"CONTROVERSY WALKSHOP"
Consortium Partner Meeting, 27 November 2019, Gemeente Amersfoort

Authored by Corelia Baibarac-Duignan, Julieta Matos Castaño, Anouk Geenen.

For more information about the walk-shop, contact: c.baibarac-duignan@uu.nl

INTRODUCTION

Controversies around public issues, such as around the implementation of smart city strategies and processes of datafication of urban life, tend to arise when different groups have conflicting viewpoints on these issues and values attached to them, which can lead to disputes. Controversies may thus be given a negative connotation, due to the possibility of struggle or conflict. However, instead of attempting to overcome smart city controversies, we propose exploring them for their productive capacity as 'agonistic' public spaces (Mouffe 2000) - spaces where opposing views can coexist without aiming for consensus and where the dominant power is potentially challenged through tolerant disputes among passionately engaged publics.

As a way of empirically testing our hypothesis, we are developing experiential and situated co-design methods that could be employed to involve diverse groups of citizens in shaping design interventions to tease out controversies as publicly debatable issues. In this view, citizens do not only react to externally formulated controversies (e.g., '5G health hazards') but they also co-produce means for collectively forming questions and publics around shared matters of (civic) concern. Controversies are therefore explored for their potential to proactively engage citizens in shaping smart cities based on public values.

One of the methods currently tested is the "Controversy WalkShop". The method combines data walking methods (Powell 2018; Van Zoonen et al. 2017) with co-design methods intended at involving non-expert users and enabling the design process to continue beyond this project's timeframe and user base (Botero and Hyysalo 2013; E. B. Björgvinsson 2008). The walkshop method complements the previous "Controversy Workshop"[1] (April 5th and May 29th, 2019, Amersfoort) by prompting the participants to engage with datafication aspects of the existing smart city through first-hand experiences of space, knowledge sharing and reflexivity.

The walk part of the walkshop aims to seek the participants' experiences of datafication, as a way of enhancing participants' awareness of aspects that may be taken for granted or overlooked. Datafication is

---

[1] Approach co-developed with the Design Innovation Group (DIG).

interlinked with smart city strategies and consists of processes through which human activities are converted into data that are subsequently transformed into new forms of value, mobilised for various purposes (Agostinho 2019; Pybus, Coté, and Blanke 2015). Thus, particular focus is placed on identifying values reflected by the different forms of datafication encountered along the walk, from the perspective of the participants, considering also who may benefit, or lose out.

The co-design sessions following the walk are aimed at highlighting practices taken for granted, and potential tensions or contradictions around aspects of datafication. This is explored as a way of collectively articulating issues, particularly around the levels of publicness (or 'visibility') of controversies and the kinds of interventions that could bring them into the public sphere, thus enhancing their visibility and capacity to act upon them.

This report includes preliminary results from the first iteration of the method, carried out on the 27th of November 2019, in Amersfoort, with the consortium partners of the NWO project of "Designing for Controversies in Responsible Smart Cities". In this instance, a number of steps and aspects of the method were purposefully left more open in order to allow input from the consortium partners in the development of future iterations.

1. PRELIMINARY RESULTS

The participants to this walkshop session, including the research team, were divided into four groups of three people who were assigned specific roles (e.g., note-taker, photographer, map-maker / navigator). Each group was provided with an instant polaroid camera, a notebook and a pen. As a form of framing the walk experience, the session started with a talk about how the material world around us changes due to datafication and other smart city processes, and what it means to make issues visible, or bring specific issues into the public sphere. The walk, which lasted approximately 30 minutes, started and ended at Amersfoort Municipality. The following co-design sessions, involving walk mappings and group discussions on controversies, were held at the Municipality over a period of two hours. The sections below present the data and the discussions generated by the groups.

1.1 Walk mappings

During this walkshop step, the participants were asked to map their walk in relation to the aspects of urban datafication photographed using the polaroid cameras. They were also encouraged to include the values that they considered to be reflected in these datafication elements on the maps, and observations of potential issues arising from contrasting values. In addition, two of the groups were offered a number of value cards to inspire them when thinking about the kinds of values reflected by their observations of datafication. The aim was to enable the researchers to evaluate the role of the cards in triggering discussion.

As the participants were free to choose how they wanted to map their walk, this exercise led to different kinds of maps (displayed in Figure 1): some of the maps represented routes while other maps were based on an interpretation of the main tensions and controversies identified by the groups during the walk.

Figure 1. Examples of maps developed after the walk: maps representing the route (left) and maps based on tensions/controversies identified during the walk (right)

The kinds of urban datafication elements mapped by the groups include the following:

1. **Transport-related:** 'snuffelfiets', sharing bikes / OV fiets, electric cars, RFID & licence plate recognition cameras in parking garages or streets, responsive traffic lights.
2. **Sensors & cameras:** noise sensors, unknown sensor, 'Meet Je Stad' sensors, windmill, crowd control camera, surveillance cameras, 'unplugged' camera, doorbell with camera / private house, scan pass garbage disposal.
3. **Wifi & antennas:** gastvrij wifi / tracking, 5G, lamppost / bluetooth.
4. **Platforms:** Thuisbezorgd.nl, AirBnB, online shopping.
5. **Other:** pin only sign, personal smart devices (e.g., smartphone, smart watch).

Figure 2: Examples of datafication photographed by the participants

As a way of exploring the kinds of issues (and potential controversies) that may arise in relation to these urban datafication elements, the participants were prompted to think about contrasting values for each of the technologies included on their maps. The aim of this step was to 'urbanize' smart city controversies, by mapping value tensions around specific technologies in direct connection to the urban contexts in which they were found. An initial illustration of the results is presented in Table 1.

Urban Datafication	Value Tensions (Contrasting Values)	
Transport-related datafication	Comfort (e.g. car counting)	Autonomy Creativity Serendipity
	Efficiency (e.g. pin only garage)	Surveillance Exclusion
Sensors & cameras	Privacy (e.g. crowd control cameras, sound sensors)	Transparency Safety (surveillance) Diversity
	Empowerment (e.g. citizen science)	Exclusion
Wifi & antennas	Connectivity (e.g. free wifi)	Privacy Autonomy Sociality
Platforms	Convenience (e.g. thuisbezorgd.nl)	Surveillance Accessibility
	Entrepreneurship (e.g. AirBnB)	Exclusion

Table 1. Examples of types of urban datification and related value tensions

The mapping exercise was followed by brief group presentations and a discussion of the main observations regarding the kinds of issues emerging out of the contrasting values noted on the maps. This was aimed at making the transition to the next stage, the "Controversy Graph" by starting to formulate emerging issues that could lead to potential controversies. The main issues mentioned by the participants during this discussion can be grouped as follows:

1. **Trust in data:**
   - Presence of sensors from citizen science projects but not counting as 'official data'
   - Trust in own data vs. distrust in expert due to quality and reliability issues
   - Data collection and ownership: what types of data are being collected, by whom and for what purposes; lack of transparency
   - No possibility for engagement / feedback from citizens: technology implemented in the city with limited options for citizens to provide feedback (e.g., smart garbage bins)
2. **High expectations vs. implementation of technology:**
   - Implementation of projects with a specific purpose but not fulfilling the intended expectations (i.e. parking signs not influencing behaviour as intended).
   - Mismatch between existing problems in the city and the solutions that some technologies provide. Raising the question: what is the problem this technology wants to solve? (e.g. 5G, parking barrier / car counting)
3. **Private vs. public interests:**
   - Tensions emerging from the fulfillment of public and private interests, in relation to both private individuals and commercial interests.
   - Responsibility for and ownership of public issues.
   - Multilayered and mediated 'public' space, e.g., resulting from the use of personal smart devices and the creation of private data in traditionally considered public urban space.

1.2 Group discussions on controversies

During this step, the participants reflected in their groups on the levels of controversy visibility, in reference to how visible they are in the public sphere or to what extent people engage with the issues and discuss them. For this exercise, the participants discussed the following three levels: (1) 'visible', (2) 'less visible', (3) 'not visible' (the results are summarized in Table 1). However, only two groups identified examples of controversies and mapped them in relation to these levels. The third group focused only on identifying visible / invisible issues in smart cities; while the fourth group discussed potential tactics. Furthermore, some participants challenged the desirability of making things visible and surfacing latent controversies: 'Why is it necessary to make things visible? Who decides?'.

'Visible' controversies	'Less visible' controversies	'Not visible' controversies:
Examples: 5G antennas, public surveillance cameras (installed by the Municipality), 'Pin Only' signs	*Examples:* Trust in data and technologies, Surveillance vs Autonomy (opting out, right to decide)	*Examples:* Platforms (surveillance capitalism); sound sensors; data collected by private companies (cameras, sensors, RFID readers)

Table 2. Examples of types of controversies identified during the session

1.3 Potential tactics / interventions

Based on the outcomes of the controversy graph and the levels of visibility of issues, participants (in groups) formulated various tactics / design interventions to make controversies more visible. In this report, we have categorized them into two types: tactics based on the level of visibility of controversies; and concrete examples of potential activities in the city.

Figure 3: group presentations of tactics and collective discussion

Tactics based on level of visibility

First, participants suggested tactics depending on the level of visibility of the controversies focusing on activities for (1) staging, (2) interfacing and (3) storytelling.

1. **Staging**: tactics that seek provocation and challenging the current perception about specific datafication issues in the city.
2. **Interfacing**: tactics that aim at encouraging behavioral change and interaction with citizens.
3. **Storytelling**: tactics that aim at imagining and creating scenarios to verbalize and materialize specific tensions.
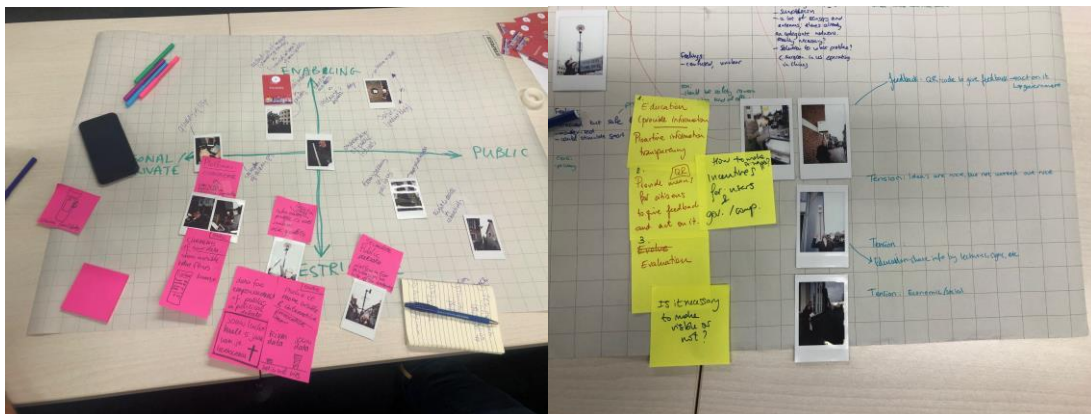

Figure 4. Impression of tactics discussed during the session

Examples of interventions:

Second, the participants mentioned examples of specific design interventions, aiming at 'providing experiences that could make people see things from different perspectives' and thus potentially making issues with various levels of visibility 'public':

1. **'Visible':** platform for discussion on the site of the controversy (e.g., 5G sticker on antenna); alternative signage that enhances awareness of the implications of current arrangements (e.g. PIN only).

2. **'Less visible'**: provocative images that make data visible and engage people in a political debate (e.g, size of the data that we offer unknowingly); fake cameras in public spaces to augment the controversy surveillance / privacy and highlight desired values (e.g., safety, autonomy).

3. **'Not visible'**: use light to make visible the presence of sound sensors (e.g., different sensorial experiences); show invisible value flows (personal data) as part of payment receipts (e.g., Thuisbezorgd).

Figure 5: Impression of design interventions on levels of issue visibility, collated from all the groups.

1.4 Process to enhance civic participation in smart city projects

In addition to discussing ways of making smart city controversies more visible in order to encourage wider debate and engagement, one group formulated a potential process that could be used by Municipalities to enhance civic participation in smart city projects. Such a process could involve the following stages:

1. **Education:** Educating citizens and organizations about the reasons behind implementing a technology.
2. **Incentives:** Provide incentives for stakeholders to encourage participation and the use of a specific technology.
3. **Means:** Make sure that there are means for evaluation to assess the levels of success of the initiative of implementing a technology.
4. **Evaluation:** Based on the outcomes of evaluation, improve / replace the technology.

2. REFLECTIONS ON PROCESS AND OUTCOMES

This section presents the research team's reflections on the experience during the walkshop and on the results presented above. Moreover, it highlights some of the challenges presented by this method, opportunities for improving it, and ideas for complementary methods.

2.1 Reflections on process

The walk and the use of polaroid cameras supported the participants in identifying and discussing datafication as experienced in the city. Datafication aspects ranged from more obvious (e.g., surveillance cameras and RFID readers / garage barriers), to imagined datafied objects or experiences and their potential

implications (e.g., what if this object were datafied in the future?), and to broader discussions about the invisible presence of surveillance capitalism, which extended beyond the specific urban context of the walk.

The mapping of the walk using the instant photos and notes taken during the walk enabled group discussion on the effects of particular technologies, in terms of (contrasting) values and also impacts on the surrounding environment and people (e.g., deserted streets seen as a consequence of online shopping). As some of the participants later noted in their feedback to the method, the mapping exercise helped the groups gain a better view on potential tensions around datafication elements, through making them 'visible' on the map. Some observations were directly related to the geographical context of the walk (e.g., names of streets or projects, such as Meet Je Stad); while some participants gravitated towards their own individual experience or profession, or discussed implications of datafication in more generic terms (e.g., beyond the immediate urban context).

The use of value cards seemed to limit the groups' imagination regarding identifying or discussing values from their own perspective, indeed appearing to be 'arbitrary', as one participant mentioned. In this sense, one potential aim of a subsequent iteration could be to collectively define public values, discuss how these may be at risk through present urban datafication, and formulate interventions aimed at recovering values so that important, yet potentially contrasting values, are not neglected.

The discussions of the value tensions point to an interesting observation, which even if made on the basis of a small scale and first iteration of the method, may represent an important aspects to pursue further. Many of them seem to be based on contrasts between individual values (benefits / interests) and collective or public values (benefits / interests), illustrated for example by 'convenience / surveillance' or 'privacy / diversity". We could envisage, however, that individuality or individual values refer to more than the individual (e.g., a group, an institution). Similarly, collectivity and 'public' values may reflect the values of particular publics rather than one single 'public', thus suggesting the importance of enabling the articulation of diverse definitions of what public values may be and keeping in mind the possibility of exclusion of some groups (e.g., are citizen science projects fully inclusive? whose data may be excluded and how?).

2.2. Reflections on outcomes

This first iteration of the method enables the research team to reframe our own conceptualisation of smart city controversies in the context of this project and to focus more closely on the relationships with the city, public values and the common (civic) good. Following this reflection, a number of questions emerge:

- What does it mean to make smart city controversies public? What kinds of smart technologies, data, controversies and publics are we talking about?
- What kind of public space is created through smart city technologies and processes of datafication (e.g., consumer space, surveilled space, controlled space, extended private space)?
- How can stakeholders be equipped to collectively envision responsible smart city futures? How might multiple and diverse values and futures coexist?
- What kinds of controversies emerge from frictions between private interests and public values, individual benefits and the common (civic) good? How can these be made debatable in the public sphere? How can stakeholders act upon the potential dilemmas emerging from the presence of smart city controversies?
- How can controversies be constructively used as a foundation for the development of smart city futures/strategies?

- How might data ownership and governance look like in a responsible smart city? What are the necessary conditions and ingredients for achieving a smart city strategy based on collectively defined public values?

2.3. Challenges and opportunities

As mentioned in the introduction, the "Controversy WalkShop" was inspired by existing data walking and co-design methods. This section provides a reflection on the expectations that the research team had in relation to the achieved outcomes. These reflections inform future iterations to improve the method as well as the development of additional methods and design interventions that will be carried out in the upcoming months.

The method led to discussions about what a smart city currently is and also what it could possibly become. Although the initial goal of the method was to reflect on the current effects of uban datafication, certain groups imagined the implications of future datafication. For example, there were discussions about the role of analogue city information maps and the ways in which the information they display could be digitized, considering the related implications this could have. Other discussions revolved around the impact of online shopping and how this may eventually lead to empty real estate and desolate streets. The participants' future-oriented attitude shed light into the potential of this method not only to debate existing controversies, but also to anticipate potential ones that might emerge in the future.

Making 'values' operational proved to be challenging. Values are abstract concepts, often difficult to grasp. In the context of a short city walk aimed primarily at enhancing participants' awareness of urban datafication, the task of identifying values along the way can be too broad of an assignment, as noted by one of the participants. Given the relevance of discussing values and value tensions in the context of smart city controversies, this method could therefore benefit from complementary approaches (or steps) that support participants to identify the values they consider relevant, given a specific datafication element in the city.

An additional challenging aspect was the discussion around the various levels of visibility of controversies. Some participants reflected on the actual visibility 'to the eye' rather than the more abstract form of visibility in the public sphere. Moreover, there seemed to be a different understanding of what 'making things public/visible' means among the participants, varying from making smart technology subject to public scrutiny and debate, to making clear the data collection process and privacy issues (observations from participants' feedback to the method). Rather than expanding on discussions around levels of controversy visibility, some of the participants later mentioned using this step as a starting point for thinking about potential interventions by contextualising datafication, i.e. connecting it to specific urban situations. This could be improved upon by providing a clearer explanation of the aim of this step and aiming to achieve a shared understanding of the meaning of 'making things public/visible'. We will also explore what other methods may be needed in order to provoke discussions and reflection on issues that may not be 'visible to the eye' for many, but that can significantly influence smart city implementations.

Related to the formulation of tactics to make smart city controversies explicit, some of the groups focused on providing tactics to better engage citizens in smart city projects. Although this was not the intended outcome of the session, these results give insights into how the walkshop encouraged participants to think about datafication in a broader policy making and civic engagement context. Similar to the observations regarding the levels of visibility of controversies, the formulation of tactics could also benefit from a clearer explanation of what making things public/visible means.

Last, the method was intended at stimulating plenary discussions among the participants. However, in practice, discussions were mostly developed within each group with few opportunities for sharing insights and brainstorming together as a single group. Within future iterations of this method, this will be addressed by developing clear templates for sharing group insights, and for improving interaction and knowledge exchange between groups. In addition, we will explore complementary methods or settings that can enable diverse stakeholders to engage in constructive debates (yet potentially conflictual due to diverging viewpoints or experiences) around contested uses of smart city technologies. As one participant later observed, this can be particularly relevant when involving stakeholders with different views on how to think about and frame smart city controversies, which may require settings that challenge perspectives and practices taken for granted in productive ways, e.g., by creating a 'free space'.

3. FUTURE ITERATIONS AND NEXT STEPS

This method complements activities previously developed in the context of this project to debate and anticipate potential controversies caused by the implementation of technology in the city. Previous methods like the "Controversy Workshop" have focused on the creation of scenarios in participatory settings. Other methods like the "Value Change Prototyping" have focused on debating tensions by providing tangible representations of the impacts of technology. The "Controversy WalkShop" presented in this document provides an "on the ground" activity that allows participants to experience first hand the physical changes of the city due to datafication, while reflecting on its impacts at different levels.

The method is one of the approaches developed as part of the 'civic engagement' research line for the "Designing for Controversies in Responsible Smart Cities" project. It is aimed that the walkshop format will be refined and repeated with various groups of participants, in different city locations. Particular focus will be placed on the participation of ordinary city inhabitants in co-designing interventions aimed at sparking engagement and debate around smart city controversies. While the emerging controversies may be specific to Amersfoort initially, the walkshop method and resulting design interventions will be later assessed for their potential to be replicated in other city contexts. For example, two extended versions of the walkshop will be developed and tested in Utrecht, as part of Utrecht University's Public Engagement seed funding initiative, in April and November 2020 (the latter, in connection with Utrecht-based events of the Media Architecture Biennale). Furthermore, the walkshop together with the other methods prototyped during the project will be explored for their capacity to generate the formation of 'publics' around smart city controversies (Marres 2007), including the potential for 'infrastructuring' (Hillgren, Seravalli, and Emilson 2011) a collaboration platform for responsible smart cities.

In the upcoming months, the research team will develop complementary methods and design interventions to contribute to (1) collaborative futures making, (2) civic engagement and (3) ethical reflection. The outcomes of these design interventions will serve as input for the development of the collaboration platform.

Selected bibliography

Agostinho, Daniela. 2019. "The Optical Unconscious of Big Data: Datafication of Vision and Care for Unknown Futures." *Big Data & Society* 6 (1): 205395171982685. https://doi.org/10.1177/2053951719826859.

Björgvinsson, Erling Bjarki. 2008. "Open-Ended Participatory Design as Prototypical Practice." *CoDesign* 4 (2): 85–99. https://doi.org/10.1080/15710880802095400.

Botero, Andrea, and Sampsa Hyysalo. 2013. "Ageing Together: Steps towards Evolutionary Co-Design in Everyday Practices." *CoDesign* 9 (1): 37–54. https://doi.org/10.1080/15710882.2012.760608.

Hillgren, Per-Anders, Anna Seravalli, and Anders Emilson. 2011. "Prototyping and Infrastructuring in Design for Social Innovation." *CoDesign* 7 (3–4): 169–83. https://doi.org/10.1080/15710882.2011.630474.

Mouffe, Chantal. 2000. *The Democratic Paradox*. London: Verso.

Powell, Alison. 2018. "The Data Walkshop and Radical Bottom-up Data Knowledge." In *Ethnography for a Data-Saturated World*, edited by Hannah Knox and Dawn Nafus. Manchester University Press. https://doi.org/10.7765/9781526127600.00018.

Pybus, Jennifer, Mark Coté, and Tobias Blanke. 2015. "Hacking the Social Life of Big Data." *Big Data & Society* 2 (2): 205395171561664. https://doi.org/10.1177/2053951715616649.

Zoonen, Liesbet van, Fadi Hirzalla, Jiska Engelbert, Linda Zuijderwijk, and Luuk Schokker. 2017. "'Seeing More than You Think': A 'Data Walk' in the Smart City." *Bang the Table* (blog). 2017. https://www.bangthetable.com/blog/data-walk-in-smart-city/.