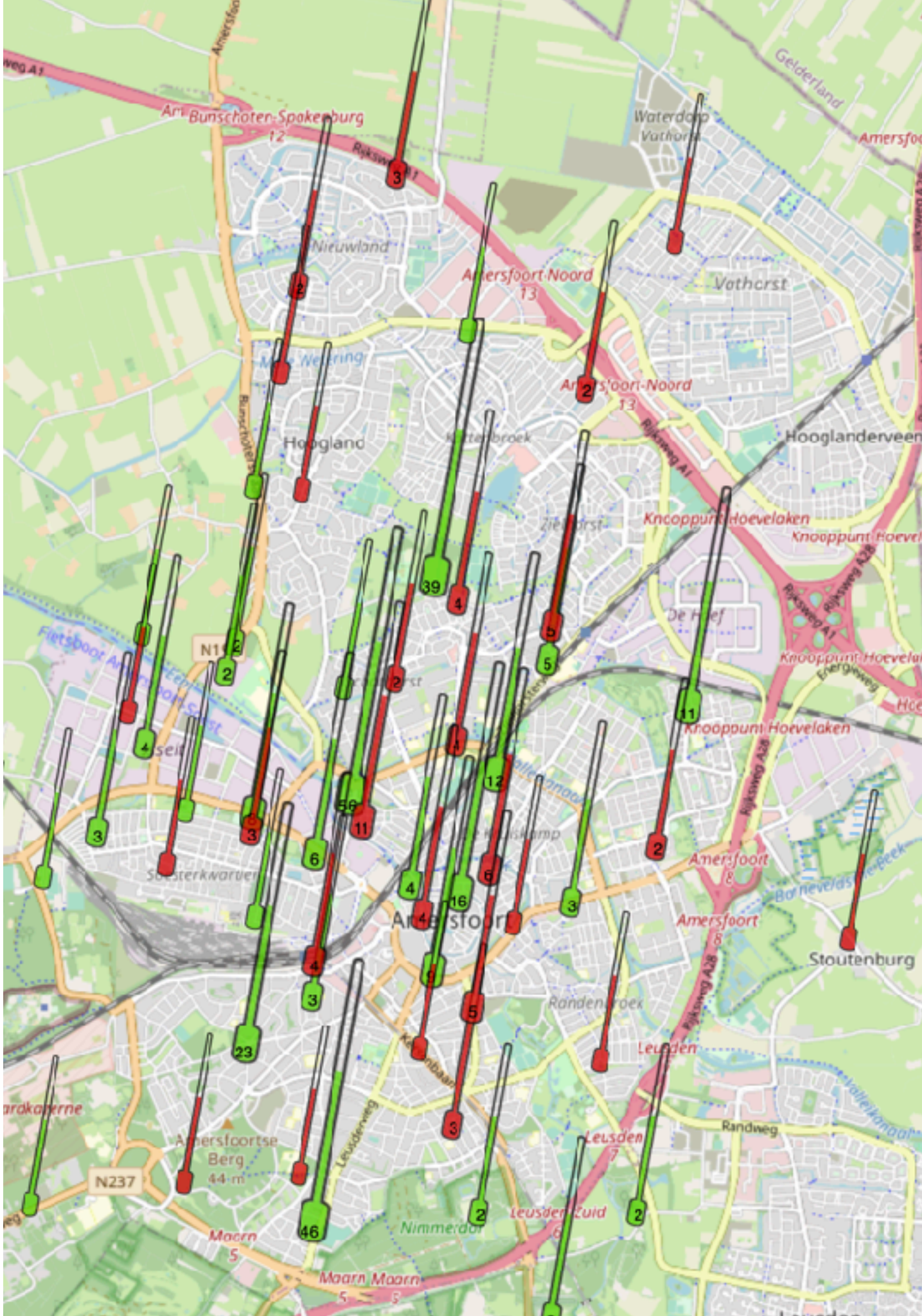


The map displays the city of Amersfoort and its surrounding areas, including Bunschoten-Spakenburg, Nieuwland, Vathorst, Hoogland, Zierikzee, Knoppepunt Hoevelaken, De Hef, Soesterkwaartier, Amersfoort, Randenroek, Leusden, and Maarn. The map is overlaid with a grid of measurement points, each marked by a colored circle (red or green) and a number. The points are distributed across the city, with a higher density in the central and northern areas. The map also shows major roads, water bodies, and green spaces.

The map displays the city of Amersfoort and its surrounding areas, including Leusden and Maarn. It highlights the locations of 46 measurement points for PM10 and PM2.5. The points are distributed across various districts, with some areas having multiple points. The map also shows major roads, water bodies, and other geographical features. The measurement points are marked with red and green dots, each with a number indicating the specific location.

The map displays the city of Amersfoort and its surrounding areas, including Leusden and Maarn. It highlights the locations of 46 measurement points for PM10 and PM2.5. The points are distributed across various districts, with some areas having multiple points. The map also shows major roads, water bodies, and other geographical features. The measurement points are marked with red and green dots, each with a number indicating the specific location.



The map displays the city of Amersfoort and its surrounding areas, including Bunschoten-Spakenburg, Nieuwland, Hoogland, Vathorst, Hooglanderveen, and Leusden. The measurement points are distributed across the city, with a higher concentration in the central and northern parts. The points are marked with colored circles and numbers, indicating the location and type of measurement.

The map displays the city of Amersfoort and its surrounding areas, including Bunschoten-Spakenburg, Nieuwland, Vathorst, Hoogland, Zierikzee, De Hef, Knopput Hoevelaken, Stoutenburg, Leusden, and Maarn. The measurement points are distributed across the city, with a higher concentration in the central and northern parts. The points are marked by colored circles (red for PM10 and green for PM2.5) and numbers, indicating the specific location and the type of measurement taken.

This talk: 'scale' as a smart city heuristics

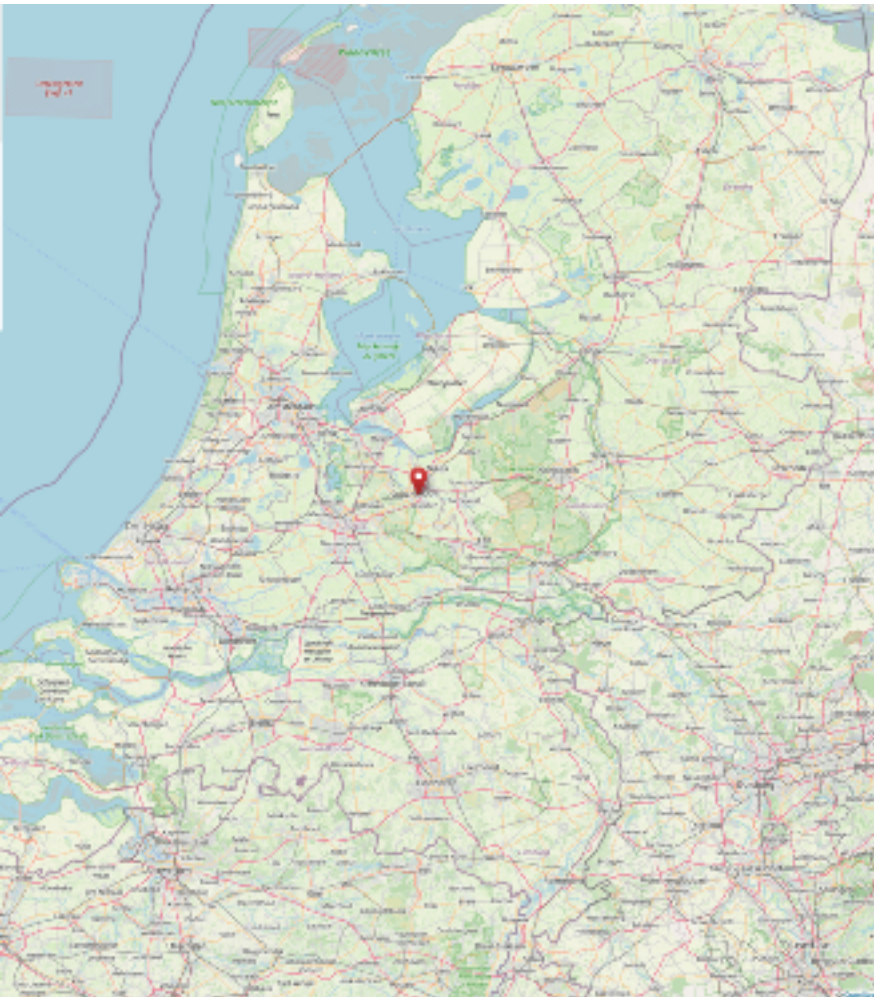
Aim: look at citizen engagement with datafied smart cities through the lense of 'scale' on 3 interconnected levels:

1. **Spatio-temporal dimensions:** What can we learn from Amersfoort as a small (and often slow) smart city?
2. **Degree of civic engagement:** Rethinking civic engagement in the datafied smart city.
3. **Onto-political measure:** 'Responsible' smart city development centering on public values.

Central concept: *controversing*, a strategy for making datafication in Amersfoort controversial.



Project “*Designing for Controversies in Responsible Smart Cities*”



Core idea: smart cities as contested forms of public space, where citizens (‘the public’) gather around socio-technical controversies (‘issues’).

Aim: fostering ‘responsible smart cities’, by developing approaches for dealing with controversies and public values.

Case city: Amersfoort (pop. ca. 158.000, ranking 15th in NL)

Sept 2018 - Sept 2022, <https://responsiblecities.nl>



Team:

- Julieta Matos Castaño (postdoc)
- Anouk Geenen (PhD)
- Corelia Baibarac-Duignan (postdoc)
- Mascha van der Voort (lead)
- Peter-Paul Verbeek (co-lead)
- Michiel de Lange (co-lead)

+ consortium partners

UNIVERSITY OF TWENTE.



Universiteit Utrecht



MARXMAN
advocaten



FUTURE CITY
Official FIWARE Hub
foundation

DESIGN
INNOVATION
GROUP

Fieldwork & Workshops



The municipality introduced a new guard on angel drones.
What should the drone do with the images it records?
Choose one of the 3 options:



Controversing: strategy for making datafication controversial

Approach that addresses questions how people can become engaged in issues and debates around public values in the datafied smart city.

E.g.:

- how does citizen engagement in the datafied city actually happen and what it is composed of?
- who gets to define and articulate what are controversial issues in the datafied city?
- how can public values be renegotiated and redefined by multiple and diverse publics?



See:

Baibarac-Duignan, Corelia, and Michiel de Lange. 2021. "Controversing the datafied smart city: Conceptualising a 'making-controversial' approach to civic engagement." *Big Data & Society* 8 (2). doi: 10.1177/20539517211025557.

Photo: "Designing for Controversies in Responsible Smart Cities"; Illustrations: Julieta Matos Castaño

Controversing: recontextualization - meaning-making - agency

i. Recontextualization: situating contestations around datafication in specific spatio-temporal settings.

- bringing abstract 'datafication' closer to everyday urban life.
- people formulate their own questions and issues, instead of externally defined controversies.

ii. Meaning-making: 'interfacing' with abstract dimensions of datafication and 'translating' this into collective issues of concern.

- frictional interfaces make potential tensions around datafication visible, and generate debate (e.g. maps, narratives, speculative design, public performance, etc.).
- interventions translate particular issues into collective issues.

iii. Agency: shifting the onus from individuals to the conditions and strategies for participating in shaping smart city futures.

- finding ways for participants to meet and renegotiate public values, and defining means and actions to protect them.
- creating conditions for collective reflection and action about the mediating role of technology in the city.

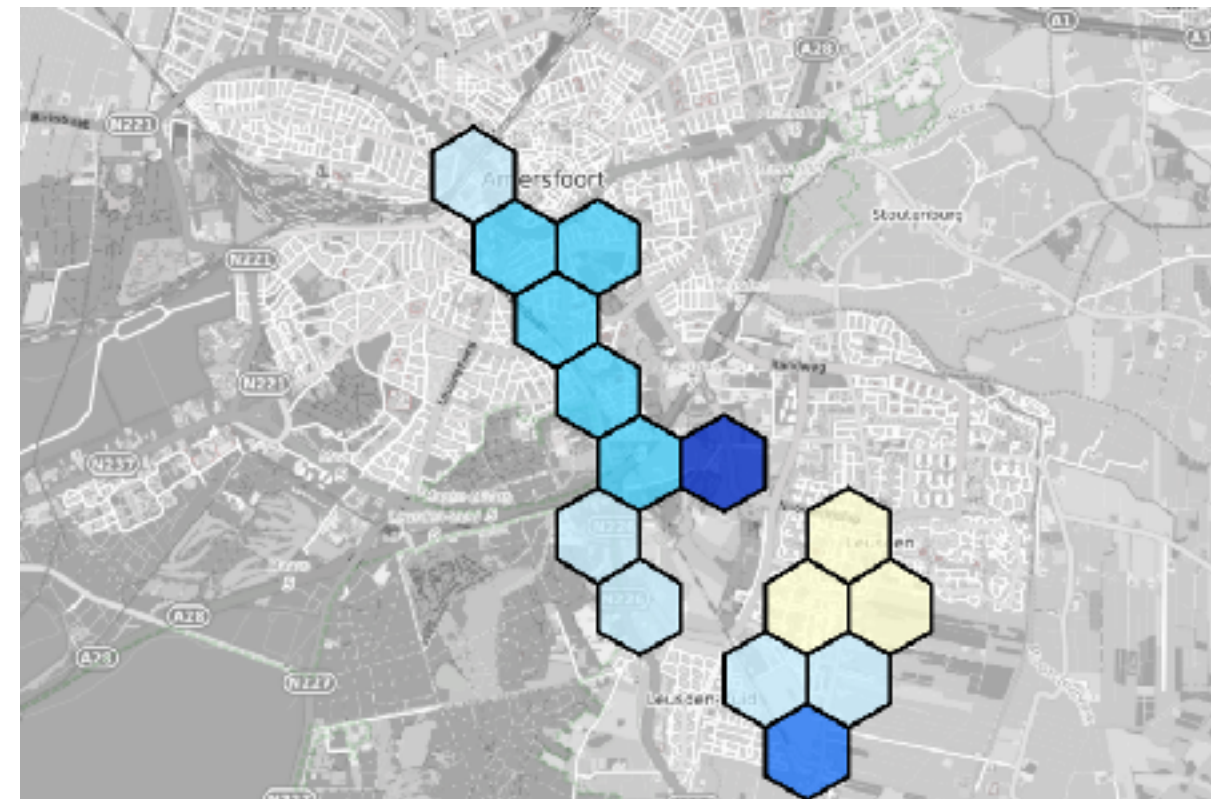


1. Spatio-temporal dimensions: scaling up (and down, slowly)

Amersfoort examples like *Meet Je Stad* (“Measure Your City”) and *Snuffelfiets* (“Sniffer Bike”) recontextualize data. Invisible abstract issues like air quality become localized, current, tangible, participatory, collaborative.

Yet datafication of urban life creates ‘scalar frictions’:

- Big and small: how to marry trailblazer ambitions (smart technologies for “cleaner, safer, and more comfortable” living) with acknowledgement of being small?
- Here and there: connecting own bottom-up local experiments with ‘trickle-down’ lessons from bigger smart cities.
- Fast and slow: balancing a lean and mean cooperative approach with responsibly slowing down on important moments when public values matter.



2. Civic engagement: 'smart citizenship' as scaling across levels



A. Smart citizenship as *interface* challenge: establishing meaningful associations between people-city-tech.

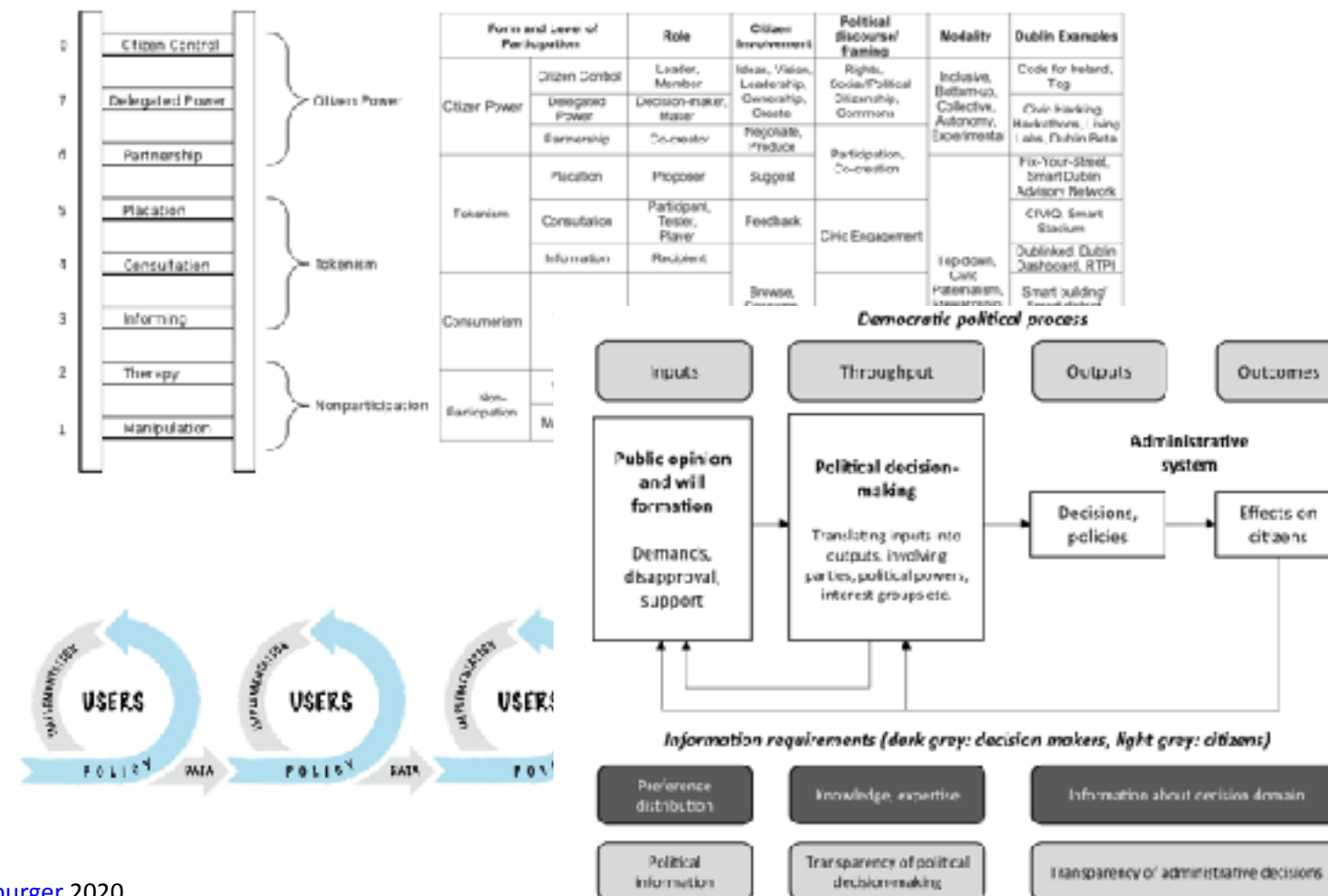
- interfacing between 'stack' of sensors-data-algorithms-platforms-networks-people-environments-institutions-regulations-etc.
- tech metaphors attempts at crosscutting these scales: city in the pocket/remote control; platform/plugin/API urbanism; collective intelligence/crowdsourcing, etc.

>> seamlessness norm; by contrast controversing approach highlights frictions inherent in interfacing and mediation.

B. Smart citizenship as *translation* challenge: effective information flows and feedback loops between agents and stages.

- when/where in these (cybernetic) models do citizens become engaged (only as 'input')? who are excluded where/when? whose vocabularies, vernacular? how brokered? which biases?

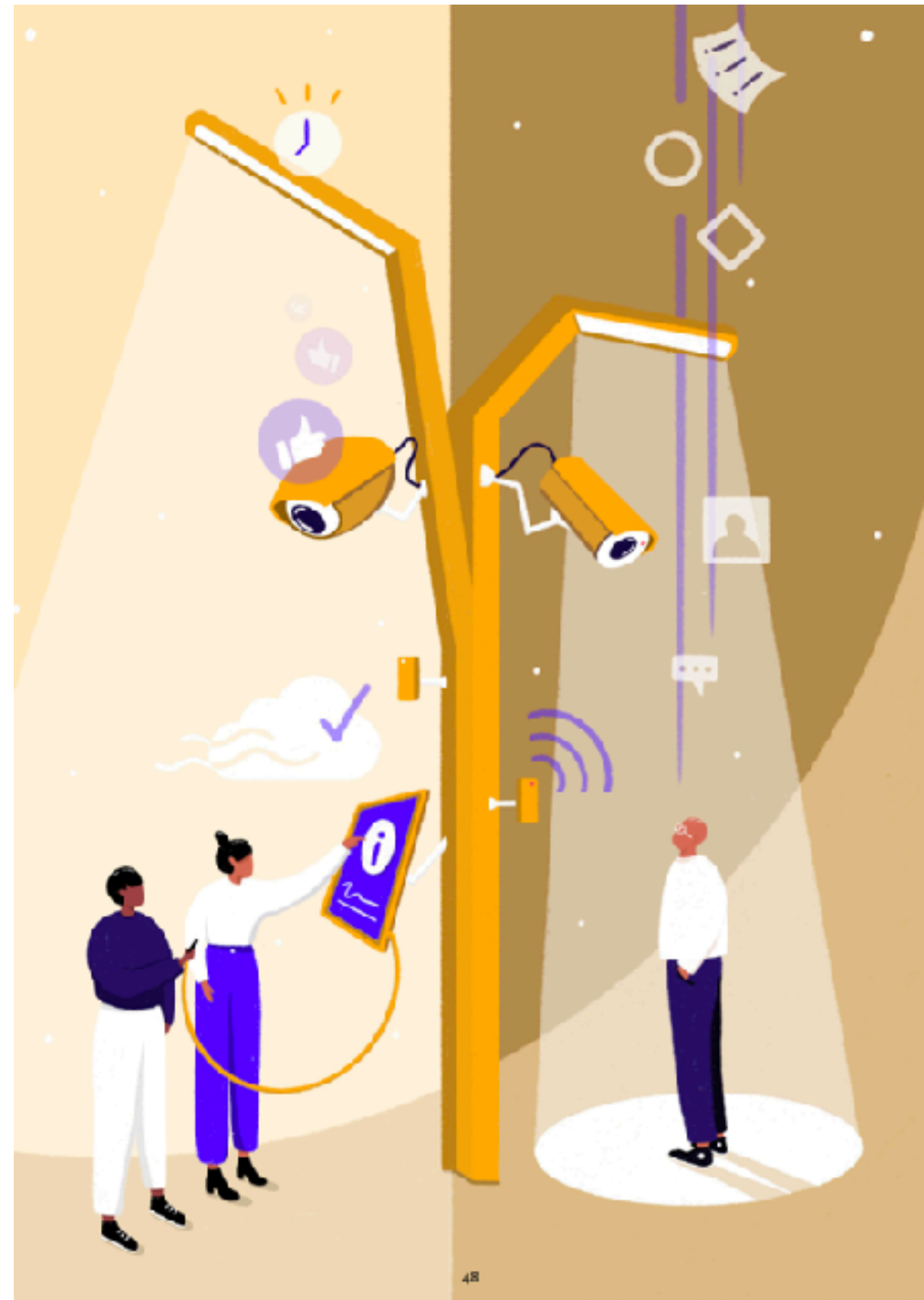
>> generally lacking from (cybernetic) models of citizenship are underlying discussions about public values and agency.



3. Scaling out as onto-political gesture: incorporating public values, agency, Others in smart cities

How can Amersfoort develop as a responsible smart city centering on public values and citizen agency?

- Lessons so far: the controversing approach offers an embodied form of engagement with abstract issues, provokes collective imagination, and has performative potential to disrupt established imaginaries and generate multi-vocal alternatives.
- Further leads: Citizen agency requires recursiveness (Kelty 2008): people owning and managing the very (technological) conditions of their own participation.
- 'Scaling up, across, and out' means extending care beyond the local, and embracing the more-than-human in imagining equitable urban futures.



Thanks!

Any questions?

A smaller smart city: learning from 'controversing Amersfoort'

Michiel de Lange & Corelia Baibarac-Duignan (UU), Julieta Matos Castaño & Anouk Geenen (UTwente)

@ResponsibleCities
@mdelange
@themobilecity



Universiteit Utrecht

UNIVERSITY OF TWENTE.

