Gemeente Amsterdam

POLIS | ANNUAL CONFERENCE 2018
CITIES AND REGIONS FOR TRANSPORT INNOVATION
22-23 November 2018, Manchester
Innovation in Transport for Sustainable Cities and Regions

# Walkability in Amsterdam

## More space for the mother of all modes of transport

**Eric de Kievit | Senior Advisor Transport & Traffic Research | Mobility & Public Space**
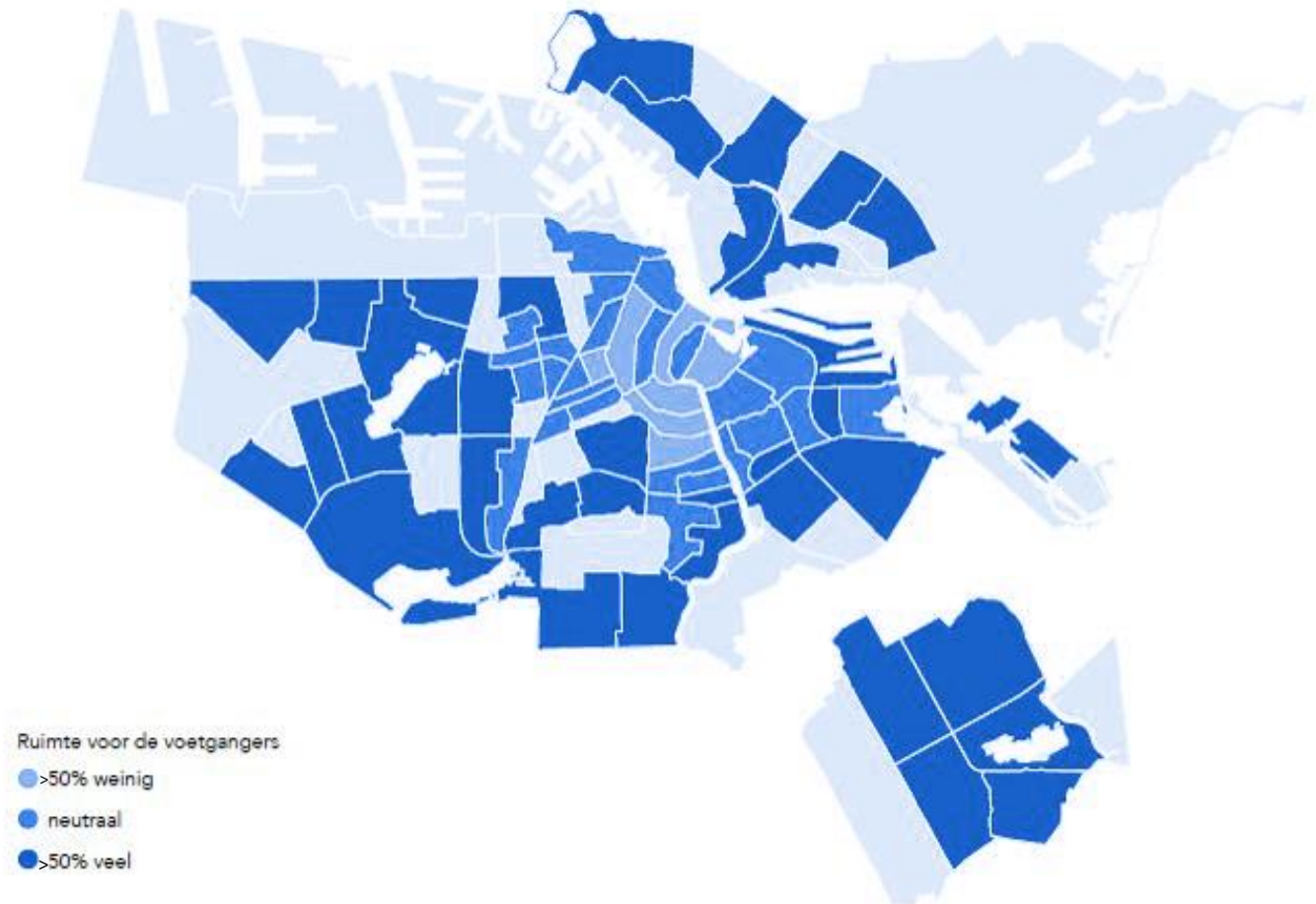
**Johan Olsthoorn | Researcher | Mobility & Public Space**

**Manchester, Thursday November 22th, 2018**

1969     2016

Bron: Stadsarchief, Google Street View, eigen foto
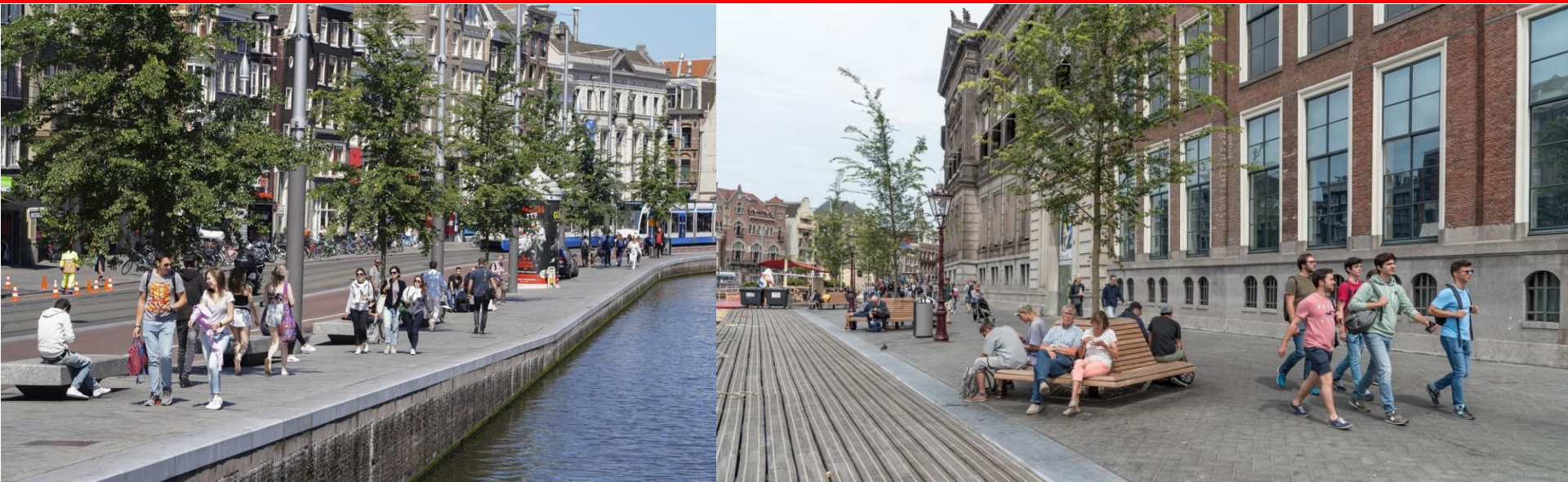
# Residents find there is too little space for pedestrians in city centre

**Survey on pedestrians and public space, 2016**



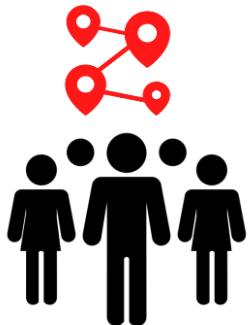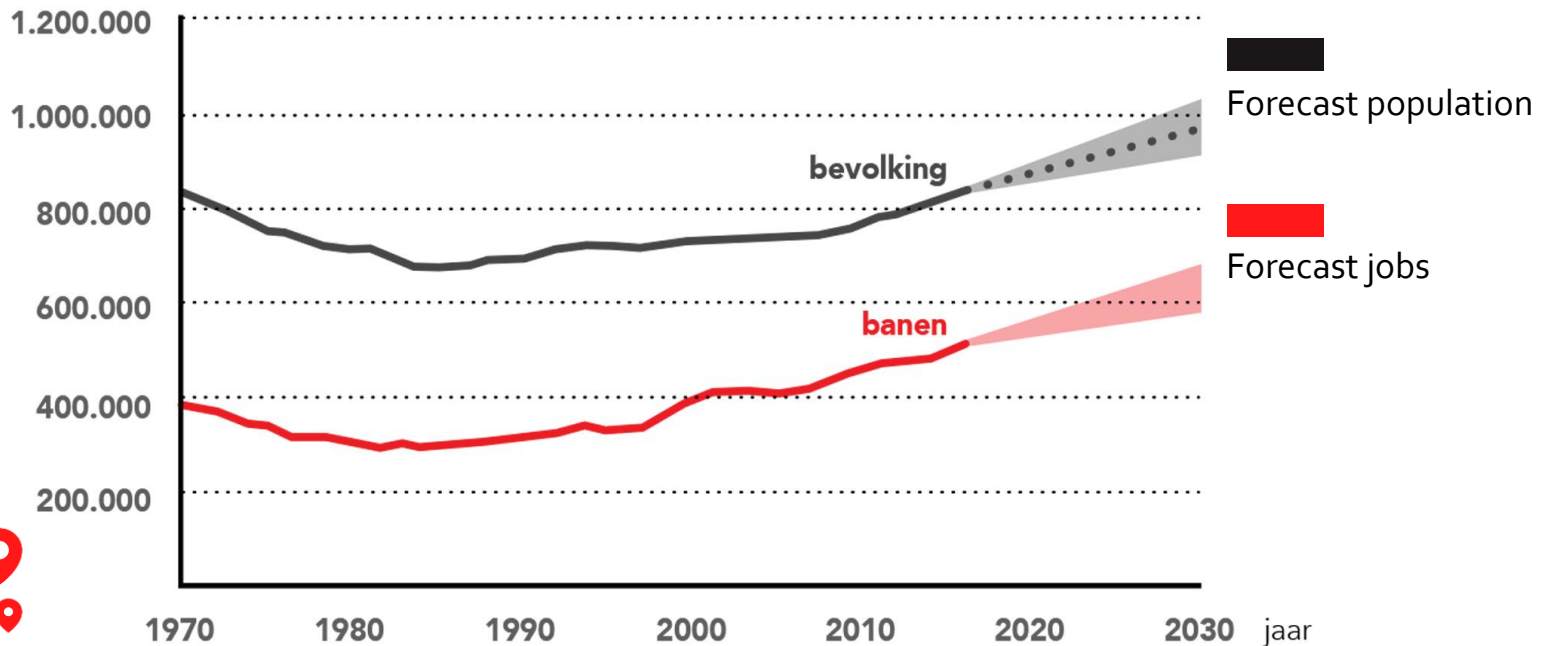Ruimte voor de voetgangers
- >50% weinig
- neutraal
- >50% veel

# A rapidly changing city

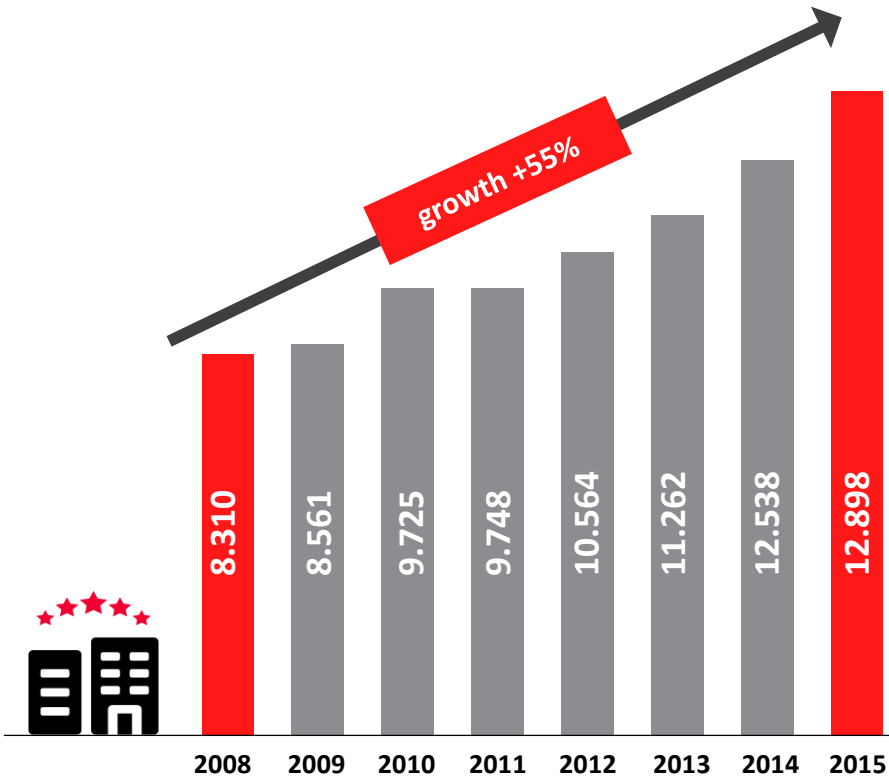# Amsterdam's population increasing towards 1 million inhabitants in 2030

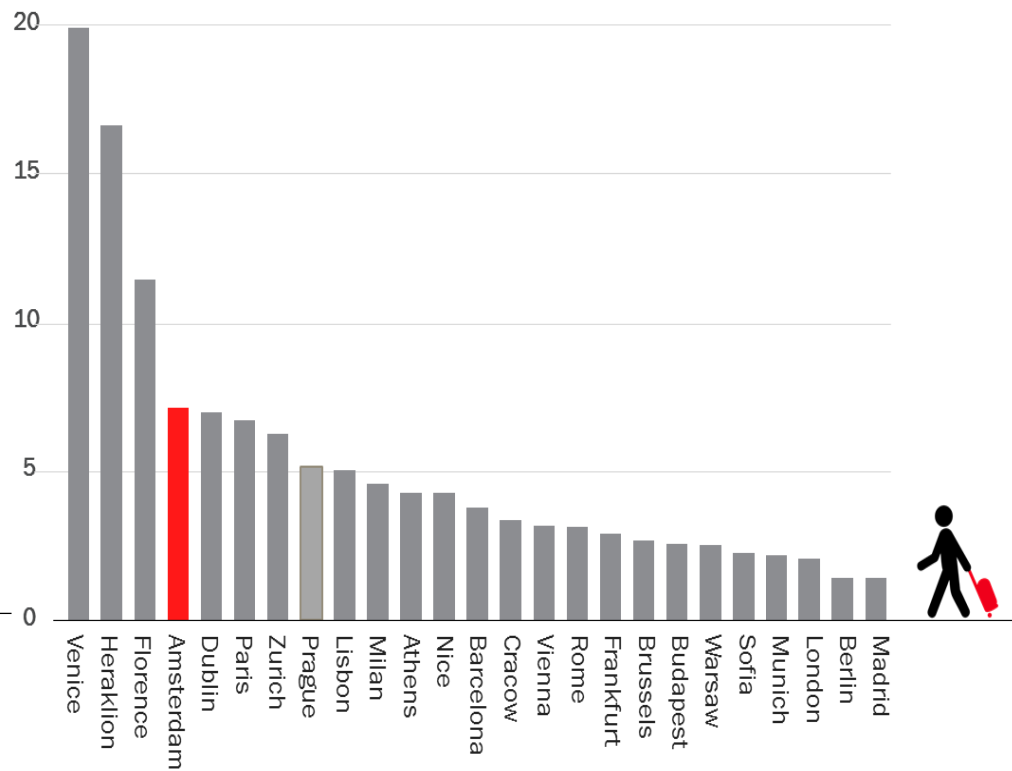**Development and forecast population and employment, Amsterdam 2016 (source: OIS, PBL/CBS)**

# Tourism: The number of hotel stays continues to increase

**Number of hotel overnights (x1.000), 2008-2015**

growth +55%

| Year | Value |
|------|-------|
| 2008 | 8.310 |
| 2009 | 8.561 |
| 2010 | 9.725 |
| 2011 | 9.748 |
| 2012 | 10.564 |
| 2013 | 11.262 |
| 2014 | 12.538 |
| 2015 | 12.898 |

**Above this growth in hotel bookings also 736.000 Airbnb-overnights (2015)**

**Number of tourists per 1000 inhabitants**

Venice, Heraklion, Florence, Amsterdam, Dublin, Paris, Zurich, Prague, Lisbon, Milan, Athens, Nice, Barcelona, Cracow, Vienna, Rome, Frankfurt, Brussels, Budapest, Warsaw, Sofia, Munich, London, Berlin, Madrid

Source ATB (left) and EuroStat (right)

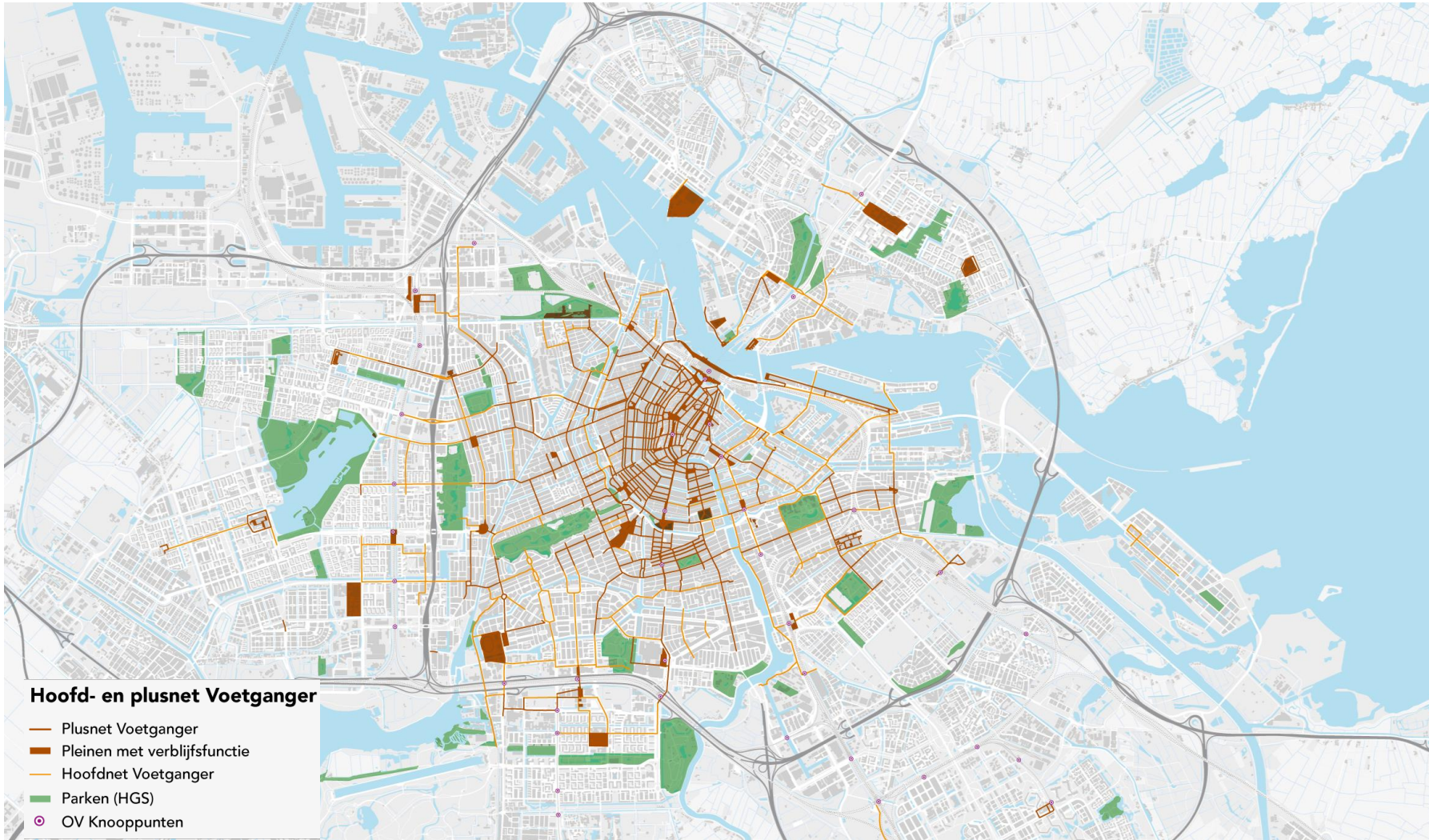❌❌❌ **Crowds, narrow sidewalks and obstacles result in poor walkability**

❌❌❌ **Pedestrians forced to dodge obstacles or to walk on road**

# Pedestrian policy started off with defining a main pedestrian network

# Little known about state and use of main pedestrian network



Hoofd- en plusnet Voetganger

- Plusnet Voetganger
- Pleinen met verblijfsfunctie
- Hoofdnet Voetganger
- Parken (HGS)
- OV Knooppunten

**How can we analyse and map out the state and use of the main pedestrian network, using existing data?**
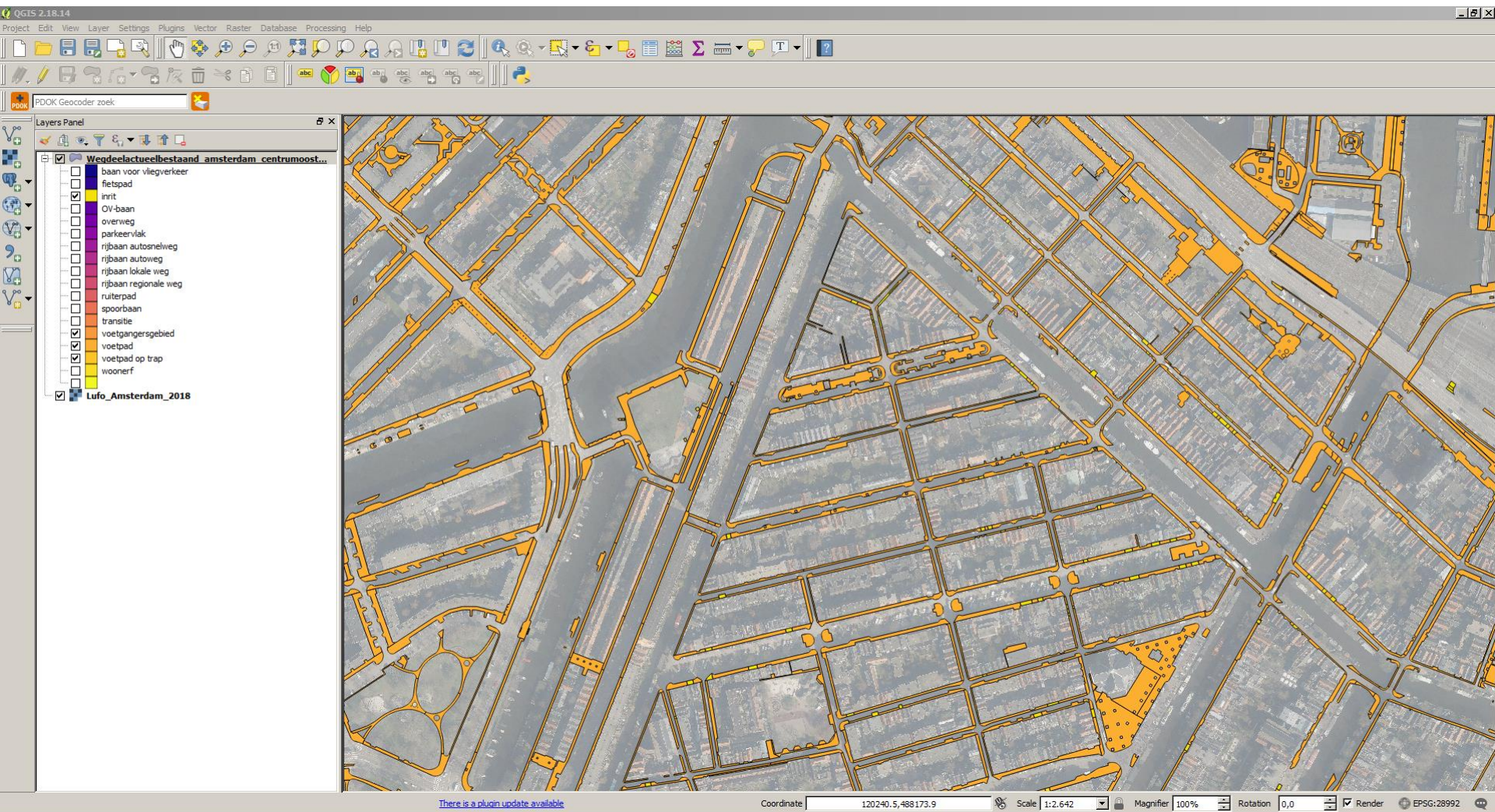
# Walkability:
## Effective walking space and Pedestrian demand

**Effective walking space**

**Pedestrian demand**

— wide

—

—

— narrow

— low

—

—

— high

# Walkability scores

— high

—

—

— low
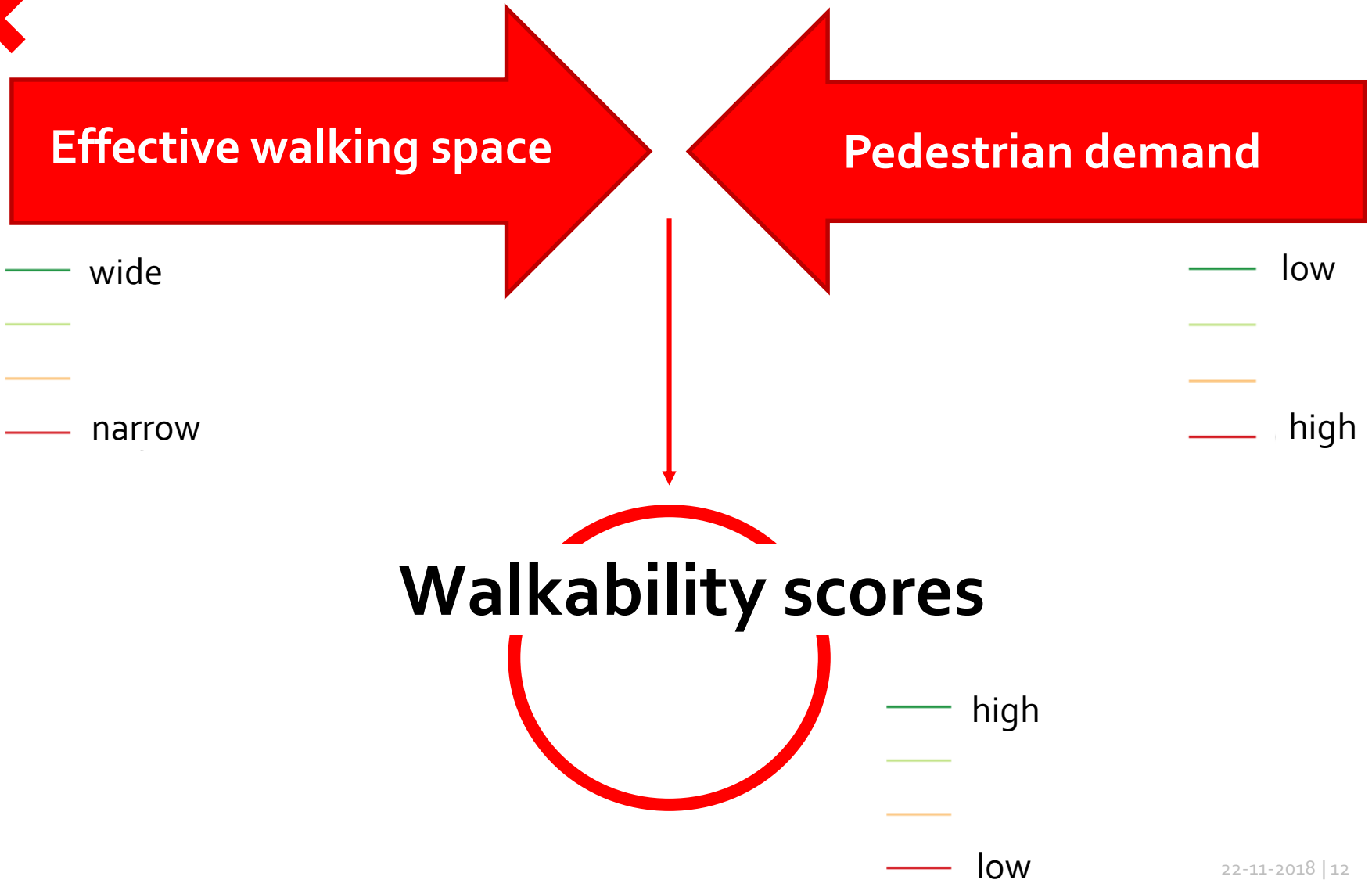
# Effective walking space:
## Sidewalk width, obstacles and bicycle parking pressure
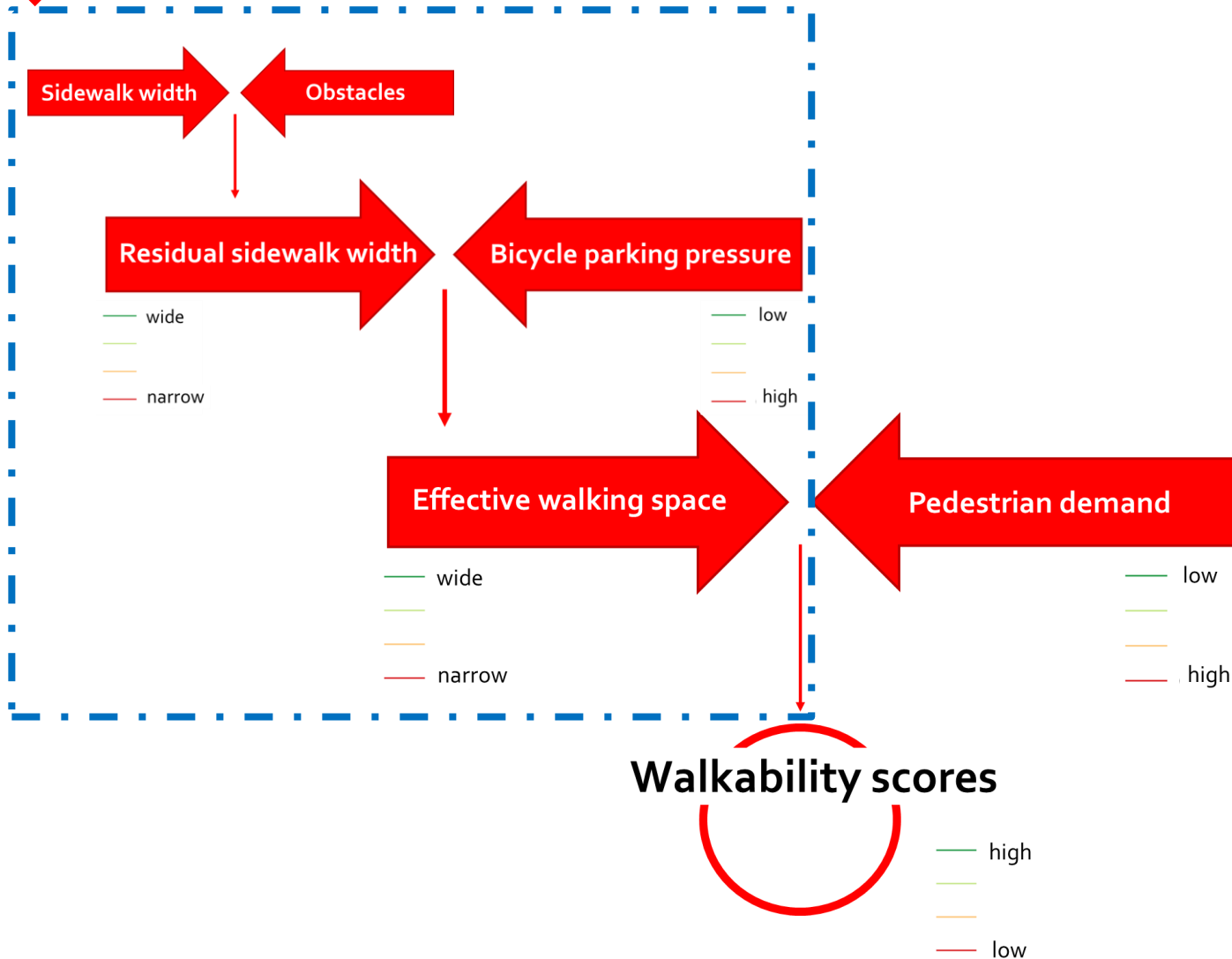
# ❌ Pedestrian space in national registry for
# ❌ large scale topography
# ❌

# ❌ Pedestrian space
# ❌ (obstacles at Café Winkel)
# ❌

# ❌ Obstacles included

- Bicycle racks
- Street furniture
- Greenery
- Shop displays
- Terraces

# Residual sidewalk width

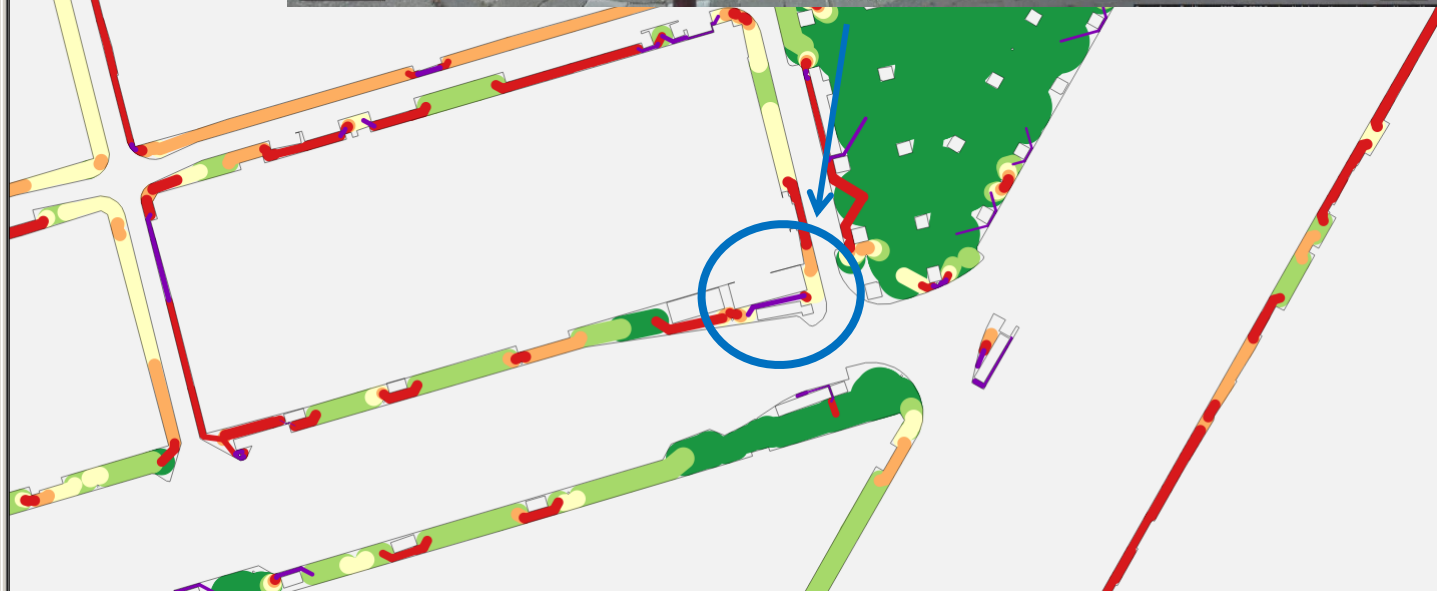# ❌❌❌ Bicycle parking pressure of bikes parked on sidewalk outside of racks







Secties_trajan_residu [15596]
- ☐ 0.000 - 0.000 [3229]
- ☐ 0.000 - 0.002 [1288]
- ☐ 0.002 - 0.008 [2968]
- ☐ 0.008 - 0.030 [4015]
- ☐ 0.030 - 2.081 [1877]

# Effective walking space

## Legenda

**Effectieve loopruimte**

— zeer krap
— krap
— ruim
— zeer ruim

0.25  0  0.25  0.5  0.75  1 km

22-11-2018 | 19
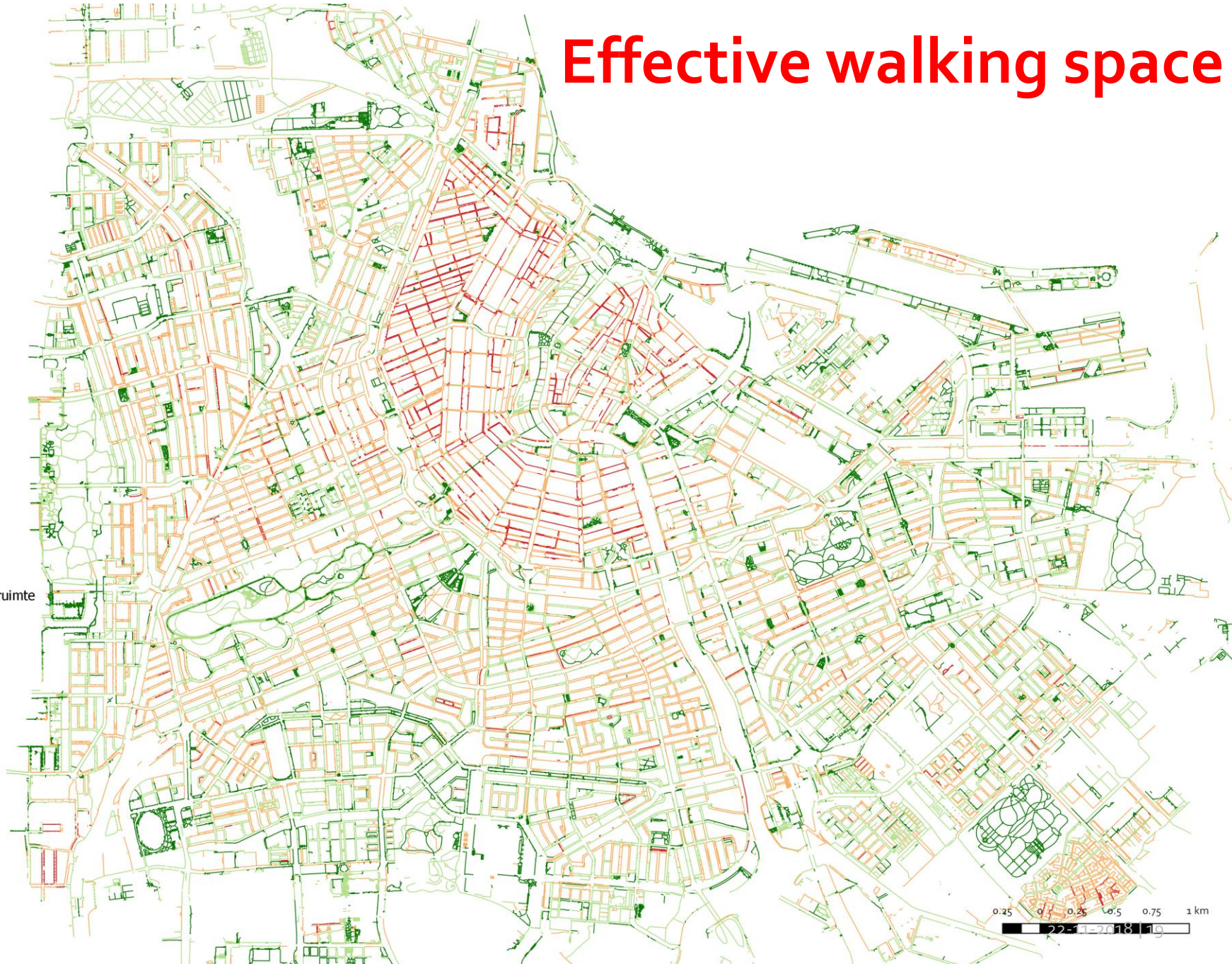
# Pedestrian demand:
## Datasets reflecting presence of pedestrians in public space

- Residents
- Jobs
- Functions (schools, shops, business)
- Students
- Visitors to cultural institutions
- Boarding and alighting passengers at public transport stops

**Effective walking space** ← → **Pedestrian demand**

— wide
—
—
— narrow

— low
—
—
— high

**Walkability scores**

— high
—
—
— low
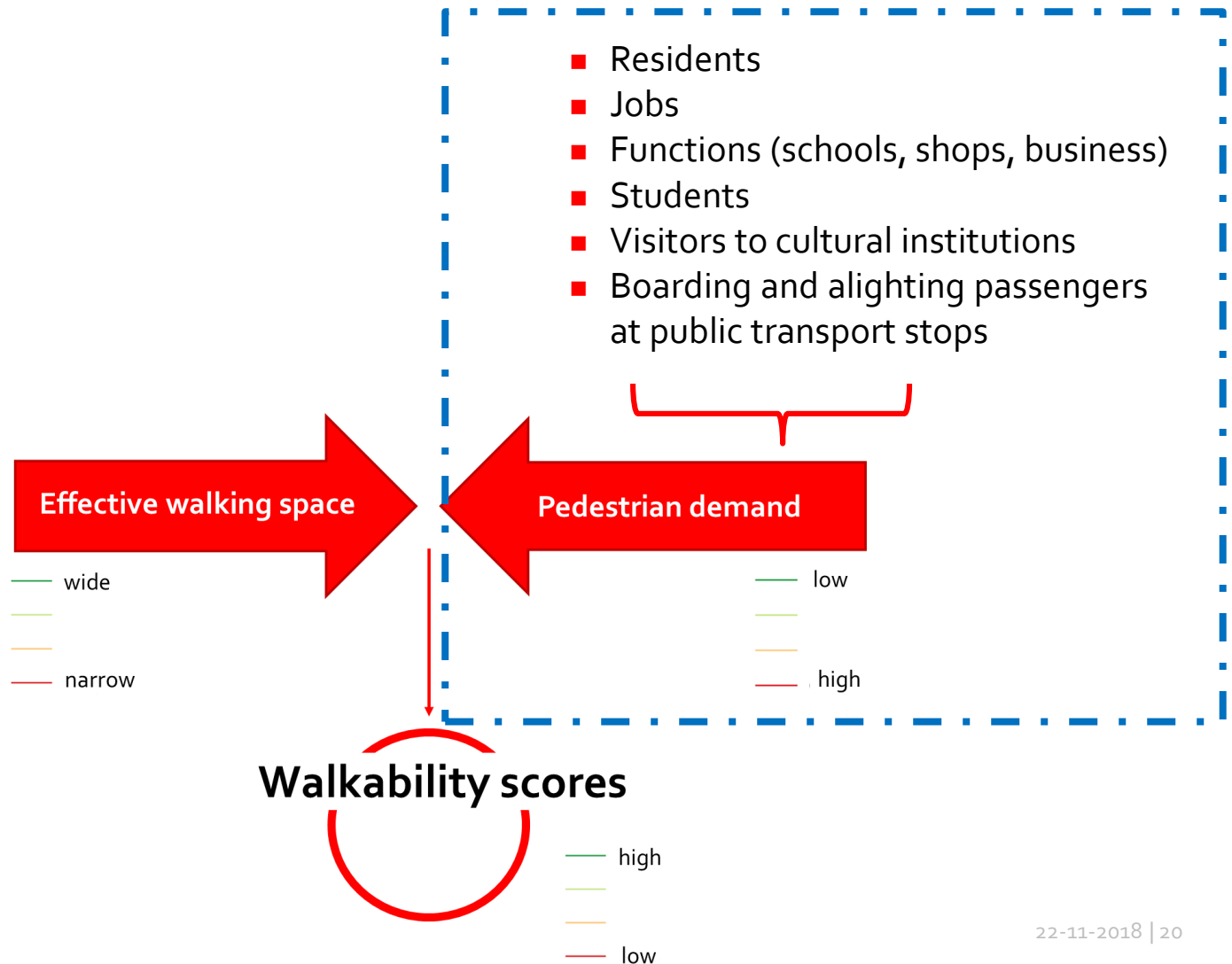
# Pedestrian demand

Legenda

Voetgangersdrukte

- zeer druk
- druk
- rustig
- zeer rustig

0.25  0.25  0.5  0.75  1 km

# Walkability:
## Effective walking space and Pedestrian demand



Effective walking space

Pedestrian demand

wide

narrow

low

high

Walkability scores

high

low

Legenda
Effectieve loopruimte
zeer krap
krap
ruim
zeer ruim

Legenda
Voetgangersdrukte
zeer druk
druk
rustig
zeer rustig

Legenda
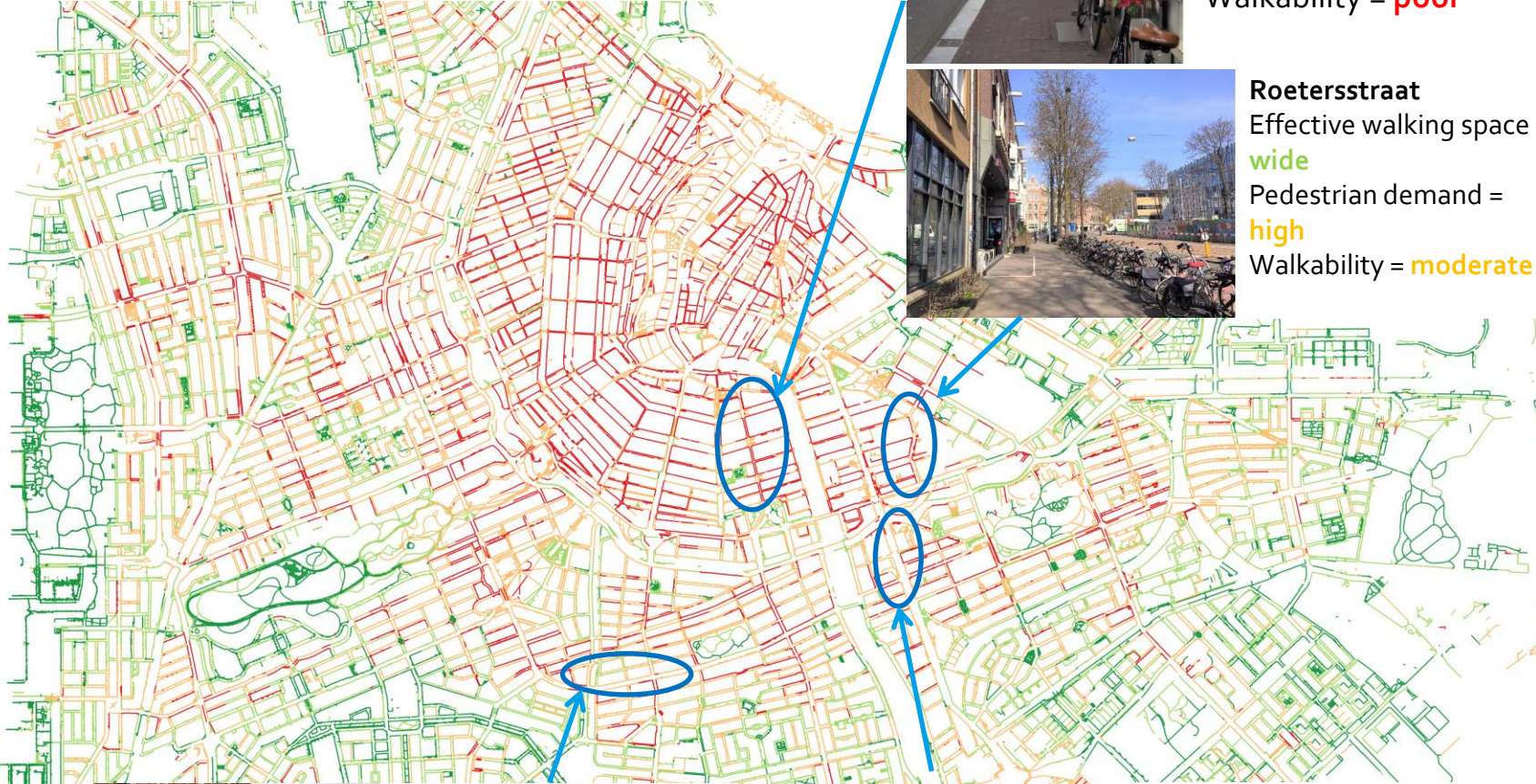Walkability-score
uitstekend
goed
matig
zwak
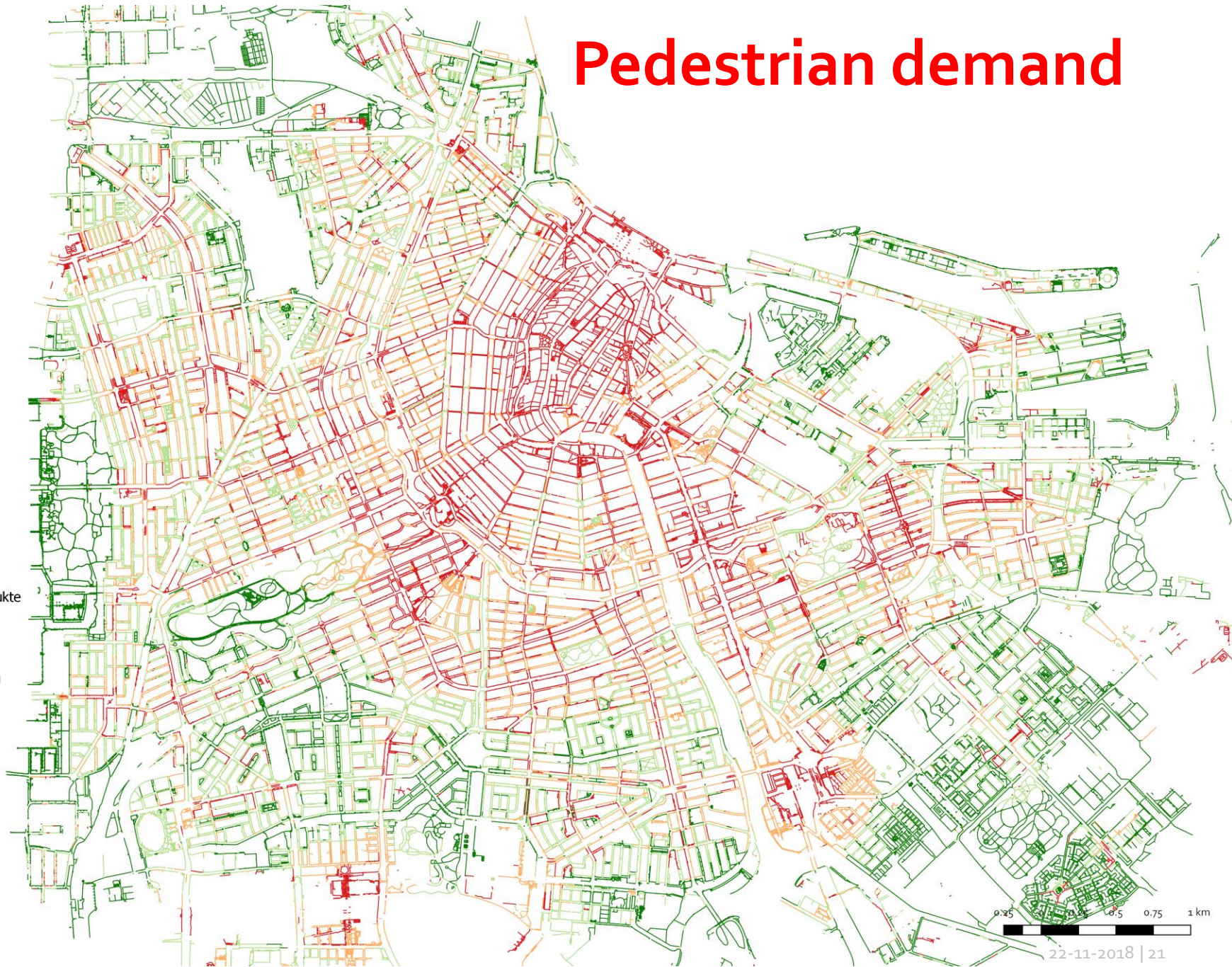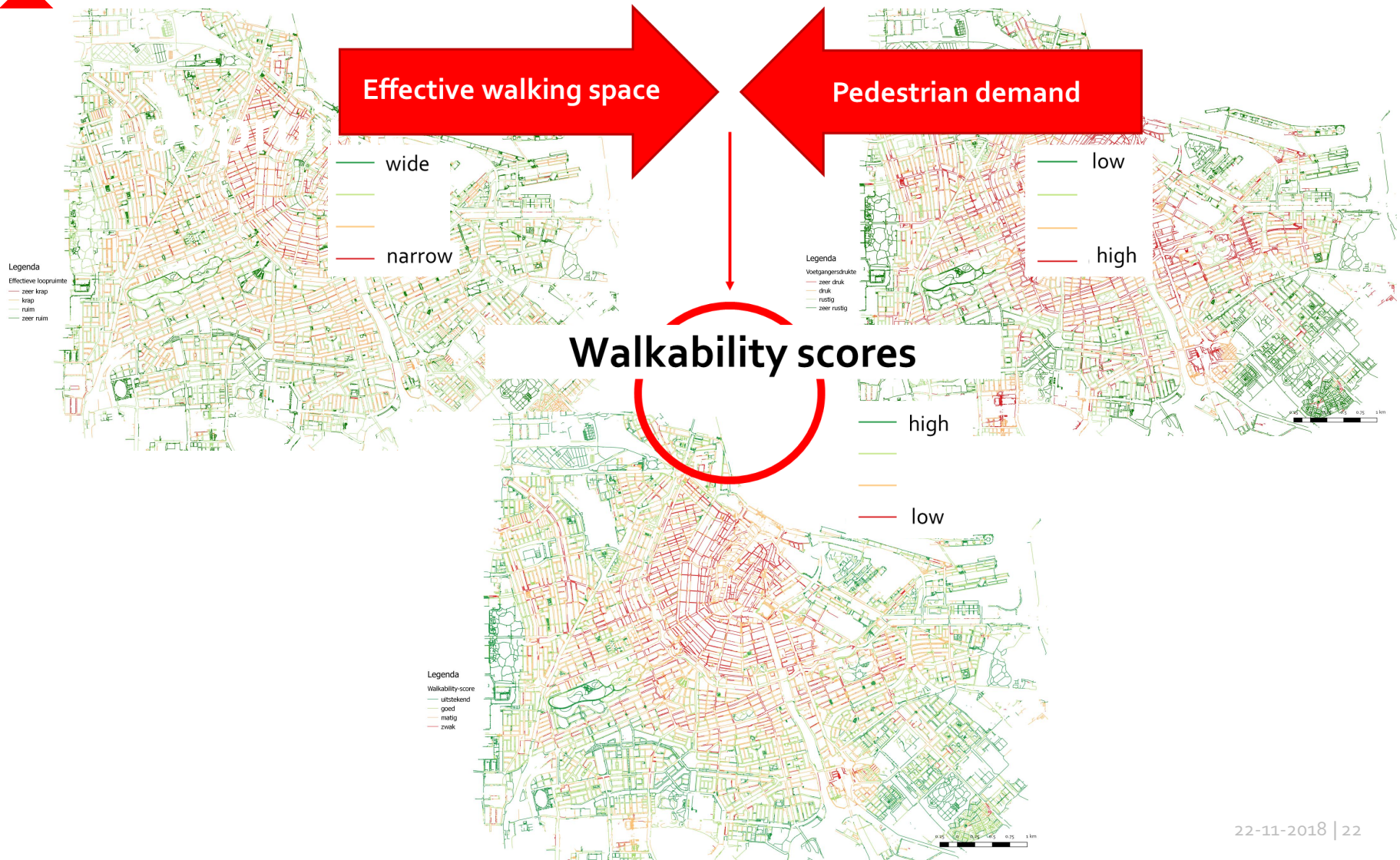
# Clear visual of Walkability
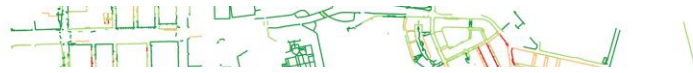


**Utrechtsestraat**
Effective walking space
= **very narrow**
Pedestrian demand =
**very high**
Walkability = **poor**

**Roetersstraat**
Effective walking space =
**wide**
Pedestrian demand =
**high**
Walkability = **moderate**

### Legenda

Walkability-score
— uitstekend
— goed
— matig
— zwak

**Ceintuurbaan**
Effective walking space
= **wide**
Pedestrian demand =
**very high**
Walkability = **moderate**

**Wibautstraat**
Effective walking space =
**very wide**
Pedestrian demand =
**very high**
Walkability = **good**

# ✖ ✖ Results applied to give more public space to pedestrians

# Round-Up Walkability analysis

- Accurate:
  - supply and demand of effective walking space
  - Combining many detailed datasets
- Clear visualisation:
  - summary of results per sidewalk
- Useful:
  - Results applied to policy making to give more public space to the mother of all nodes: walking!!