

COVID briefs

BUILDING BACK BETTER: POST-PANDEMIC CITY GOVERNANCE

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POST-COVID-19 DIGITALISATION POLICY FRAMEWORK GUIDELINES

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October 2020*

Abstract

COVID-19 has impacted our cities heavily. The sheer concentration of people, businesses and shops, the dense complexity of urban mobility, the fact that urban environments typically take centre-stage when it comes to entertainment and night-life mean cities will always be impacted *first* and will be impacted *most* if a pandemic strikes. Cities are also where innovations arrive earliest and scale up fastest, and urban environments typically serve as canvases for the latest digitalisation has to offer. Digitalisation has helped cities respond to the crisis in novel and often effective ways. What can be learned from those responses? How have they helped accelerate urban innovation agendas, and how do we pave the way forward from a policy framework perspective? In short, how can digitalisation help our cities build back better?

Digitalized patterns of communication and organization should not be limited to a crisis response but embedded into the day to day fabric of government operations and across communities.

The game-changing tango of COVID-19 and digitalisation

Digitalisation has helped us address COVID-19 systematically. If the pandemic had struck in the year 2000, the collective global response would have been months if not years slower, with dire consequences. Think about remote working for knowledge and administrative workers that has enabled employees to work remotely without exception (rather than just the innovative few). Think about community communications, contact-tracing apps and the continuity of everyday life provided by 24/7 online retail facilities. COVID-19 has forced us to accelerate a shift which had already begun but whose impact is only recently being felt and understood.

Indeed, the impact has been reciprocal: digitalisation helped us address COVID-19, and COVID-19 provided the thrust for accelerating digitalisation and urban agendas. The best-prepared communities, cities and regions generally reaped the benefits of addressing COVID-19 more successfully than others, but it also helped them drive digitalisation agendas and digital innovations even further. Smart working practices that are now widely adopted serve as an illustration, yet citizen services and municipal information platforms have moved from digitally *supported* to digitally *preferred* or even *digital only*. Early indicators appear to demonstrate that European commu-

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nities with less digitalised organisational cultures had returned to the office faster and in larger numbers by the end of summer 2020 (*Financial Times*, 2020). The opposite also appears to be true: communities that were better digitally prepared appear to have more decisively embraced networked, digitalised patterns of organisation and more inclusive uses of digital technologies. The City of Reykjavik in Iceland, for example, which is known for its advanced fibre broadband networks and digital-ready governance, made a wholesale push to convert municipal practices to digital, with longer term consequences. In the words of Oskar Sandholt, the city's services and innovation director: "Covid-19 has pushed us at least six years into the future."¹

The biggest question we face is how to best turn this renewed digitalisation drive into a permanent journey forwards. On this journey we seek to ensure that networked, resilient conduct becomes part of our cultural, organisational and psychological DNA, with the digitalised patterns of communication and organisation not limited to crisis response but embedded into the day-to-day fabric of government operations and across communities, cities and regions. The next question is then how to direct policy agendas accordingly, building effective digitalisation roadmaps on all policymaking levels across all domains and departments, while acknowledging the negatives that may be associated with such accelerated digitalisation – as well preparing the capacity to mitigate such negatives.

10 essential principles for policymakers as we carve out our post-COVID-19 world

1. It is a shift! Treat it as one

Digitalisation is only partly about technology. As with other technology-powered shifts (automobiles, steam engines, electricity, etc.), digitalisation has specific technologies at its core but above all represents a change in organisational structures and patterns of urban conduct. Digitalisation represents a paradigm shift towards distributed, networked patterns of organisation. In this context, any forward-looking policy framework must build on the insight that the next leap in digitalisation is less about sensors, cloud computing or AI (although these are important) and more about an embrace and adoption of the organisational designs of "networkedness". Look beyond short-term solutions, gadgets and a few apps. Appreciate the shift and translate it into policies towards sustainable change. The very notion of urban services, for instance, needs reframing, with digitalisation allowing for the creation, transaction and delivery of "urban services" to become ever more place- and time-independent (e.g. regarding food and green systems).

2. Governance & mandate

Learning the digitalisation lessons of the COVID-19 responses involves applying a horizontal approach across municipal departments and local government organisations. It is not the job of one department, or of the IT leader. It requires inclusive, agile governance and it must come with an executive mandate. Amsterdam created the position of Chief Technology Officer with a team of over 100 direct and indirect employees operating

1. Interview by the author with Oskar Sandholt in September 2020 for Thunderbird School of Global Management's certified online course on smart and resilient communities.

across departments to steer its urban digitalisation and innovation agenda. Reykjavik created a digital services department that is actually less a classic department and more a central coordination node in the municipal organisation that curates, authorises and finances digitalisation efforts. The lesson that emerges from cities with such governance structures in place is to think systemically, but act locally. Mitigate hierarchies and traditional organisational boundaries, and make collaboration across departments and beyond your own organisation the default.

Regulatory frameworks can and must become more agile if they are to moderate digitalized urban conduct.

3. Build public–private–people partnerships (PPPPs)

Municipalities, regional authorities and the private sector need each other. They needed each other as innovative solutions were forged in the COVID-19 response and similar partnerships will be needed when building policy frameworks and digitalisation strategies for the future. The many information apps created throughout the months of the COVID-19 pandemic would not have emerged or made such an impact without such partnerships, without the hackathons organised in the Baltic cities of Tallinn, Estonia and Valmiera, Latvia (Center for Public Impact, 2020); without local start-ups stepping up in Paris; and without the economic-activity sensors and dashboards forged in Rome.² Yet the “people component” also applies: without trust and civic engagement tracing apps have little chance of success. Much of the required trust, hyper-local communication and implementation relies on another component of PPPPs in action: the work of local NGOs representing neighbourhoods and minorities proved crucial to the success of reaching out (digitally or otherwise) in Oslo and in Paris’s suburb of Seine-Saint-Denis (Center for Public Impact, 2020). This truism must be applied to all community-centric digitalisation agendas in the future. Successful adoption requires civic engagement as the foundation of digitalisation agendas and the policies that enable them.

4. Good design: design from where people are and be clear on purpose

Bad design results in low adoption and digital divides. Good design is clear on purpose and aims at inclusion. “The greatest access for the greatest number” typically applies as a design fundamental. This was proven to be true at the height of the pandemic: the underserved were at most risk of lacking equal access to crucial information and community instructions. This lesson applies to our future policies. Any innovation or policy framework furthering digital innovation should ask the following questions: what is the purpose of the exercise? What are our assumptions and have we validated them? Who or what are we excluding from our designs in our cities and our communities? Have we designed from the perspective of where the city’s residents are, or are we merely imposing a solution on the people and hoping to validate our assumptions?

5. Mitigating digital divides

Throughout the pandemic, cities have had mixed track-records on enabling all children to continue their education, reaching all citizens and ensuring they have access to critical information issued by the municipality. Local

2. Interview by the author with Raffaele Gareri, Chief Digitalization Officer, City of Rome, September 2020.

Working with open source software — cost effective, and interoperable for its open code DNA— is an important point of guidance for future policy frameworks.

governments had to shift overnight from traditional information and service delivery that was digitally augmented, to digital-first or digital-only. Communities that had forged “the greatest access for the greatest number” prior to the crisis, such as Reykjavik in Iceland and Stavanger in Norway (if only for the close to 100% fibre home broadband delivered across their cities) were able to claim the highest levels of inclusion from the first day of the pandemic.³ Public Wi-Fi services launched just prior to the pandemic in the city of Sacramento, California, helped enable primary and secondary school students in otherwise “under-connected” households to continue to download and upload school assignments.⁴ Local NGOs representing minorities and NGOs with years of experience operating at grassroots levels on a variety of missions have proved to be a crucial non-technological ingredient in achieving high levels of inclusion, as have multi-linguistic approaches to providing municipal web pages and digital information tools (Center for Public Impact, 2020).

6. Agile regulatory environments

In response to COVID-19, the administration had the regulatory environment amended to allow municipal workers to work remotely. In doing so, the municipality proved successful where countless visionary leaders and technology evangelists had failed in pre-COVID times. Regulatory frameworks can and must become more agile if they are to moderate digitalised urban conduct. Regulators can be the innovator’s best friend when engaged early and systematically. Chris Vein, former CIO of the City of San Francisco, described how the 2005 tsunami triggered multiple innovations: “we realized we needed to model the city, building an early digital twin, allowing all stakeholders, regulators included, to understand what would need to be done to acquire the type of city resilience if such a Tsunami type disaster were to hit the shores of California.”⁵ Beyond the type of modelling conducted in San Francisco, test-beds, living labs – like Copenhagen’s street automation lab, DOLL – and innovation districts may provide early learning environments that allow regulators to prepare and achieve the level of regulatory agility needed.⁶

7. Skills

Multiple local, regional and national governments around the world came to discover their shortcomings when trying to digitally respond to COVID-19. The arts of design thinking, data analytics, cyber security (to name just a few) touch on skill sets, traits and know-how that can and must be trained for. The government of Singapore – both a nation and a city – decided under its Smart Nation programme to send close to 50% of its public sector workforce back to school in 2017 to be trained in data strategies and data analytics so that they could return to their digitalised jobs and be effective and accountable. Any digitalisation-focused policy framework needs to encompass education as a priority component of responsible technological governance.

8. Understand digital technologies & manage them wisely

Technology is not the most important component of a digitalisation strategy. End-users, new business models, changing organisational pat-

3. Reykjavik and Stavanger: interviews by the author with the CTOs of Reykjavik and Stavanger, September and October 2020, respectively.
4. Sacramento: interview by the author with the CIO of City of Sacramento, September 2020.
5. Interview by the author with Chris Vein, former CIO of the City of San Francisco, former CIO of the World Bank Group, October 1st 2020.
6. Denmark’s DOLL brings together municipalities, vertical street automation solution providers and academic institutes to provide a canvas for both companies and regulators to engage early: <https://doll-livinglab.com/>

terns, new regulatory environments, ethics: all of these carry as much weight. That is not to downplay technology, which is what fuels our access to information. But new technologies always produce unintended consequences that need to be understood. Algorithms may discriminate. Data may leak. Solutions may infringe on privacy. Calls to action:

- Articulate a data strategy that encompasses data and algorithm governance, digital rights, purpose and the creation of a level playing field for all stakeholders (both public and private) that wish to produce, access or process relevant data. Cities such as Tampere in Finland and Dortmund in Germany are preparing for “data utilities”, and are examples worth studying (Boorsma et al., 2018). Amsterdam, Barcelona and New York have initiated the Cities for Digital Rights coalition, which provides useful charters and practices that can be adopted by others.⁷ A lot more remains to be done beyond digital rights, with policy frameworks needing to carve out measures sustaining “traditional” civil and human rights within the digital realm.
- Ensure interoperability to forge a fair and effective level playing field for all stakeholders, architectures, data strategies and digital solutions to be effective. Without this, one app may not talk to another, crucial data may not be read by one specific tool and a given community may not be able to use an app or service that has been built at great expense by a neighbouring city. RFIs (request for information), RFPs (requests for procurement) and the conditions of public-private partnership agreements can and should be articulated and, where possible, avoid proprietary lock-ins. At the height of the pandemic, the City of Rome produced a number of city dashboards and data analytics schemes built on open source software. It was the city’s way of generating an open and interoperable environment for the next set of solutions it sought to produce.⁸ Another example of an open source solution built to respond to COVID-19 more effectively is the FIWARE-based biosurveillance system, which supports public administrations and health institutions in cities and communities in Italy’s Veneto region to have a “near” real-time holistic view of contextualised information from different data sources, allowing predictive maps of contagion to be generated, among other results (FIWARE, 2020). Working with open source software – cost effective and interoperable due to its open code DNA – will be important to guide future policy frameworks.

9. Regional collaboration

Even well before COVID-19 emerged, joint work by a number of municipalities to articulate and deliver on urban innovation and digitalisation agendas had proved to be a game-changer in, among other places, Greater Stavanger in Norway, Brescia Province in Italy and Greater Phoenix, Arizona. This regional collaboration provided advantages in terms of scale, joint procurements, shared data management constructs, interoperability and social inclusion schemes. The benefits of such collaboration are now even more accepted as a result of the COVID-19 response. For instance, targeting the inclusion of ethnic minority groups can be greatly facilitated by collaboration across municipalities, as shown in the Paris example mentioned above.⁹ Acting in unison and seeking collaboration in adjacent jurisdictions and localities ought to be an important point that guides any future policy framework on urban digitalisation and innovation agendas.

7. Cities Coalition for Digital Rights <https://citiesfordigitalrights.org/>

8. Interview by the author with Raffaele Gareri, Chief Digitalisation Officer, City of Rome, September 2020.

9. Phoenix, Stavanger Thunderbird School of Global Management interviews conducted by the author, September, October 2020.

10. Rethink the city's built environment

Digitalisation allows resources and services distribution to be redesigned. Human conduct (work, learning, shopping, etc.) has become more distributed. Modern urban culture typically looks to embrace a hybrid use of space: a physical, analogue reality that is then facilitated by the digital. This illustrates the disruptive shift in (the use of) the built environments of our city experiences. Dynamic, hybrid, changeable use of physical space has helped to improve communities' resilience, as was demonstrated at the height of the COVID-19 pandemic. This shift enables what has come to be called "the 15-minute neighbourhood" in which access to healthcare, groceries and green space, among other facilities, should be within close walking distance of every citizen (Balducci, 2020). As with the other principles laid out above, a vast repository of experience in pre-COVID digitalisation efforts is a source of guidance: mixed-use innovation districts such as the quintessential example of 22@Barcelona, which for decades has been bringing citizens, small business, large enterprise, education, infrastructure, technology and investment effectively together within one physical neighbourhood. Cities can facilitate 15-minute districts by allowing mixed and temporary use of vacated spaces by lowering, for instance, the threshold for obtaining temporary or permanent permits for specific uses of space (food delivery for instance). Longer term strategies typically involve city spatial planners embracing distributed urban services design linked to equally distributed built environment design. Green and urban agricultural components are integrated, further strengthening local community resilience.

Digitalisation is catapulting society into what many now call the Fourth Industrial Revolution. COVID-19 has demonstrated the clear need for an intelligent and timely adoption of modern digital means to safeguard the resilience and well-being of our communities. Now is the time to act, now is the time to maintain the momentum.

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