

bike  
citizens



Velo-City Global 2016 - The data we have, the data we use

February 27th, 2016

**Daniel Kofler, Bike Citizens**

 @danielkofler\_

# Megatrends

1

## URBANISATION

More and more people are moving to cities



2007



2030



2050



# Megatrends

1

## URBANISATION

More and more people are moving to cities



2007



2030



2050

2

## DIGITALISATION

Rising influence of technology in our lives

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## URBANISATION

More and more people are moving to cities



2007



2030



2050

2

## DIGITALISATION

Rising influence of technology in our lives

3

## INVESTMENT IN ACTIVE MOBILITY

Massive investment in cycling infrastructure by cities:

**London:** 1.3 bn Euro from 2013 till 2023

**Paris:** 150 m Euro from 2015 till 2020

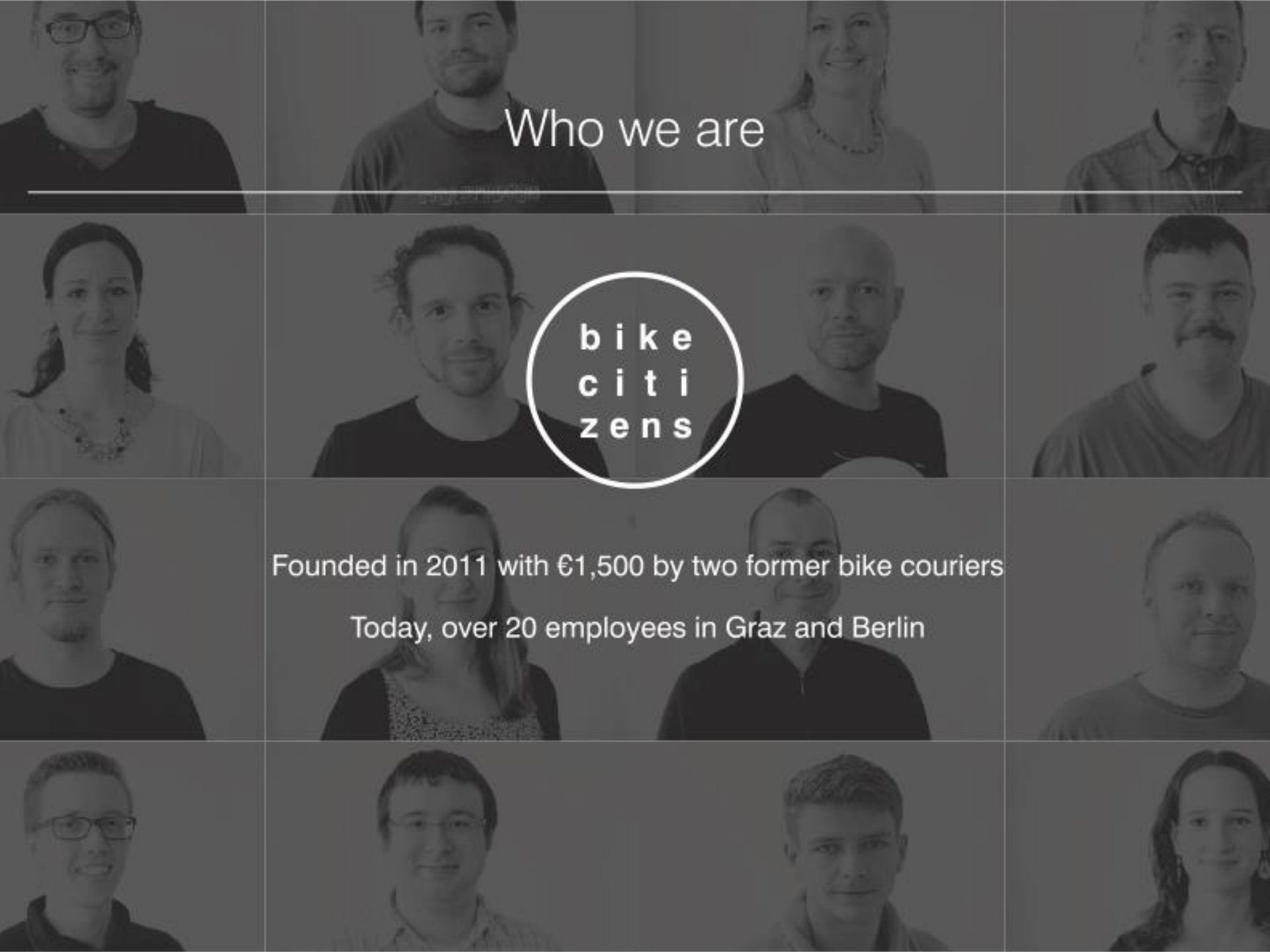


# Who we are

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Founded in 2011 with €1,500 by two former bike couriers



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4-day week for more time on the bike and clearer heads



# Challenges in cities

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**CONGESTION**

# Challenges in cities

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**CONGESTION**

**AIR POLLUTION**

**OVERCROWDED PUBLIC TRANSPORT**



# Challenges in cities

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**CONGESTION**

**AIR POLLUTION**

**OVERCROWDED PUBLIC TRANSPORT**

**LACK OF PARKING SPACE**

**TRAFFIC SAFETY**

# Potential

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## Every Day Mobility

50% of all trips in the city are < 5km

**50%**





# Potential

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**50%**



## Cycling Rate in Europe

Trips per day, covered by bicycle

**6%**



# How it works

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## FIND AND TRACK DAILY RIDES

Routing  
Bike Computer



# How it works

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## FIND AND TRACK DAILY RIDES

Routing  
Bike Computer



## SHARE KNOW-HOW WITH THE COMMUNITY

Discover new places in the city (tours, POI)  
Rate route segments (attractive, dangerous, fast)  
Give feedback (construction sites, detours, ...)





# How it works

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## FIND AND TRACK DAILY RIDES

Routing  
Bike Computer

## SHARE KNOW-HOW WITH THE COMMUNITY

Discover new places in the city (tours, POI)  
Rate route segments (attractive, dangerous, fast)  
Give feedback (construction sites, detours, ...)

## PERSONAL ACHIEVEMENTS

Enlarge own "Wegschatz" (cycled routes in the city)  
Improve ranking (friends, work colleagues, city)  
Create own cycling heatmap







# Berlin





# London





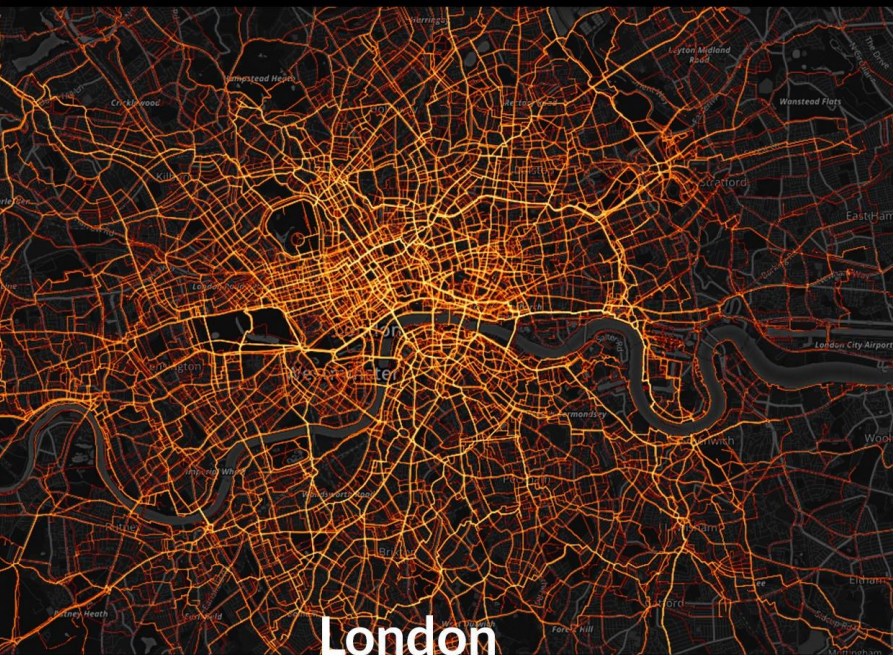
# Munich





# Paris





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Kies dataset:  
 167. Wien BikeCitizens

Click on road segment for more information

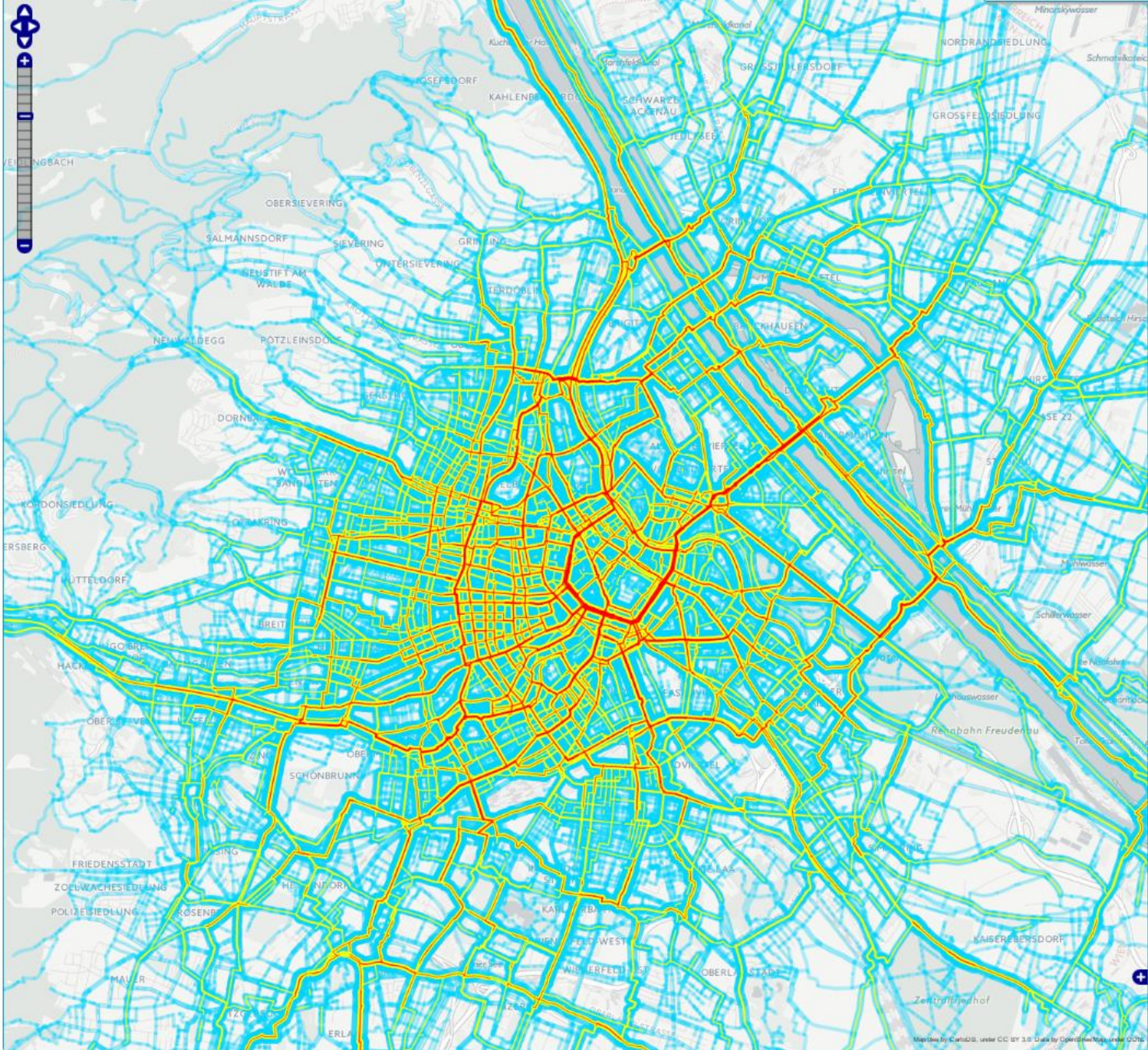
Intensity (Heatmap)

Number of cyclists on the road network

-  0 - 10
-  10 - 20
-  20 - 50
-  50 - 100
-  100 to 200
-  200 to 500
-  500 to 1000
-  > 1000

- routes
- intensity shortest route
- difference measured/shortest
- detour factor
- residents
- jobs

[Download Fietstelweek Data](#)







Kies data  
187. Wien

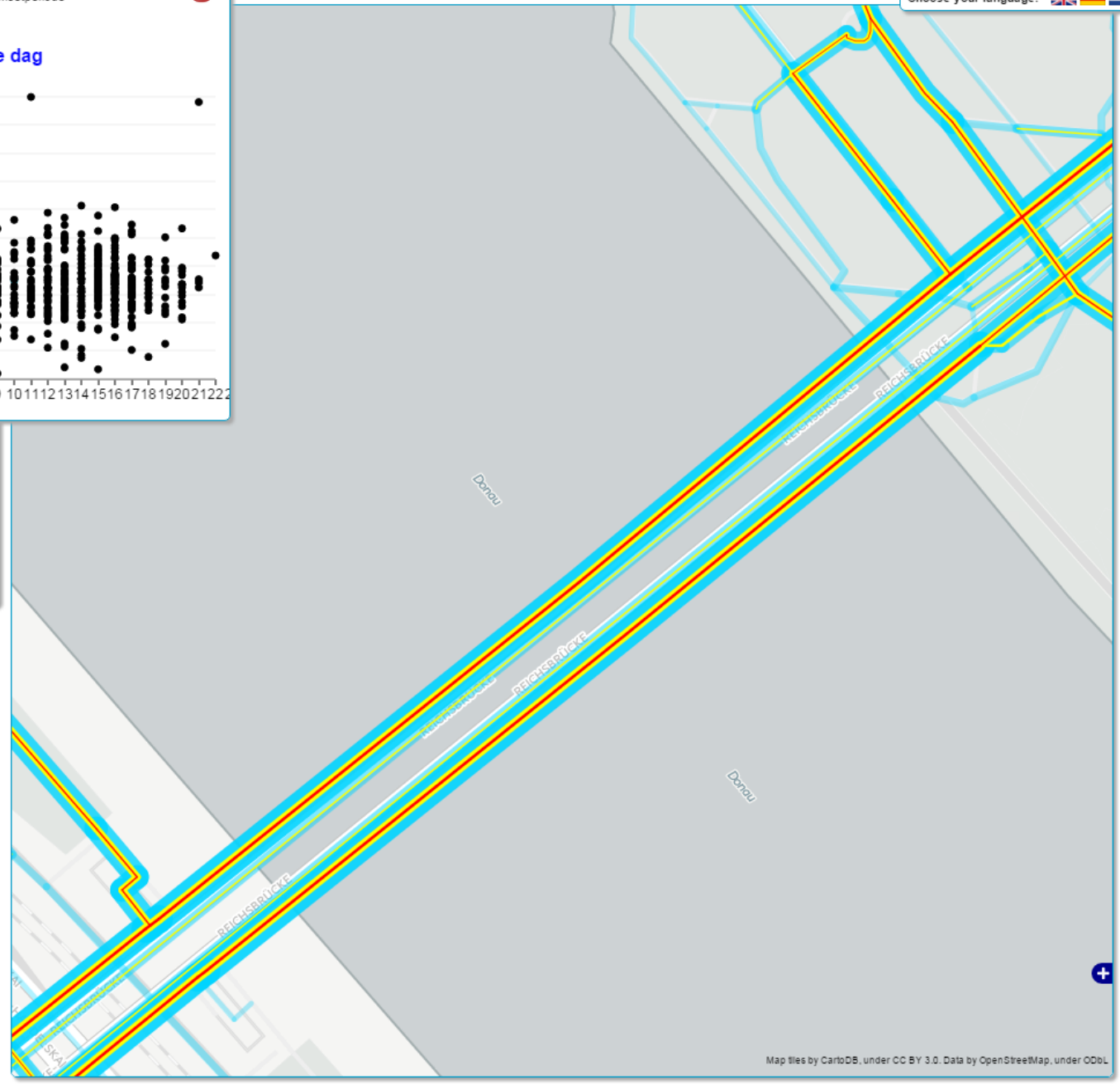
558 fietsers  
snelheid: 16  
detailinfor

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558 fietsers  
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Intensity (Heatmap)

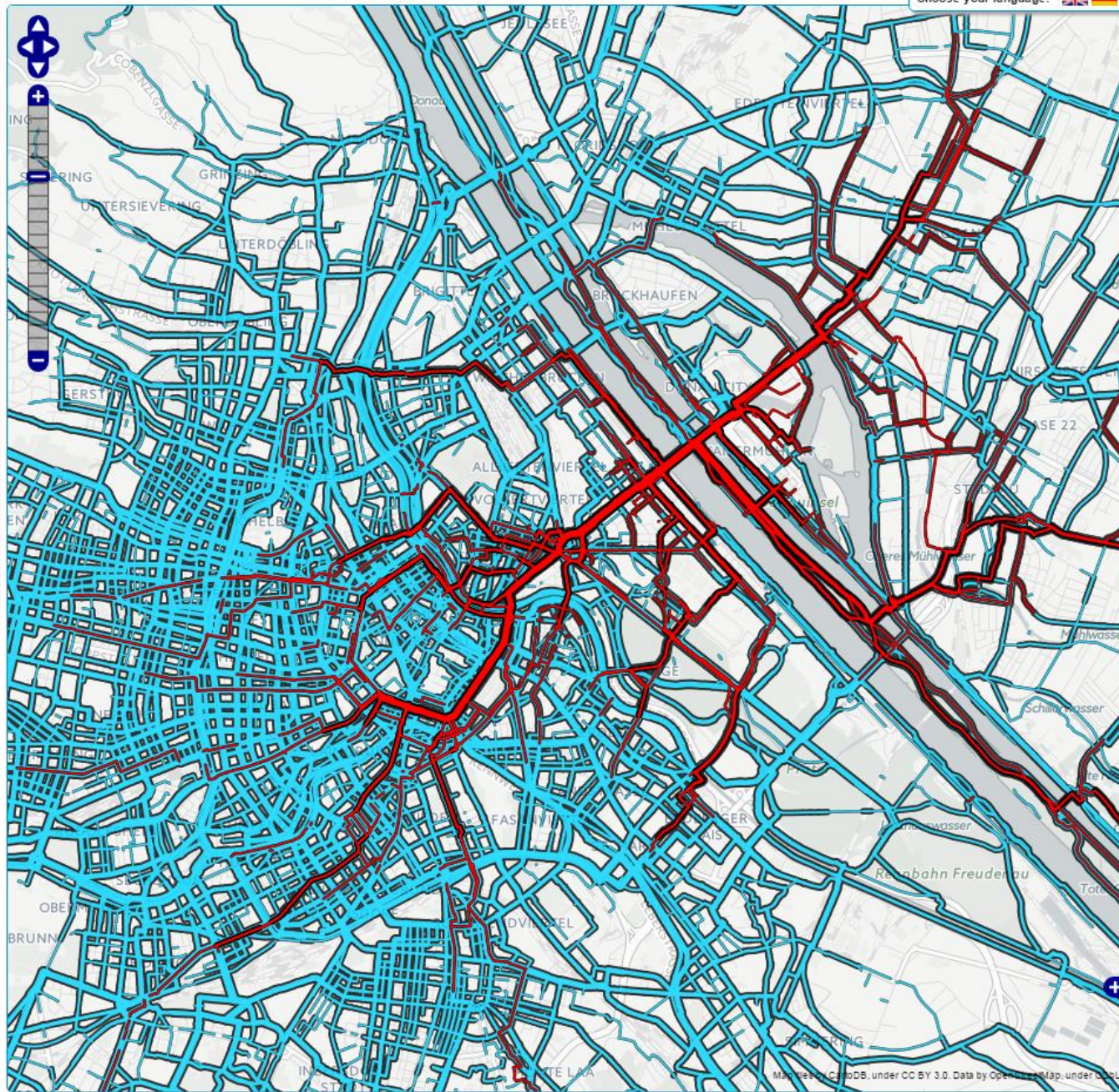
routes

Click on road segment to show all tracks that touch that segment

- 0 - 10
- 10 - 20
- 20 - 50
- 50 - 100
- 100 to 200
- 200 to 500
- 500 to 1000
- > 1000

- intensity shortest route
- difference measured/shortest
- detour factor
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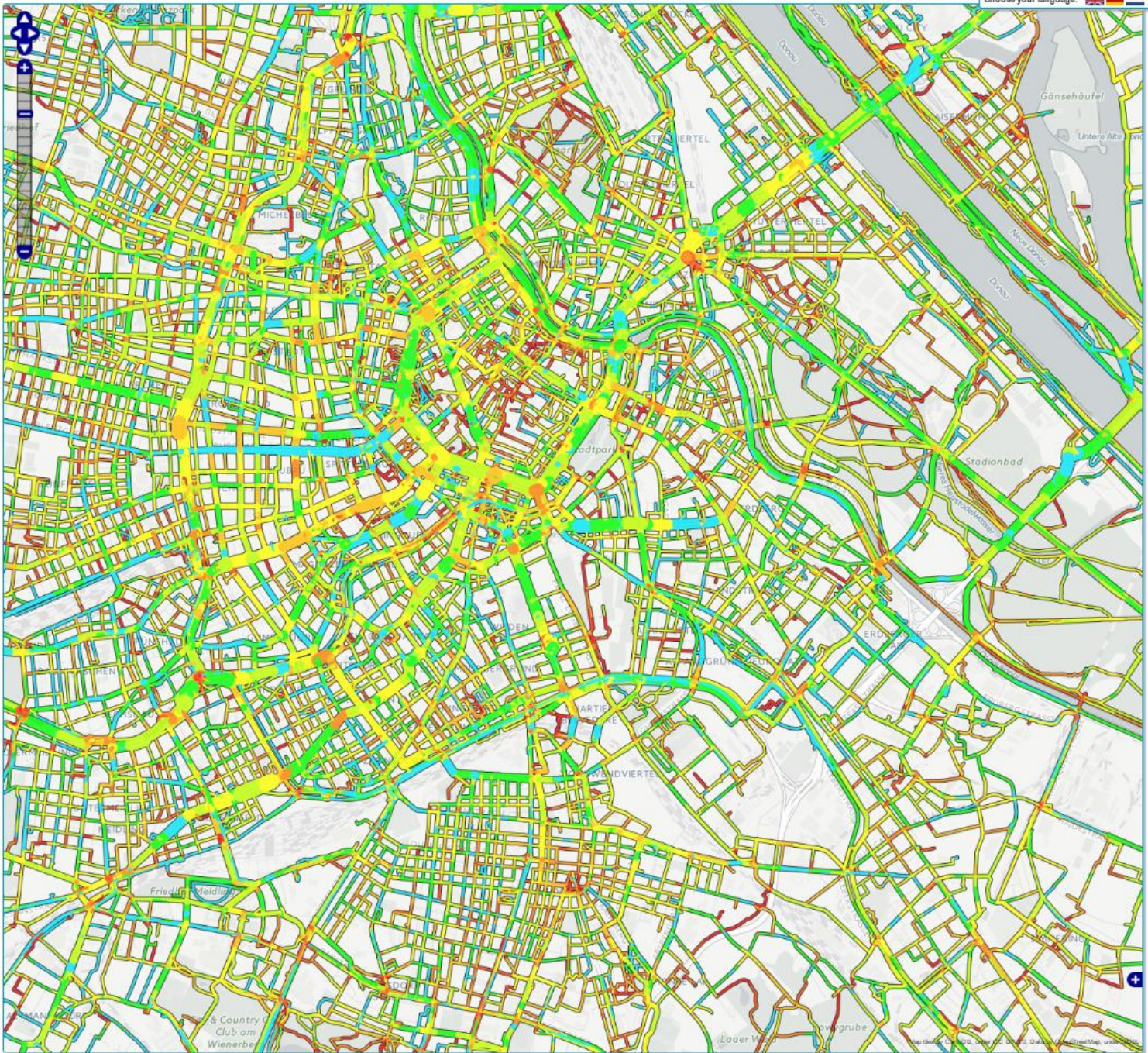


Klaar dataset:  
167: Wien BikeCitizens

558 fietsers  
aantal: 16 km/u (0 %)  
detailinformatie

- absolute speed
- space mean speed incl. waiting times at crossroads/intersections
-  0 tot 8
-  8 tot 10
-  10 tot 12
-  12 tot 14
-  14 tot 16
-  16 tot 18
-  18 tot 20
-  meer dan 20
- relative speed
- delay
- isochrones (areas)
- isochrones (network)
- residents
- jobs

[Download Fietstelweek Data](#)





Kies dataset:

187. Wien BikeCitizens

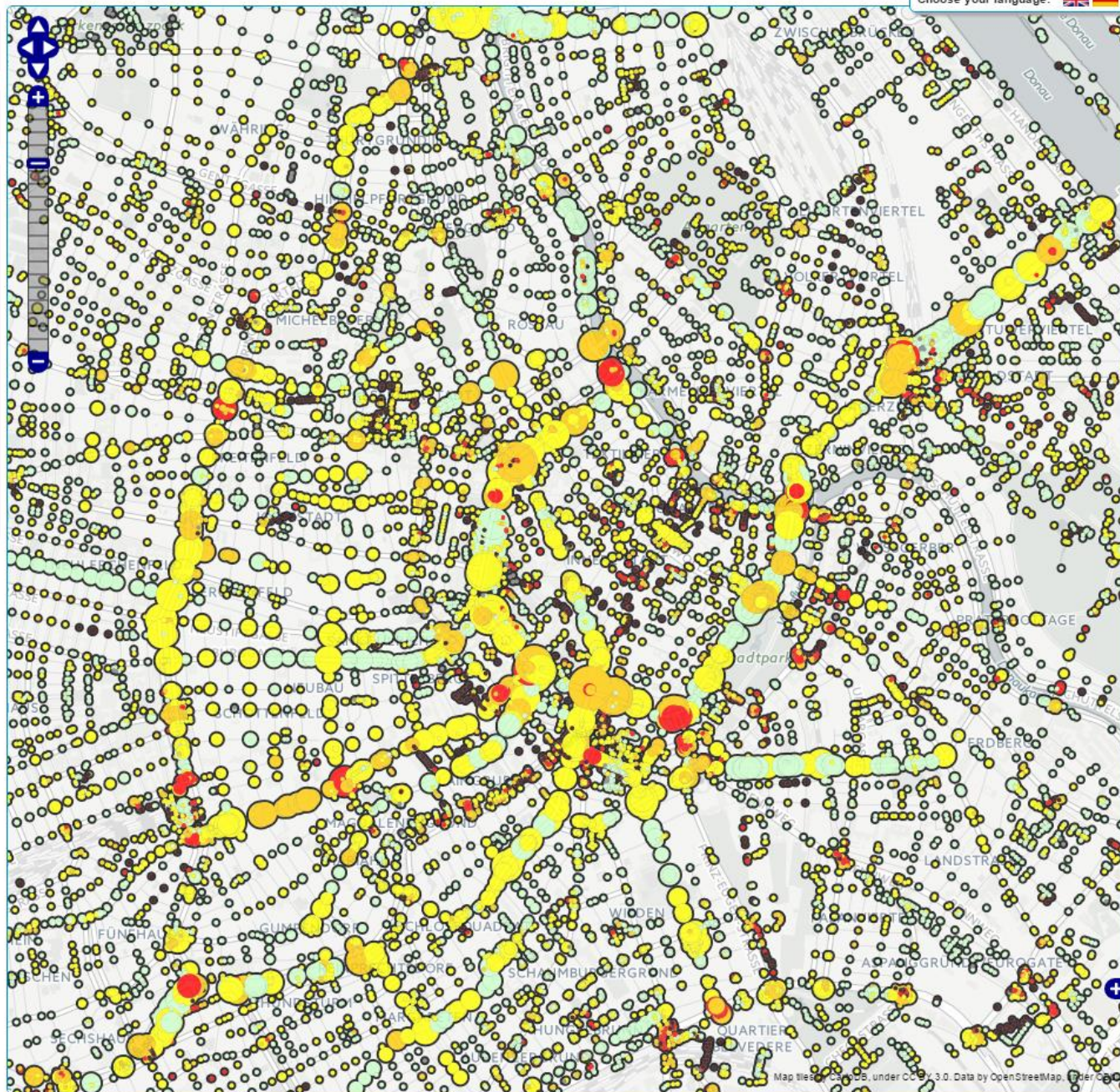
558 fietsers

snelheid: 16 km/u (0 %)

detailinformatie

 absolute speed relative speed delay

delay at intersections

 1 tot 15 sec. 15 tot 30 sec. 30 tot 45 sec. 45 tot 60 sec. meer dan 1 minuut isochrones (areas) isochrones (network) residents jobs[Download Fietstelweek Data](#)



Kilo dataset:  
167. Wien BikeCitizens

807 fietsers  
aantal: 19 km/u (0 %)  
detailinformatie

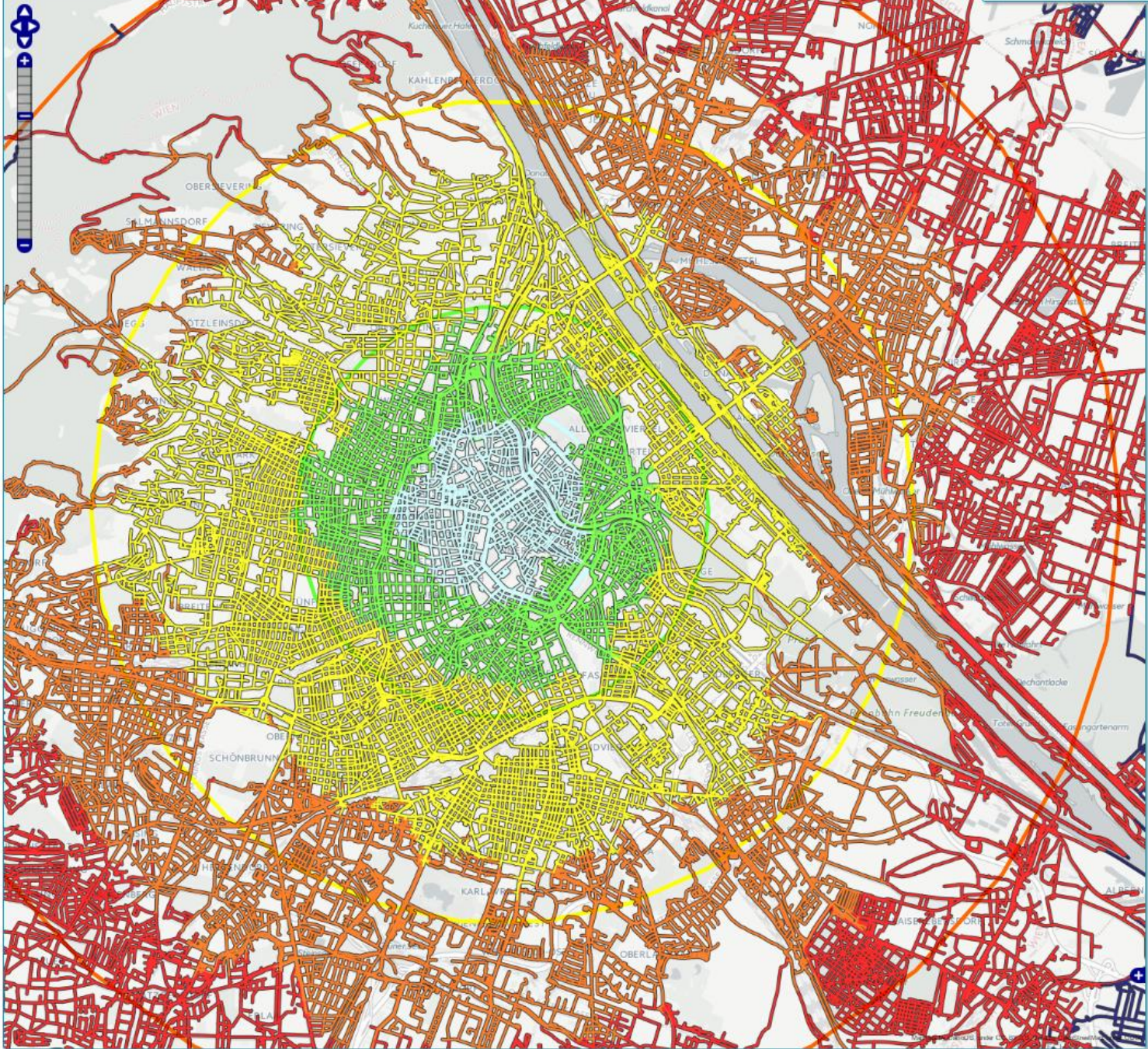
- absolute speed
- relative speed
- delay
- isochrones (areas)
- isochrones (network)

Click on a road segment to see travel times from that road.

-  0 tot 5
-  5 tot 10
-  10 tot 20
-  20 tot 30
-  30 tot 45
-  meer dan 45

- residents
- jobs

[Download Fietsnetwerk Data](#)





# Cooperation models

## Online Platform - App & Web



## Finn Smartphone Mount



	FREE	PREPAID			FLATRATE
		S	M	L	
<b>DATA</b>					
Bike Computer	•	•	•	•	•
Personal profile	•	•	•	•	•
Activity overview	•	•	•	•	•
<b>CITY PACKET WITH NAVIGATION (No. of Downloads)</b>		<b>2.000</b>	<b>4.000</b>	<b>8.000</b>	<b>unlimited</b>
A to B routing		•	•	•	•
Voice guidance		•	•	•	•
Available offline		•	•	•	•
Branding		•	•	•	•
<b>EXPLORE</b>					
Tours		5	10	15	•
Points of Interest		25	35	45	•
<b>DATA ANALYSIS TOOL FOR CITIES</b>		•*	•*	•*	•*
<small>* Currently in development by commission of the European Space Agency</small>					
<b>FINN DISCOUNT</b>		10%	15%	20%	30%
For every phone		•	•	•	•
For every bike		•	•	•	•
Branded packaging		•	•	•	•
Branded Finn		•	•	•	•

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# References

COOPERATION CITIES:  
Bremen, Graz, Vienna



## Fahrrad Wien

[www.fahrradwien.at](http://www.fahrradwien.at)

- Individualised home screen
- Integrated branding
- Integration of custom tours and POIs
- Marketing concept
- Logo displayed during the planning of every route



## City of Bremen

[www.bremen.de/bike-it](http://www.bremen.de/bike-it)

- Prominent logo placement
- Incorporated into the Bremen website
- 5 Minutes by Bike mode
- Sharing function

CITIES:



STATES:



ORGANISATIONS:





# How far can you ride in your city in five minutes

Our algorithm calculates the best way through the city, ensuring that you'll make it to the office, that appointment or home to your family in time.

NEW FEATURE

## Try 5 Minutes by Bike

See how far you can get by bike in over 100 cities in just five minutes

[map.bikecitizens.net](http://map.bikecitizens.net)



# Benefits for the city

## **ENGAGEMENT**

By increasing knowledge and safety, the app helps all riders to better engage with cycling in their city, giving beginners confidence the confidence to jump on their bike.

## **DATA**

GPS data is provided free to partner cities and offers valuable insight into cycling patterns in the city, enabling research projects and efficient improvements to cycling infrastructure.

## **AWARENESS**

The image of cycle friendly cities is on the rise—not only the cities themselves, but also the people behind them who are being acknowledged for their engagement.







## **BikeCityGuide Apps GmbH**

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8020 Graz, Austria

daniel@bikecitizens.net

www.bikecitizens.net

 @danielkofler\_

## **Bike Citizens Germany GmbH**

Wilhelmine-Gemberg-Weg 12  
10179 Berlin, Germany

### **PRIZES & AWARDS**

- 2012:** Fast Forwards Award (Nominee)
- 2012:** European Satellite Navigation Competition (Winner Austria)
- 2014:** Expobici Award
- 2014:** Apps for Europe Award
- 2014:** Eurobike Award - Accessory
- 2015:** Eurobike Award - App

### **GRANTS**

- 2012:** PreSeed AWS high-technology subsidy
- 2012-14:** FFG Ways2Go research subsidy: "BikeWaves"
- 2014-15:** FFG basic programme for research subsidy: "Nice Rides"
- 2015:** FFG research project: "Öko-Log"
- 2015:** ESA Future Cities tender: "SpaceTech for Cycling"
- 2015:** FFG research project SHIQUE





# Green wave at your fingertips

Using existing data, our Bike Wave prototype allows you to ride on a wave of green lights through the city. From green to red, the Green Wave Assistant always tells you the best speed for your next green light.

## BIKE WAVE PROTOTYPE

A prototype version was tested in Vienna in 2014-15. A general launch is planned for 2016.



# Enhancing bike sharing usage

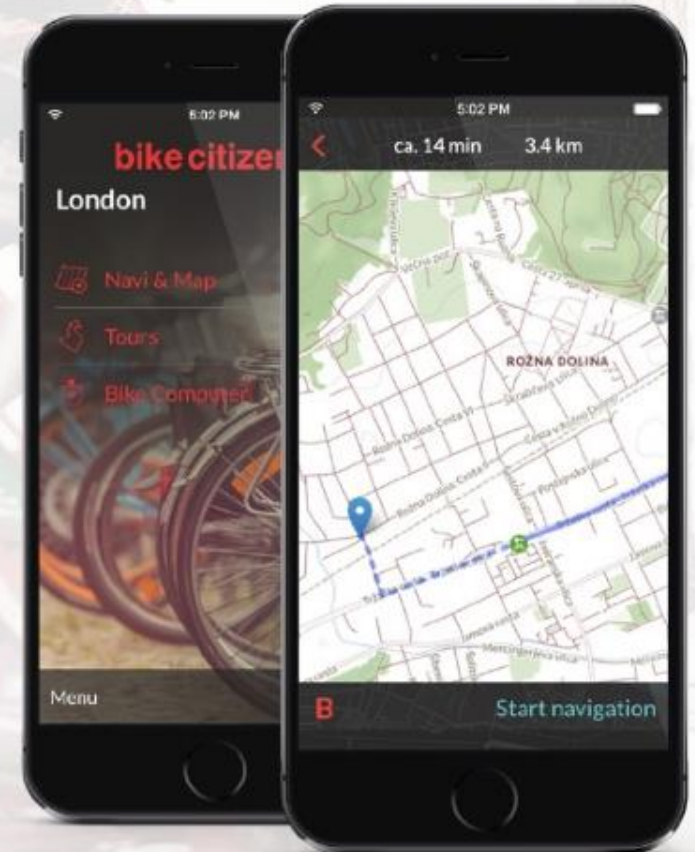
**GOAL:** Augment usage by 5% in each bike sharing city

**SOLUTION:** Make bike sharing simple and efficient!

## Bike Citizens App + Bike Sharing Integration

### THE "ODUN BIKES" PROJECT

Financed by ODINE (Open Data Incubator for Europe)  
Project period: August 2015 – March 2016





# ... more scientists for cycling

We ensure our technological strength through our science projects with various institutions and universities. Apart from Bike Wave, our current projects are:

## **NICE RIDES**

Increase routing security with feedback function and evaluation of crossroads and paths.

## **SHIQUE**

Getting reliable traffic data by using sensor technology in smartphones.





# How technology drives the evolution of our algorithm

## **EXPERT KNOWLEDGE**

Our algorithm is based on OpenStreetMap data and uses the knowledge of bike couriers to evaluate and improve our routing system.

## **DATA**

Furthermore, all collected data helps us to derive an optimal timing to keep riders in motion.





# Benefits of Cycling

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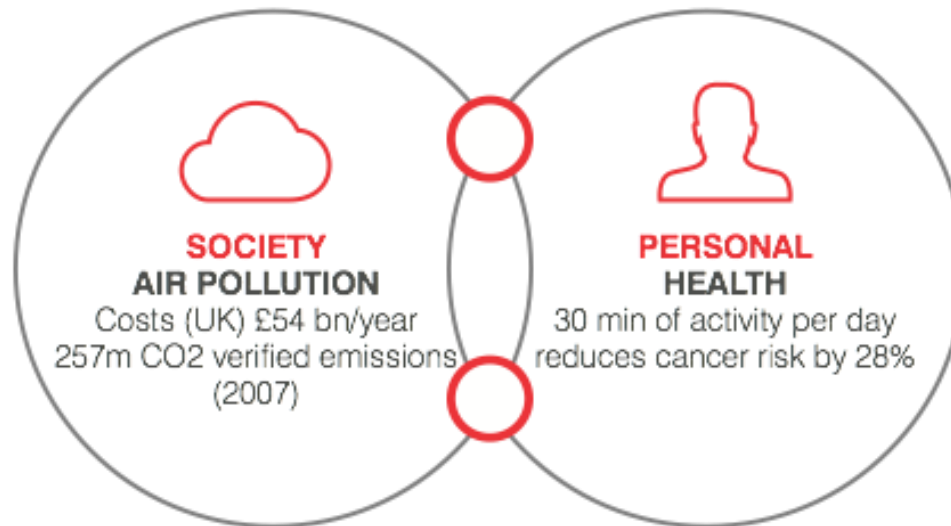


**SOCIETY**  
**AIR POLLUTION**

Costs (UK) £54 bn/year  
257m CO2 verified emissions  
(2007)

# Benefits of Cycling

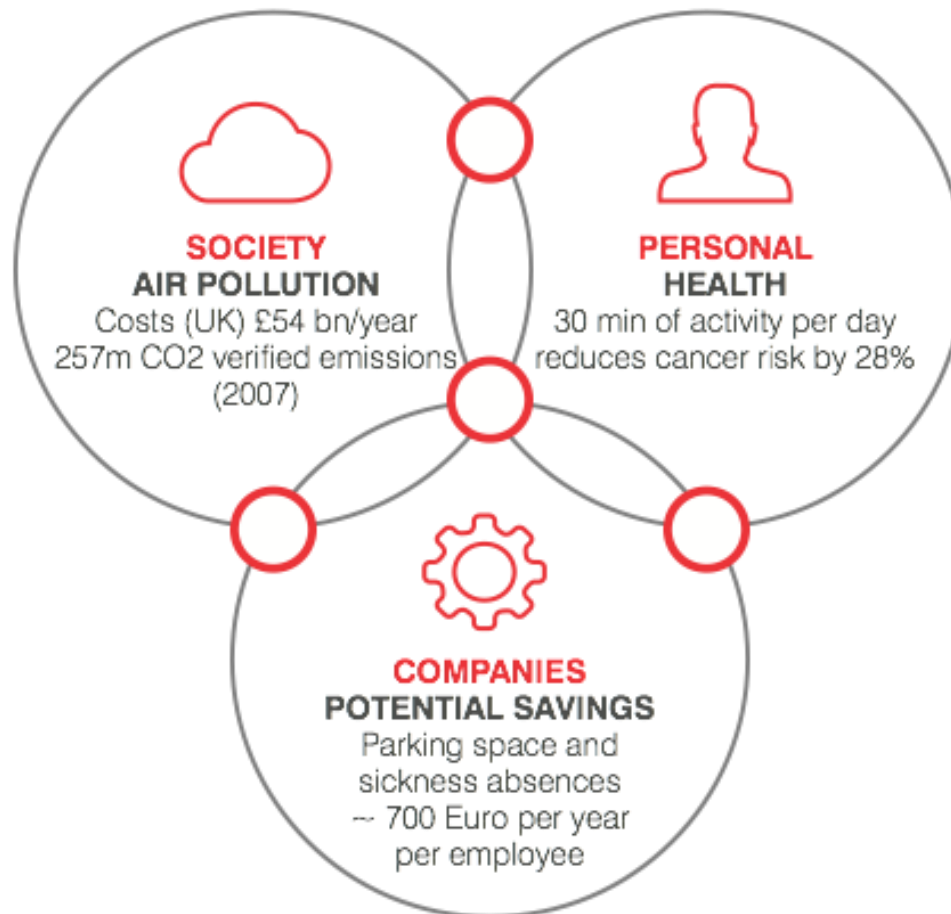
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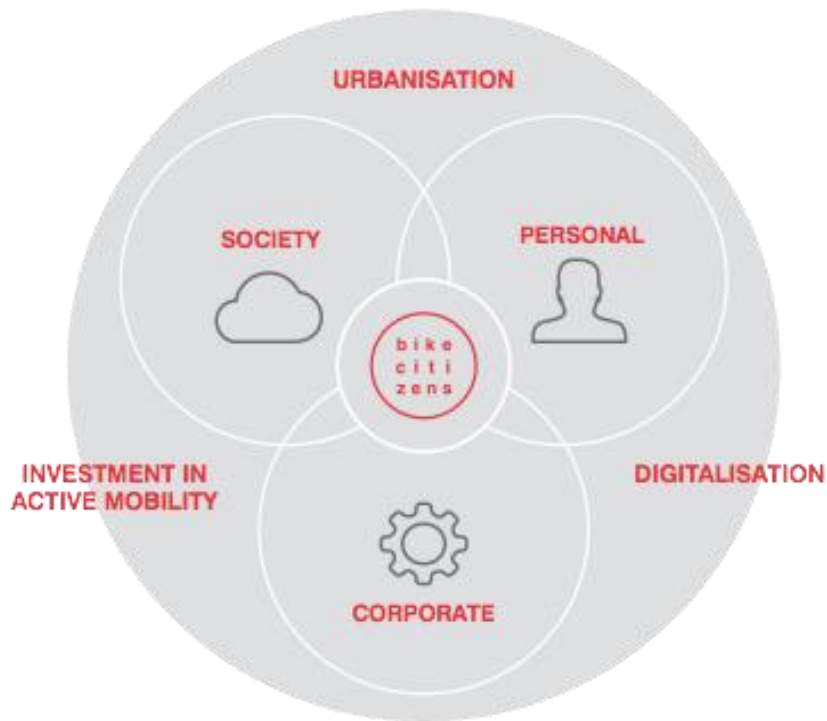
# Benefits of Cycling

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# Why Bike Citizens?

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**Bike Citizens connects the three Megatrends with its app and web technology.**

**AIM:** to support cities, residents and businesses in choosing active urban mobility by offering products and services to ease the transition.