URBANITE

Supporting the decision-making in urban transformation with the use of disruptive technologies

---

Deliverable D2.1

URBANITE Analysis of Experiences in Other Industries

Editor(s):	Max Kortlander
Responsible Partner:	Stichting Waag Society
Status-Version:	Final Version
Date:	31.03.2021
Distribution level (CO, PU):	Public

Project Title: URBANITE   Contract No. GA 870338

www.urbanite-project.eu

Project Number:	GA 870338
Project Title:	URBANITE

Title of Deliverable:	D2.1 Analysis of Experiences in Other Industries
Due Date of Delivery to the EC:	31/03/2021

Workpackage responsible for the Deliverable:	WP2 - Social impact of disruptive technologies
Editor(s):	Stichting Waag Society
Contributor(s):	Max Kortlander [Waag]; Danai Papathanasiou [Waag]; Alain Otjens; Tom Demeyer [Waag]; Hannah Grijns [Waag]; Stefanie Tan [Waag]; Heli Ponto [FVH]; Massimo Villari [C. Messina]; Giovanni Parrino [C. Messina]; Raúl Tabarés Gutiérrez [Tecnalia].
Reviewer(s):	Raúl Tabarés [TECNALIA], Sebastian Urbanek [Fraunhofer], Fritz Meiners [Fraunhofer]
Approved by:	All Partners
Recommended/mandatory readers:	All Partners

Abstract:	This deliverable will provide a better understanding of previous experiences of disruptive technologies in public services and/or emerging technologies in other industries and a set of topics and challenges to work with in the Social Policy Lab. The deliverable will be presented in a medium that is visually interesting and easily shareable to maximize impact.
Keyword List:	Disruption, disruptive technology, disruptive innovation, participation, participatory democracy, mobility, participatory mobility
Licensing information:	This work is licensed under Creative Commons Attribution-ShareAlike 3.0 Unported (CC BY-SA 3.0) http://creativecommons.org/licenses/by-sa/3.0/
Disclaimer	This document reflects only the author's views and neither Agency nor the Commission are responsible for any use that may be made of the information contained therein

Document Description

Document Revision History

Version	Date	Modifications Introduced	
		Modification Reason	Modified by
v0.1	03/02/2021	First draft version	Max Kortlander [Waag]
v0.2	14/02/2023	Comments and suggestions received by consortium partners	Raúl Tabarés [TECNALIA], Sebastian Urbanek [Frauenhofer], Fritz Meiners [Frauenhofer]
V0.3	16/02/2023	First version complete version of the document sent to review	Max Kortlander [Waag]; Danai Papathanasiou [Waag]; Alain Otjens [Waag]
V0.4	26/03/2021	Address the comment of internal review	Max Kortlander [Waag]
V1.0	31/03/2021	Final version for submission	TEC

Table of Contents

List of Figures

List of Tables

Terms and abbreviations

EC	European Commission
GDPR	General Data Protection Regulation
AI	Artificial Intelligence

Executive Summary

This deliverable contains a series of case studies to inform Urbanite partners and others working in the field of participatory mobility. The research considers examples of disruptions in related areas, such as participatory governance, data governance, mobility, and smart city development. The case studies are deliberately drawn from areas with slight, but not complete, overlap with the Urbanite project.

The subject of this report is 'disruptive technology', which has been adapted to 'disruptive innovation' in order to keep up with current discourse and allow for research into non-technological disruptions such as participatory methods, emerging governance models, and other disruptions which are not the 'usual suspects' but nonetheless have the potential to greatly disrupt the field of mobility. A notable finding is that these so-called 'disruptions' are not always 'disruptive' in a given implementation. Rather, disruptions are more akin to trends, whose implementation in any given context is not likely to itself be disruptive (for example, blockchain is a 'disruptive technology', but municipalities who use blockchain are likely not disrupted as a result of using blockchain somewhere in their workflow). Thus, this work takes a critical approach towards the notion of disruption that accepts that the nature of a given disruption does not lie in the trend itself – rather, the value or danger posed by a given disruption is highly dependent on the context and way in which it is deployed.

With this approach in which context is key, disruptions are presented in this work as overarching themes, under which we present various case studies to highlight the varied ways in which disruptions are deployed. Disruptions and subsequent case studies considered in this deliverable include:

- Participatory democracy
    - Participatory budgeting in Helsinki
    - Mobility Urban Values in Amsterdam
    - Participatory budgeting in Madrid
- Emerging data governance models
    - Health data commons (Netherlands)
    - Driver's Seat
- Mobility umbrellas
    - Smart City SDK
    - Messina municipality data collection/exposure
- Active cities
    - Beta Blocks
    - Lisbon bike initiative
- AI and Algorithms in the public sector
    - VioGén5.0
    - Public stack for electrical vehicle charging infrastructure
- Ethical guidelines for the use of AI and Algorithms
    - European Commission's 'Assessment List for Trustworthy AI'

These case studies were selected first and foremost to be informative for Urbanite with regard to SoPo Labs (social policy labs), local use cases, and the use of data, AI, and algorithms in the project. As such, and secondarily this work aims to be informative for all people working in fields related to participatory governance, mobility, and/or 'big data'. Priority was given to case studies that occur in Urbanite partner cities and countries, especially to cases in which Urbanite partners have direct knowledge or experience.

General findings of case studies include:

- Disruptions do not (usually) seem disruptive.

- Disruptive innovations are not inherently good (or bad).
- A common need for transparency and openness regarding the use of disruptive technologies.

- Co-creative and participatory approaches in mobility can help to uphold fundamental rights; and helping to maintain relevance (most specifically, to ensure that citizens are the key beneficiaries of data used by municipalities). Any project or technology that affects society ought to include society and be based upon shared values and principles.

- Technological development and implementation must follow guidelines such as the EC's Assessment List for Trustworthy AI.

1   Introduction

This document is a portion of the deliverable D2.1 'Analysis of Experiences in Other Industries'. The complete deliverable includes the content of a web-based presentation of the research, available at https://casestudies.urbanite-project.eu/.

1.1   About this deliverable

In accordance with the Description of Action, 'This deliverable will provide a better understanding of previous experiences of disruptive technologies in public services and/or emerging technologies in other industries and a set of topics and challenges to work within the Social Policy Lab. The deliverable will be presented in a medium that is visually interesting and easily shareable to maximize impact.' Furthermore, this deliverable presents an assessment of existing ethical best practices in algorithms, with the recommendation that Urbanite adhere to the EC's Assessment List for Trustworthy AI as a minimum standard, with the option to adopt areas from other ethical best practices where applicable. Finally, this piece has been collaboratively developed within the Urbanite project, and excerpt drafts of this research have been made available for use in any SoPo labs which have taken place prior to publication.

The subject of this report, 'experiences with disruptive technology in other industries', covers a broad subject range and brings with it the need to identify and limit the scope. The title and subject raise a number of questions that must be addressed:
- What is disruptive technology?
- Which industries are relevant for this study?
- With so many examples of disruptions 'in action', which examples should this study consider in order to contribute quality insights to Urbanite partners and others involved in the field of participatory mobility?

1.2   Document structure

The deliverable has been designed as a collection of case studies of various 'disruptions' in action.

This first section presents a general description of the deliverable in the context of the T2.1. The general findings based on each set of case studies is presented in the section 2 as an introduction to a given 'disruption', which is then followed in the section 3 by case studies which can further illuminate these findings and provide insight into how disruptions are applied in real-life scenarios. The research is presented in a visually inviting online format to encourage sharing the research findings outside of the Urbanite consortium. This design thus explores, in practice, one way in which a European project deliverable may be presented in order to promote visibility outside of project partners and EC readers. Section 4 presents the conclusions that arose from the analysis performed within the T2.1 task. Section 5 includes the references made in the content of the deliverable and section 6 gathers a list of the documentation accessed within the analysis activities performed.

2   Disruptive Technology

2.1   What is disruptive technology?

The term 'disruptive technology' is often framed in glowing terms, along with utopian promises from a market-centered 'Silicon Valley' perspective. Under this lens, disruptive technology is about upending existing business models and power structures, with the suggestion that this disruption benefits people's lives. When considered in terms of society and governance, however, we must observe the effects of disruptions on our daily lives and challenge the assumption that they are 'good' – have disruptions like Uber or 'smart cities' really made life better in our cities? Or do such disruptions only further condense power in new hands while exacerbating old issues (like inequality) and creating new ones (like privacy infringement)?

'Disruptive technology' is credited as being coined in 1995 in the Harvard Business review. An article revisiting 'disruptive technology' 20 years after describing this traditional understanding of the term:

> "'Disruption' describes a process whereby a smaller company with fewer resources is able to successfully challenge established incumbent businesses...Entrants then move upmarket, delivering the performance that incumbents' mainstream customers require while preserving the advantages that drove their early success. When mainstream customers start adopting the entrants' offerings in volume, disruption has occurred" [1]

It is important to note the limits of this perspective: Firstly, 'technology' excludes disruptions from being related to natural phenomena (e.g. a pandemic), methods (e.g. co-creation), laws (e.g. GDPR), or any other non-technical phenomena which disrupt. Secondly, the conventional view of 'disruptive technology' places a biased weight on economic impact while largely ignoring disruptions which are socially disruptive, environmentally disruptive, politically disruptive, or otherwise. Thirdly, the term 'disruptive innovation' carries a connotation of being groundbreaking or life changing. In reality, however, applications of so-called disruptive

technology often make incremental shifts and can serve to uncover the problems, limits, or unrevolutionary character of a more generally disruptive *trend*.

> "The term "disruptive innovation" is misleading when it is used to refer to a product or service at one fixed point, rather than to the evolution of that product or service overtime...Most every innovation—disruptive or not—begins life as a small-scale experiment" [1] .

This report thus considers disruptions and disruptive innovation generally, not as disruptive technology alone. This report thus considers disruptions and disruptive innovation generally, not as disruptive technology alone. Disruptions are considered for their impact on a wide range of factors. A given disruption will have certain general characteristics but vary in how it is actually applied. These applications take the form of pilots, initiatives, or experiments and provide the main source of information in this report as case studies.

2.2   Which industries are relevant for this study?

Urbanite can be loosely identified as related to the field of 'participatory mobility policy'. Breaking this term apart, Urbanite is thus at the confluence of participatory methods, mobility, and the public sector. This study considers disruptions in fields related to Urbanite – thus, case studies come from various examples which are related to participation, mobility, or policy, but does not focus on other examples from participatory mobility policy specifically.

Examples of disruptions in the public sector are particularly relevant to this report, as one of the report's aims is to inform a process by which Urbanite partners identify the current attitudes and experiences of civil servants towards disruptive innovation.

Much of the existing research into disruptive innovation and public services comes from a perspective where the market is the priority and where public services are considered in terms of their economic value. While this is a valid perspective – we are indeed tied to financial limitations – there is a lack of focus on *democratic values* or how disruptive innovations can affect (positively or negatively) democratic robustness with regard to openness, transparency, and civic participation. Research under this perspective of added democratic values is growing, however, particularly (but not exclusively) within the European Union.

2.3   Which examples of disruptions should this study consider?

Which examples of disruptions should this study consider in order to contribute quality insights to Urbanite partners and others involved in the field of participatory mobility? In response, this report most directly informs Urbanite partners and stakeholders. Primarily and specifically, this report informs SoPoLabs and the application of AI and algorithms in Urbanite. More generally, this report identifies areas of disruption that are relevant for Urbanite partners and, by extension, others (externally) in the field of participatory mobility.

The process of creating this report involved interviewing consortium partners (in groups and one-on-one) and asking:

- Which 'disruptions' do you have experience with or knowledge about that would be useful for the consortium to know about for their work in Urbanite?
- Which 'disruptions' do you think will play a role in Urbanite that we should know more about?

Starting from the answers to these questions, the authors further placed a (non-exclusive) focus on cities and countries represented in Urbanite use cases. Similarly, there was a **preference to include case studies where Urbanite partners have direct experience**, as the direct experience was found to considerably improve the depth of a case study and the quality of its recommendations. **As a secondary effect, the writing of this report also facilitated an internal knowledge transfer amongst project partners, familiarizing partners with each other's work, experiences, and areas of interest and expertise**. This effect was particularly welcome during the Covid pandemic which limits other avenues for getting to know project partners.

Following these considerations, the common thread between the following case studies is to illuminate how disruptive innovations **threaten** or **improve** democratic governance of mobility policy and data, particularly concerning civic participation, (social and environmental) sustainability, and shared values, including openness, transparency, equality, and accountability.

3 Case Studies

The case studies form the bulk of this deliverable. They are presented in their public, visually designed form at https://casestudies.urbanite-project.eu/. A text-only version of the case studies can also be downloaded at this site (see bottom-right corner of the webpage).

The tables below provide an overview of the case studies' content:

Table 1. Case Studies in disruptive methods

Disruptive Methods in Participation and Governance							
1.1 Participatory Democracy			**1.2. Emerging Data Governance**		**1.3. Mobility Hubs**		**1.4. Active Cities**	
Participatory Budgeting in Helsinki	MUV in Amsterdam	Decide Madrid	Health Data Commons	Driver's seat Cooperative	City SDK Amsterdam	Smart City Messina	Boston Beta Blocks	Lisbon E-bike Initiative
The participatory budgeting system as applied in Helsinki from 2018 to 2020.	The Amsterdam based co-creative project focused on mobility & gamification, citizen science, and mobility policy.	The participatory budgeting system as applied in Madrid from 2015 to 2020.	Data usage, transparency and sharing at Mijn Data Onze Gezondheid (My Data Our Health).	The prototype of a North-American initiative on mobility data communing and transparency for drivers on demand.	The Amsterdam based project that aimed to define services that can help open up data in the fields of Participation, Mobility and Tourism in various cities in Europe.	The use of technology and data sources relating to the state of air pollution, traffic and public transport in the city of Messina.	The collaboration between the city of Boston and Emerson Lab to connect the citizens and urban technology through gamification and other participatory practices.	Lisbon's new bike mobility policy during the COVID-19 pandemic and how it changed the formation of the city's mobility.

Table 2. Case Studies in disruptive technology

Disruptive Technology in Society and Governance

2.1. AI/Algorithms in the Public Sector		2.2. Ethical Guidelines for AI
Viogén 5.0.	Public Stack	Assessment list for Trustworthy AI
The latest version of the "Integral Follow-up of Gender Violence Cases System" in Spain.	A publication that proposes the Public Stack as a methodological model for the arrangement of physical and digital charging infrastructure for electric vehicles (EV).	The translation of the [EC's] Ethics Guidelines into an accessible and dynamic (self-assessment) checklist.

4   Conclusions

General findings of the case studies include:

- Disruptions do not (usually) seem disruptive. On the local level, the implementation of a particular disruptive innovation may indeed lead to change but does not often radically change the status quo.

- Disruptive innovations are not inherently good (or bad). Disruptions may lead to unfairness, exacerbate existing inequalities, or threaten shared values like privacy, safety, and autonomy. Care must be taken to protect against such dangers, and even then, a disruption may have unintended consequences. A disruption cannot be 'generalized' but is relatively successful or problematic depending on the way in which it is deployed, the role of citizen participation in its deployment, and the quality of the effort put forth by people on the ground, particularly with regard to adherence to ethical principles and social values.

- There is a need for transparency and openness regarding the use of disruptive technologies. This requires strong documentation, meaningful points of (human) contact, accountability mechanisms, public oversight, and more.

- Co-creative and participatory approaches in mobility can help to uphold fundamental rights; and help to maintain relevance (most specifically, to ensure that citizens are the key beneficiaries of data used by municipalities). Citizen participation is crucial in designing a smart city pilot, building new data management structures, or implementing ethical guidelines. Any project or technology that affects society ought to include society

and, furthermore, be based upon shared values and principles. Initiatives and development processes tend to become more rigid as they progress. Thus, [shared values ought to form the foundation](#) of such endeavours, to include citizens and their values in each stage of design, development, and implementation.

- Technological development and implementation must follow guidelines such as the EC's Assessment List for Trustworthy AI. We would collectively benefit from more robust and enforceable rules for technological development that ensure ethical principles are adhered to by design. Useful next steps in this area include iterative and informed policy development, as well as the provision of educational and human resources to help tech developers and public administrations who currently carry much of the burden and responsibility for creating ethical technology.

5 References

[1] R. a. M. Christensen, «What is Disruptive Innovation?,» The Harvard Business Review, 2015. [En línea]. Available: https://hbr.org/2015/12/what-is-disruptive-innovation.

6 Bibliography

The work of documentation was made previously to the writing of this document, so the conclusions that arose from the analysis were expressed in this report as the outcomes of Task 2.1 within the work package 2 "Social impact of disruptive technologies".

These documents have not been cited as references in the content of the deliverable and instead, this bibliography section has been included.

The sources of information consulted in order to contribute to this deliverable are listed below.

- Adjovu, Charles. (2019). My Data! My Rules! *Medium.com.* Accessed February 2021 at https://medium.com/cryptolinks/my-data-my-rules-1e52828b9377

- Algorithm Watch. AI Ethics Guidelines Global Inventory. https://inventory.algorithmwatch.org/

- Álvarez, R. J. (2014). Las asesinadas que denunciaron se valoraron como "riesgo bajo o nulo." *El Mundo*. Retrieved from https://www.elmundo.es/espana/2014/12/09/54861553ca4741734b8b457e.html

- App Store Preview. Accessed February 2021 at https://apps.apple.com/us/app/drivers-seat-cooperative/id1486642582?ls=1

- Bíró, Petra (2019). *Algorithm Says No: Ethical guidelines for AI Systems.* Waag. https://waag.org/en/article/algorithm-says-no-ethical-guidelines-ai-systems

- Bíró, Petra (2019). *Analysis of ethical guidelines for AI systems*. Waag. PDF accessed at https://waag.org/sites/waag/files/2019-12/Analysis%20of%20ethical%20guidelines%20for%20AI%20systems_Waag.pdf

- Center for Democracy and Technology. https://cdt.org/

- Çetin, Tamer. (2017). The Rise of Ride Sharing in Urban Transport: Threat or Opportunity?. *Urban Transport Systems.* Yaghoubi, H. (ed.). Pp. 191-202. 10.5772/66918.

- Chiusi, F., Fischer, S., Kayser-Bril, N., & Spielkamp, M. (2020). Automating Society Report 2020. Berlin.

- CO3 Project http://www.projectco3.eu/

- Decide.Madrid.es Online Participatory Budgeting. Participedia. https://participedia.net/case/4365.

- DeJohn, S. (2017, November, 13). Beyond Protest: Examining the Decide Madrid Platform for Public Engagement. *The Gov Lab Blog.* https://blog.thegovlab.org/post/beyond-protest-examining-the-decide-madrid-platform-for-public-engagement

- Deloitte, 'Public sector, disrupted: How disruptive innovation can help government achieve more for less' https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Public-Sector/dttl-ps-publicsectordisrupted-08082013.pdf

- Demeyer, T., Spaan, B., & Spierings, J. (2020). Interviews with Smart City SDK project partners, November 2020.

- Dickey, Megan Rose. (2020). 'Co-op helps Uber, Lyft drivers use data to maximize earnings'. *TechCrunch.com.* Accessed February 2021 at https://techcrunch.com/2020/02/06/co-op-helps-uber-lyft-drivers-use-data-to-maximize-earnings/

- Driver'sSeat.co. Accessed February 2021 at https://www.driversseat.co/

- Eggars & Gonzalez 'Disrupting the Public Sector' in Harvard Business Review https://hbr.org/2012/03/disrupting-the-public-sector

- European Commission, 'Powering European Public Sector Innovation: Towards a New Architecture' https://ec.europa.eu/futurium/en/content/powering-european-public-sector-innovation-towards-new-architecture-report-expert-group

- FATML. Principles for Accountable Algorithms and a Social Impact Statement for Algorithms. https://www.fatml.org/resources/principles-for-accountable-algorithms

- Félix, R., Cambra, P.,Moura, F. (2020). Build it and give 'em bikes, and they will come: The effects of cycling infrastructure and bike-sharing system in Lisbon. *Case Studies on Transport Policy*. 8. 672-682. 10.1016/j.cstp.2020.03.002.

- Fisher, E. (2019). Governing with ambivalence: The tentative origins of socio-technical integration. Research Policy, 48(5), 1138–1149. https://doi.org/10.1016/j.respol.2019.01.010

- Floridi, L., Cowls, J., Beltrametti, M. et al. AI4People—An Ethical Framework for a Good AI Society: Opportunities, Risks, Principles, and Recommendations. Minds & Machines 28, 689–707 (2018). https://doi.org/10.1007/s11023-018-9482-5

- Gemeente Amsterdam. *Slimme mobiliteit met MobiLab*. Accessed at https://www.amsterdam.nl/wonen-leefomgeving/innovatie/smart-mobility/slimme-mobiliteit-mobilab/

- Gobierno de España. Ley Orgánica 1/2004, de 28 de diciembre, de Medidas de Protección Integral contra la Violencia de Género (2004). Spain. Retrieved from https://www.boe.es/eli/es/lo/2004/12/28/1

- Gobierno de España. (2019). Sistema VioGén. Retrieved January 27, 2021, from http://www.interior.gob.es/web/servicios-al-ciudadano/violencia-contra-la-mujer/sistema-viogen

- González-Álvarez, J. L., López-Ossorio, J. J., & Muñoz Rivas, M. (2018). La valoración policial del riesgo de violencia contra la mujer pareja en España – Sistema VioGén. Madrid. Retrieved from http://www.interior.gob.es/documents/642012/8791743/Libro+Violencia+de+Género/19523de8-df2b-45f8-80c0-59e3614a9bef

- González, J. L., & Garrido, M. J. (2015). Satisfacción de las víctimas de violencia de género con la actuación policial en España. Validación del Sistema VioGen. Anuario de Psicologia Juridica, 25(1), 29–38. https://doi.org/10.1016/j.apj.2015.02.003

- Gordon, E., Harlow, J., Teng, M., & Christoforetti, E. (2020). Beta Blocks Case Study: Civic Smart City Series. Engagement Lab. Boston, MA. elabhome.blob.core.windows.net/elabpublication/betablocks.pdf.

- High-Level Expert Group on Artificial Intelligence set up by the European Commission (2020). *The Assessment List for Trustworthy Artificial Intelligence (ALTAI)*. PDF accessed at https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=68342

- Holder, Sarah. (2019). For Ride-Hailing Drivers, Data is Power. *Bloomberg City Lab*. Accessed February 2021 at https://www.bloomberg.com/news/articles/2019-08-22/why-uber-drivers-are-fighting-for-their-data

- Jätkäsaari Mobility Lab. https://mobilitylab.hel.fi/

- Kalkman S, van Delden J, Banerjee A, *et al.* (2019). Patients' and public views and attitudestowards the sharing of health data for research: a narrative review of the empiricalevidence. *Journal of Medical Ethics*. Doi: 10.1136/medethics-2019-105651

- Leitner & Stiefmueller, 'Disruptive Technologies and the Public Sector: The Changing Dynamics of Governance' chapter in Public Service Excellence in the 21st Century https://cordis.europa.eu/programme/id/H2020_DT-TRANSFORMATIONS-02-2018-2019-2020; https://www.researchgate.net/publication/330447732_Disruptive_Technologies_and_the_Public_Sector_The_Changing_Dynamics_of_Governance

- Lindsay, G. (2017, January, 13). What if Uber kills off public transport rather than cars?. The Guardian.https://www.theguardian.com/sustainable-business/2017/jan/13/uber-lyft-cars-public-transport-cities-commuting

- López-Ossorio, J. J., González-Álvarez, J. L., & Andrés-Pueyo, A. (2016). Eficacia predictiva de la valoración policial del riesgo de la violencia de género. Psychosocial Intervention, (25), 1–7. https://doi.org/10.1016/J.PSI.2015.10.002

- López-Ossorio, J. J., González-Álvarez, J. L., Muñoz Vicente, J. M., Urruela Cortés, C., & Andrés-Pueyo, A. (2019). Validation and Calibration of the Spanish Police Intimate Partner Violence Risk Assessment System (VioGén). Journal of Police and Criminal Psychology, 34(4), 439–449. https://doi.org/10.1007/s11896-019-09322-9

- Lusa. (2020, July, 2nd). Alguns moradores de Arroios criticam falta de segurança na ciclovia da Avenida Almirante Reis em Lisboa. *Publico.pt.* https://www.publico.pt/2020/07/02/local/noticia/moradores-arroios-criticam-falta-seguranca-ciclovia-avenida-almirante-reis-lisboa-1922766/amp?fbclid=IwAR0faggqfpA68vW1Trs_tMHA-OZNyxsZHm_4Wv9-9SB_PY9ZWjeOiDsut7g

- Meijer, A.J., Schaefer, M.T. & Branderhorst, Martiene (2019). Principes voor goed lokaal bestuur in de digitale samenleving - Een aanzet tot een normatief kader. Bestuurswetenschappen, 73 (4), (pp. 8-23) (16 p.). Accessed at http://dspace.library.uu.nl/handle/1874/389163

- Mozilla (2020). Data Futures: Research to shift power through data governance. Accessed at https://foundation.mozilla.org/en/initiatives/data-futures/

- Mulgan, Geoff & Straub, Vincent. (2019). The New Ecosystem of Trust: How data trusts, collaboratives and coops can help govern data for the maximum public benefit. *Nesta.org*. Accessed at https://www.nesta.org.uk/blog/new-ecosystem-trust/

- Muovime. http://muovime.it/

- MUV. https://www.muv2020.eu/

- Ng, C. (ed.). (2016). *Gender Responsive and Participatory Budgeting: Imperatives for Equitable Public Expenditure.* Springer.

- Nikolaeva, A., Adey, P., Cresswell, T., Lee, J., Nóvoa, A., Temenos, C.. (2019). Commoning mobility: Towards a new politics of mobility transitions. *Transactions (Institute of British Geographers)*. 10.1111/tran.12287.

- NYU GovLab. Data Collaboratives: Creating public value by exchanging data. Access at https://datacollaboratives.org/

- OmaStadi. https://omastadi.hel.fi/

- Palma, T. (2020, August, 4). As polémicas ciclovias de Lisboa. "A Câmara quer ser 'verde' e ecológica à força". Radio Renascença. https://rr.sapo.pt/2020/08/04/pais/as-polemicas-ciclovias-de-lisboa-a-camara-quer-ser-verde-e-ecologica-a-forca/especial/202280/

- Peacock, S., Harlow, J., Gordon, E. (2020). Beta Blocks: Inviting Playful Community

- Exploration of Smart City Technologies in Boston, USA. in A. Nijholt (ed.), *Making Smart Cities More Playable,Gaming Media and Social Effects*, Springer. https://doi.org/10.1007/978-981-13-9765-3_7131

- Precedo, J. (2016). Las primeras medidas de protección a una mujer maltratada las decide un algoritmo informático. El Diario.Es. Retrieved from https://www.eldiario.es/sociedad/primeras-proteccion-maltratada-algoritmo-informatico_1_3824929.html

- PublicStack.net. *Towards Open, Democratic, and Sustainable Public Spaces*. https://publicstack.net/

- Público. (2020a). Interior usará la inteligencia artificial para prevenir posibles agresiones a mujeres maltratadas. Público. Retrieved from https://www.publico.es/politica/violencia-genero-interior-usara-inteligencia-artificial-prevenir-posibles-agresiones-mujeres-maltratadas.html

- Público. (2020b). Uno de cada dos españoles conoce un caso de violencia de género en su entorno. Público. Retrieved from https://www.publico.es/sociedad/25n-espanoles-conoce-caso-violencia-genero-entorno.html

- Roessel, I. V, Reumann, M, & Brand, A. (2018). Potentials and challenges of the health data cooperative model. Public Health Genomics, 20(6), 321-331. https://doi.org/10.1159/000489994

- Royo, S. Pina, V. Rayado,J. (2020), Decide Madrid: A Critical Analysis of an Award-Winning e-Participation Initiative. Sustainability, 12, 1674.

- Schouten, S. (2019). *A Strategy for Urban Data* [PDF]. https://waag.org/sites/waag/files/2019-06/Waag-AMS-Strategy-for-urban-data.pdf

- Schouten, S., van Eeden, Q., Grijns, H., Demeyer, T., Bocconi, S., van der Waal, S., van Himbergen, T. (2021). *Een Public Stack voor Laadinfrastructuur: Elektrische auto's opladen met eerlijk technologie en een up-to-date democratisch proces*. Waag. https://beleidslab.waag.org/public-stack-laadinfrastructuur/

- Schouten, Socrates & Veenkamp, Judith (2019). *Mobiliteitslab Fietsdatacommons*. PDF accessed at https://waag.org/sites/waag/files/2020-03/Definitief%20verslag%20Mobiliteitslab%20Fietsdatacommons_0.pdf

- Smart City SDK. https://waag.org/en/project/smart-citysdk

- Sustainable Mobility Forum of Bilbao. https://pmus.bilbao.eus/

- TADA. https://tada.city/

- Villari, M. (2020). Interview December 2020.

- Verkka, K. (2020). Interview, November 2020.

- Waag. (2020). *MUV Greatest Hits.* PDF accessed at https://waag.org/sites/waag/files/2020-05/MUV%20Amsterdam%20Greatest%20Hits.pdf

- Weitzman, E.R, Kelemen, S, Kaci, L, Mandl, K.D. (2012). Willingness to share personalhealth record data for care improvement and public health: a survey of experiencedpersonal health record users. BMC Med Inform Decis Mak 12, 1–10.

- Whiddett, R, Hunter, I, Engelbrecht, J, Handy, J. (2006). Patients' attitudes towards sharing their health information. Int J Med Inform 75, 530–541.