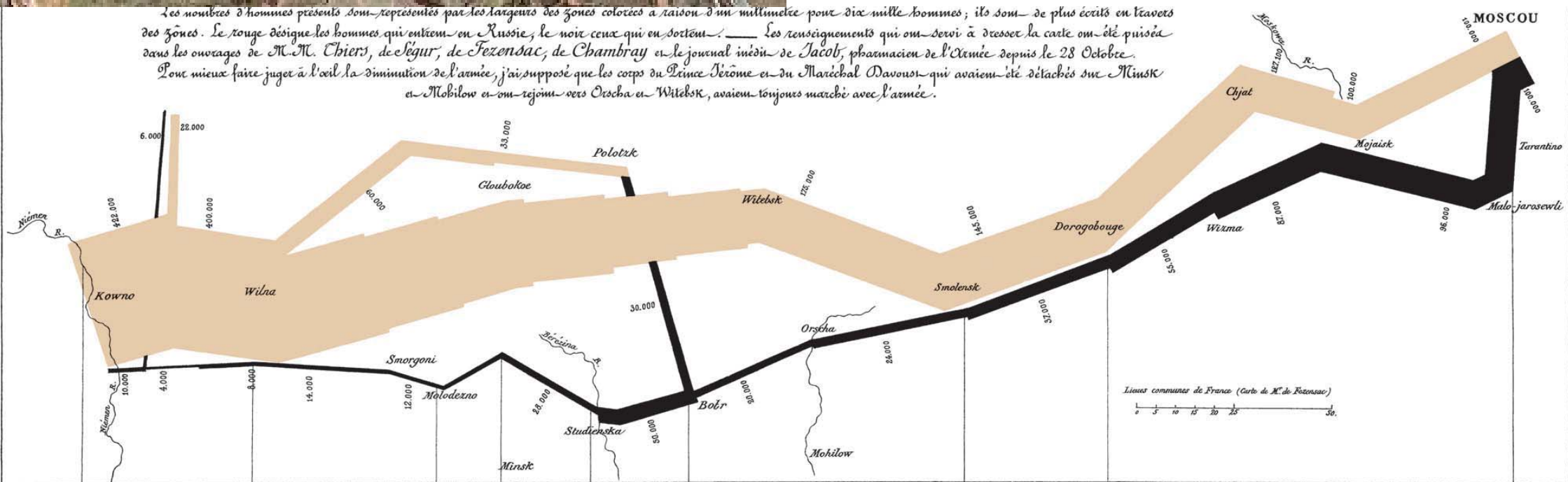
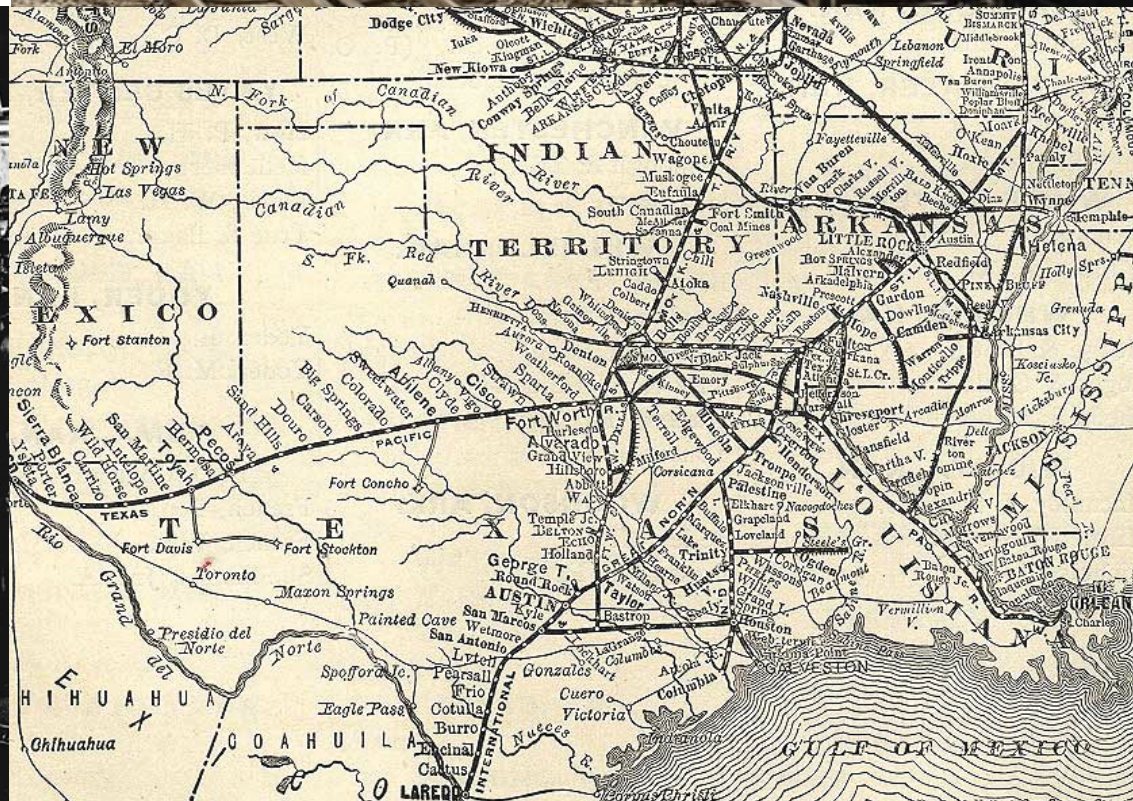


TABLEAU GRAPHIQUE de la température en degrés du thermomètre de Réaumur au dessous de zéro.

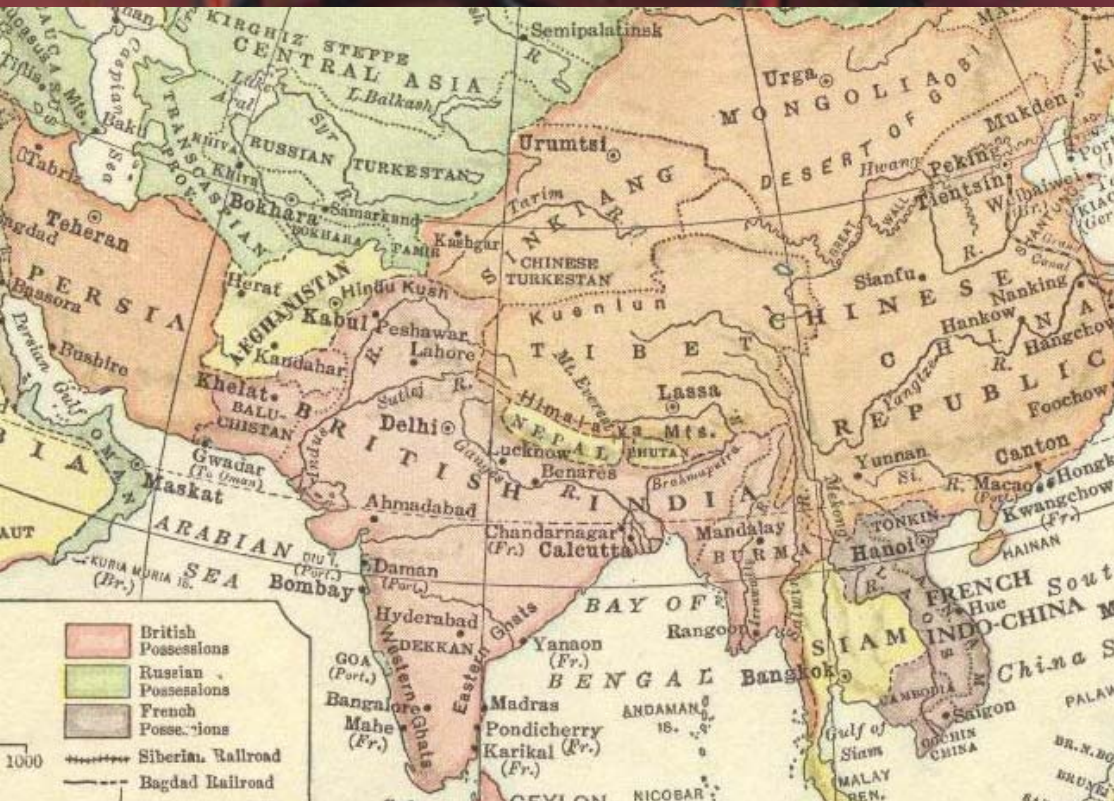


# Industrialization





# Governments





# Automobile



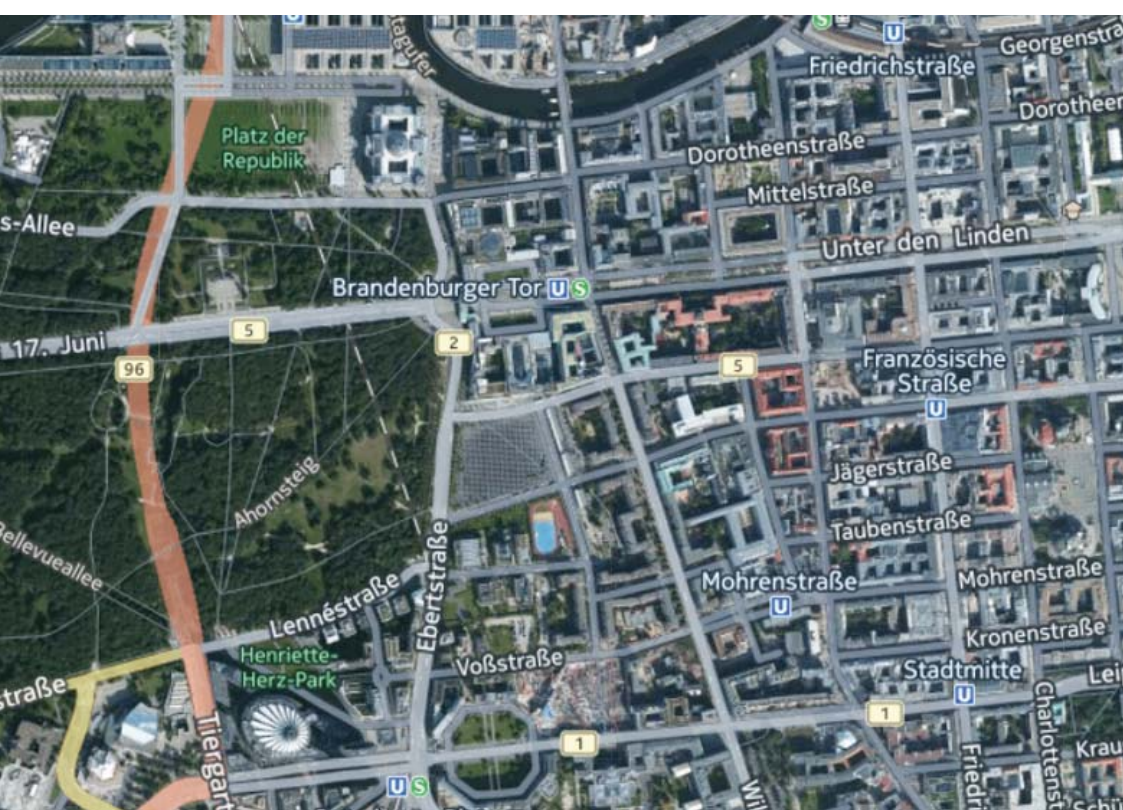
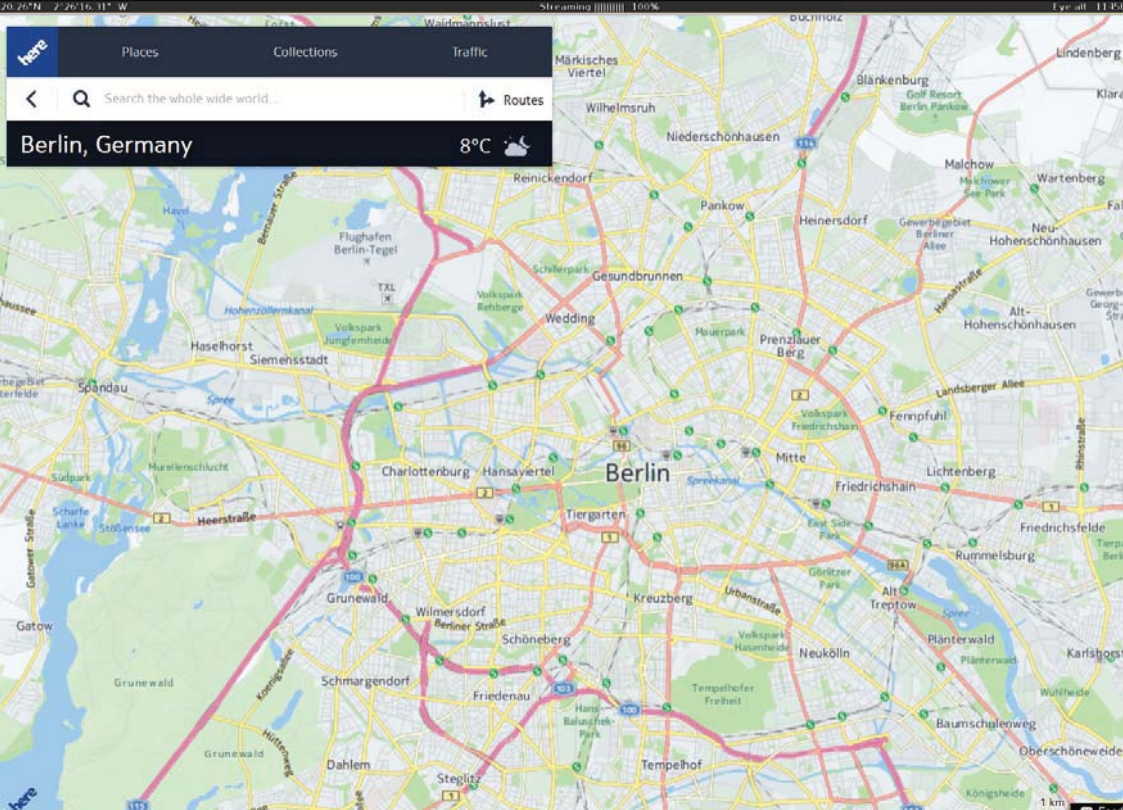


# Corporations



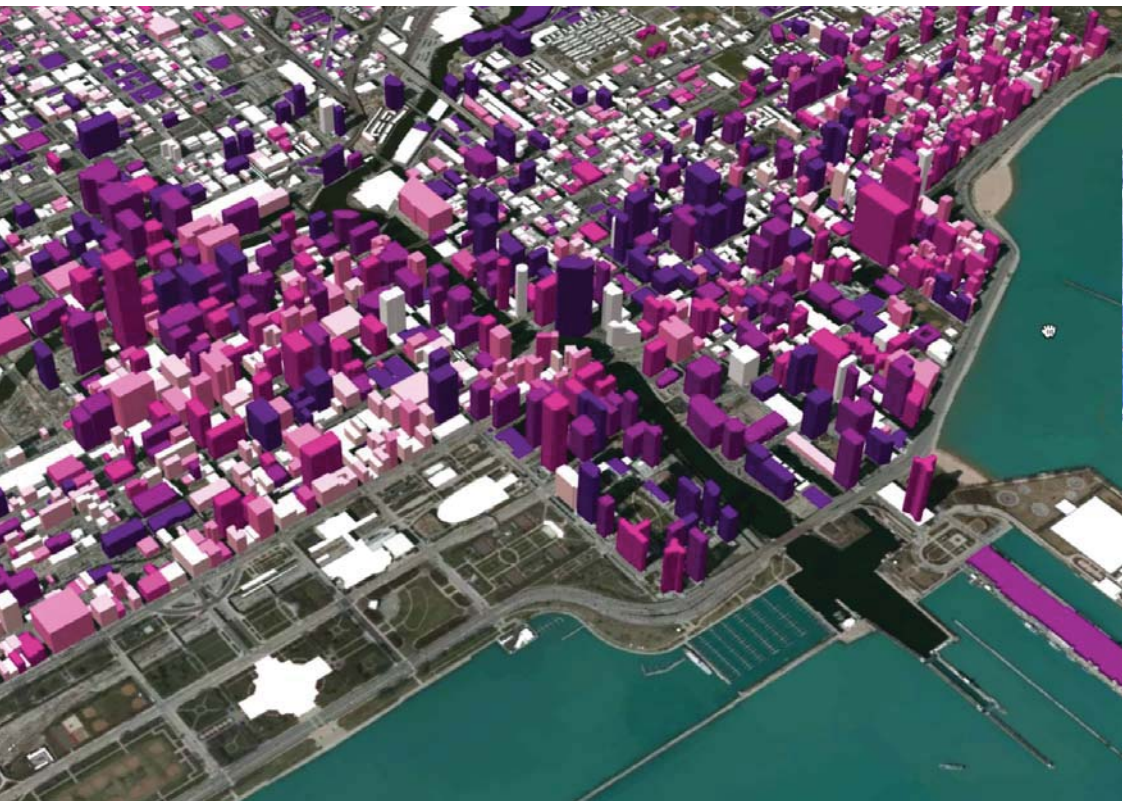
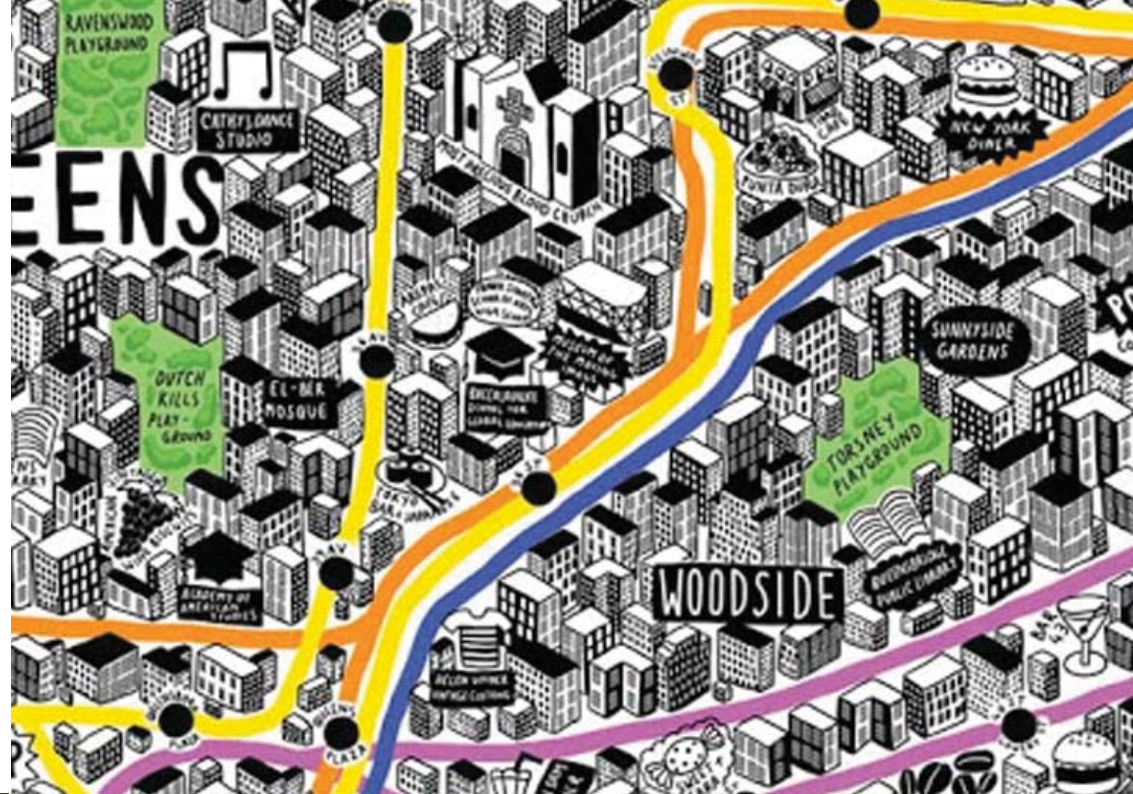
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# Digital expression

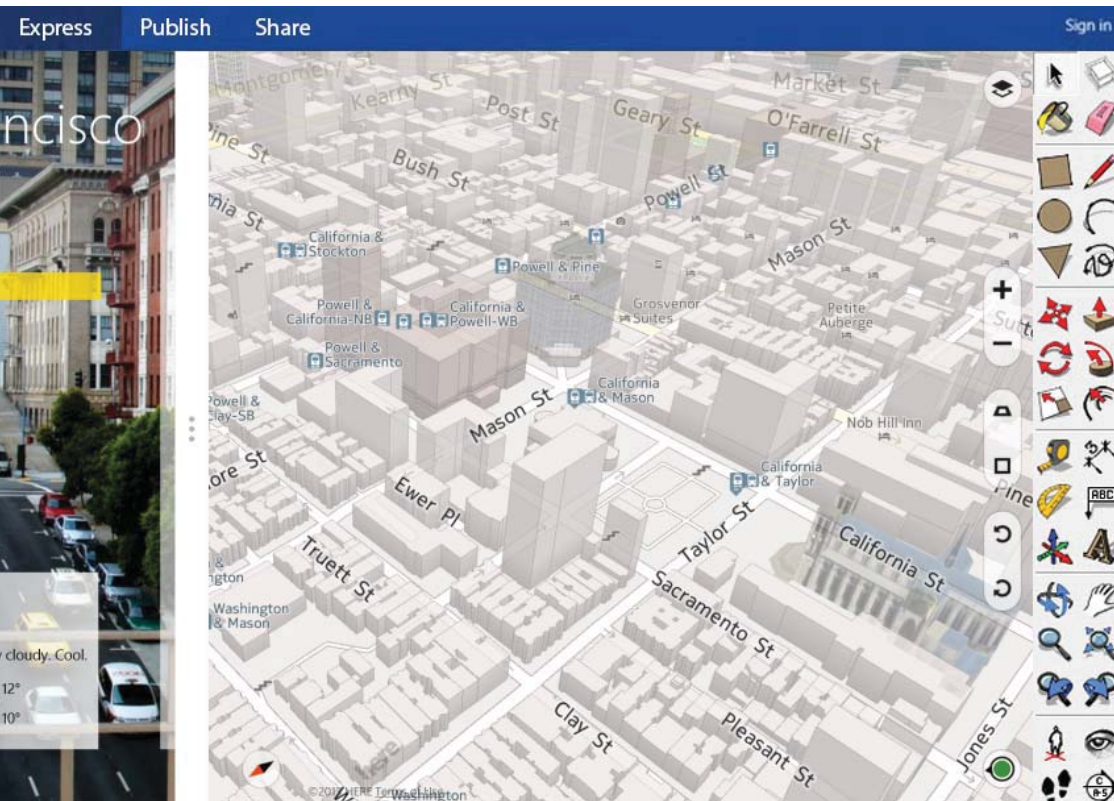








# Virtual is Real





# Individuals and AI

