

Cities Coalition for  
Digital Rights

UN HABITAT  
FOR A BETTER URBAN FUTURE

# DIGITAL RIGHTS GOVERNANCE FRAMEWORK

CONCEPT DRAFT  
OPEN FOR FEEDBACK

# FIRST DRAFT / CONCEPT

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# 1. Introduction

Digital technologies influence change at a fast pace in society. **Enhanced models of governance are needed by cities to manage opportunities and risks driven by technology.** Emerging technologies affect people and communities worldwide, sometimes in unforeseen or unintended ways, but nonetheless harmful.

The deployment of digital solutions in cities, especially in geographies where the discussion of ethics and inclusion in technology is less developed, must have transparency, accountability and community participation at the forefront of its practices, in order to **ensure that considerations over human rights in the digital space become as evident as universal human rights in the near future.**

In light of such challenges, **cities need to expand their capacities** so as to be prepared and equipped to lead digital transformation strategies that are people-centered and support sustainable urbanization towards the public good.

Increasing the capacity of inclusive local systems to be interoperable and use open databases, for example, can foster collaboration and enhance the capacity to innovate by applying cross-sectoral data and sharing it with the community. Supporting governments with people-centred governance principles can impact policymakers, and influence how technology and urban data is used by different collaborating stakeholders.

## Towards a framework for digital rights

This proposal for a Digital Rights Governance Framework focuses on the local safeguarding of human rights in the digital context of city-governments. Specifically, it outlines **how cities can uphold a human rights-based approach with regards to the digitalisation of their services** and to some extent the digitalisation of the city.

The framework should be interpreted as a gathering of **foundations, structures and tools**, which can be customized based on local needs. Human rights are internationally recognized in the Universal Declaration of Human Rights. However, the foundations and structures put in place need to be balanced with national laws and implementation priorities.

This framework can be used as a **self-assessment tool and maturity model for city-governments.** With **evidence-based experiences out of practice**, it will continue to evolve as a living document, subjected to the same fast-paced beat that defines emerging technologies. As such, a global representation of best practices is important. This framework ..

**'Cities need to expand their capacities so as to be prepared and equipped to lead digital transformation strategies that are people-centered and support sustainable urbanization towards the public good'** – Cities Coalition for Digital Rights

**'This Framework outlines how cities can uphold a human rights-based approach with regards to the digitalisation of their services'** – Cities Coalition for Digital Rights

## Human rights and technology governance frameworks

The world's population living in urban areas is expected to reach 70 percent by 2050, while the world is also becoming increasingly more digital. **More than half of the global population has access to the internet, and the majority of the disconnected people are located in least developed countries.**<sup>1</sup> In these countries, men are more likely to own a mobile phone or internet connectivity than women, who are also less represented in education, careers and jobs related to information and communication technologies. Digital technologies are ubiquitous, yet often invisible. They increasingly and systematically affect the social 'fabric' of societies worldwide.

**'Digital technologies and internet access have a tremendous potential to contribute to address inequalities, but also to exacerbate them when not well governed' - Cities Coalition for Digital Rights**

Digital technologies and internet access have a **tremendous potential to contribute to address inequalities, but also to exacerbate them when not well governed.**<sup>2</sup> Around the world, people adopt new technologies every day and are at risk of having their human rights impacted by it. Simultaneously, the (social) impact of technology can be shaped in ways that support patterns of well-being and justice. **The nexus of human rights and technology brings forth the need for a digital human rights framework**, based on existing frameworks from each of these two areas as well as new ones which overlap human rights and technology

Human rights frameworks exist at different levels. In the global sphere, the [Universal Declaration of Human Rights](#) establishes the responsibility of Member States to protect individuals' fundamental rights. The United Nations's [New Urban Agenda](#) states that cities must prioritize people and communities in smart cities strategies, harnessing information and communication technologies in inclusive ways, supported by the [Sustainable Development Goals](#), especially SDG 11 – to make human settlements more inclusive, safe, resilient and sustainable. At the local level, the Fundamental Rights Agency recently published (2021) a framework for [Human Rights in Cities](#) in the European Union, in which 'foundations', 'structures' and 'tools' encourages the development of a local culture of human rights.

As a great portion of technology solutions adopted in cities are provided by the private sector, the [Guiding Principles on Business and Human rights](#) recognizes the role of Member States in protecting residents' rights from harmful practices that may arise from business activities and practices. This signals to the interconnections between private sector operations and Member States, raising considerations on the implications to human rights derived from other realms.

In the last decades, with the nexus of technology and human rights becoming more intertwined, **the increased usage of the internet by people has highlighted the benefits as well as the risks present in the online space.** Governance frameworks for the internet were developed to raise awareness that human rights exist virtually as well. The [Charter of Human Rights and Principles for the Internet](#) by the Internet Rights

<sup>1</sup> [UN's Secretary General Roadmap for Digital Cooperation](#)

<sup>2</sup> [New and emerging technologies and human rights. United Nations Human Rights Council](#)

& Principles Coalition upholds international human rights in the online environment, focusing on the internet governance. It has inspired the Cities Coalition For Digital Rights' [Declaration and Principles](#), which expands the domain of digital human rights beyond considerations of internet governance only, to include principles addressing digital technologies, data, connectivity and participatory processes governance, within the scope of local governments policy, urban space and services provision.

Some frameworks have been structured based on geographical contexts, such as the *Digital Rights in Southeast Asia's [Conceptual Framework and Movement Building](#)*, developed based on the local input of civil society, residents and local government, and conceptualised with four key spheres: Conventional rights translated to digital spaces; Data-centred rights; Rights to access to digital spaces and services; Rights to participate in the governance of the digital or the internet.

Others frame specific themes out of the broader technology constellation of topics, for example the [MyData Declaration](#), which reinforces the right to self-determination to be achieved through legal protection. It highlights the power of sharing data with and by individuals, promoting trust and confidence in people's relationships and between people, organizations and society. Finally, a focus on specific societal groups could guide an increased emphasis on the protections of such more vulnerable groups as in the [General Comment on children's rights in relation to the digital environment](#), and the [Support of US Indigenous Data Sovereignty and Inclusion of Tribes in the Development of Tribal Data Governance Principles](#), for example.

**'In the last decades, governance frameworks for the internet were developed to raise awareness that human rights exist virtually as well' – Cities Coalition for Digital Rights**

## 2. A digital rights governance framework

The proposed framework for the governance of digital rights consists of three main spheres<sup>3</sup>:

The **foundations** needed to formalise a city's commitment towards digital transformation centered on people, and compliance with the full range of human and fundamental rights in the digital environment.

The **structures** comprise mechanisms and bodies to integrate commitments into the city's normative and operational work. Such structures may include the creation of a digital human rights officer role, external advisory councils, processes for community engagement and residents input.

The **tools** include methods and resources aimed at the implementation and mainstreaming of human rights in various aspects of a city's digitalization strategy, and by raising awareness on human rights in the digital context. It includes rights-based programming, which measures progress through action plans, baselines, monitoring and evaluation; it could also include an AI registry.

**'The Digital Governance Framework consists of three main spheres: foundations, structures and tools' – Cities Coalition for Digital Rights**

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<sup>3</sup> We are inspired by the [FRA framework](#) here. By offering these three main spheres we follow their example in adopting the three levels as found in the OHCHR "conceptual and methodological framework of indicators".

## i. Foundations. **Commitment to digital rights**

**Foundations support cities to comply with the full range of digital human and fundamental rights.** Cities can derive their commitments from existing frameworks which provide points of reference for the local governance of human rights and specific themes of technology, offering governments the opportunity to adhere to it and to develop their own. Human rights are not always explicitly safeguarded in city services or processes that are automated.

Strong foundations must be based on **core values** and address **specific thematic areas**, such as data principles or capacity building. **Commitments** can be embedded in digital transformation strategies and encompass multiple **thematic areas**, through **digital policies, digital bill of rights, charters, political statements and principles declarations**.

### **Core values**

1. **Determine a city's core values.** Core values encompass global and international frameworks, to ensure protection and promotion of fundamental human rights ([Universal Declaration of Human Rights](#)) and as well as a vision for sustainable urbanisation, rooted in new paradigms for planning cities centered around people ([New Urban Agenda](#)).

In a cities' commitment to declarations, some **examples** of how governments can note, reaffirm, recognize and promote these ambitions:

Summary of core values	Framework
All human beings are born <b>free</b> and <b>equal</b> in <b>dignity</b> and <b>rights</b>	<a href="#">Universal Declaration of Human Rights</a>
Violations and abuses of the right to privacy in the digital age may affect all individuals, with particular effects on women, as well as children and those who are <b>vulnerable</b> and <b>marginalized</b>	
The promotion of and <b>respect</b> for the right to privacy are important to the prevention of violence, which can occur in digital and online spaces and includes <b>cyberbullying</b> and cyberstalking	<a href="#">The right to privacy in the digital age</a>
The exercise of the right to privacy is important for the realization of the right to <b>freedom of expression</b>	
Promote <b>inclusivity</b> ... <b>community</b> should be prioritized in a smart city strategy (para.11)	
Cooperation and consultation <b>open to all</b> , using information and communications technologies and <b>accessible</b> data solutions" (para. 92)	<a href="#">New Urban Agenda</a>
Make information and communications technologies <b>accessible to the public, including women and girls, children and youth, persons with disabilities, older persons and persons in vulnerable situations...</b> (para. 156)	



<p>The creation, promotion and enhancement of <b>open, user-friendly and participatory data platforms</b> to <b>enhance effective urban planning</b> and management, <b>efficiency and transparency</b> through e-governance (para. 160)</p>	
<p>4 - lifelong learning, 5 - gender equality, 5.b - enabling technology to promote the empowerment of women; 8 - sustainable and inclusive growth, 8.2 - through technology and innovation; 10 reduce inequality , 10.2 - social, economical, political inclusion for all, 10.3 - equal opportunities and equity, non-discrimination, 10.4 - social protection policies; 11; inclusive, resilient, safe cities, 16 justice by effective, accountable and inclusive institutions, 16.7 - responsive participation in decision-making at all levels; 16.10 - public access to information and protect fundamental freedoms</p>	<p><a href="#">Sustainable Development Goals</a></p>
<p><b>Protect:</b> State duty to protect against human rights abuses by third parties, including business enterprises, through appropriate policies, regulation, and adjudication</p>	<p><a href="#">Guiding Principles on Business and Human rights</a> - Protect, Respect, Remedy' Framework</p>
<p><b>Respect:</b> the corporate responsibility to respect human rights, which means that business enterprises should act with due diligence to avoid infringing on the rights of others and to address adverse impacts with which they are involved.</p>	
<p><b>Remedy:</b> the need for greater access by victims to effective remedy, both judicial and non-judicial</p>	

**Case study:** [ICT Infrastructure and digital human rights in Palestine](#)

In the occupied Palestinian territory (OPT), information and communication technologies have a considerable percentage under the control of Israel, posing considerations of mass surveillance and online content monitoring. Such challenges arising from lack of trust in the digital network and fear of monitoring and surveillance hinders residents' ability to express freely in the digital space. Conflicts in areas under political unrest may contribute to increasing the digital divide, when the physical infrastructure is damaged and people are unable to access the internet, hindering digital rights and the opportunities for development. To serve people's interests and ensure human rights, digital infrastructure must reinforce fundamental rights such as the right to privacy and freedom of opinion and expression, without discrimination.

## Thematic areas

2. **Translate these core values into thematic areas for your city.** This is where the core values are being applied to the digital context of local governments. It is recommended to confirm the core-values as well as the thematic areas of a city in collaboration with the political leadership of the city and in dialogue with its constitutions.

In general, this could mean that a city can make explicit its stand on **thematic areas**, such as transparency, autonomy, equity and participation from a citizen perspective:

Themes	Overview	Examples and use cases
Equality, equity and inclusion	<b>Equality rights</b> contribute to social <b>justice</b> in society and <b>fair</b> treatment to prevent arbitrary actions based on indirect differentiations among persons or groups. Equity consideration should ensure <b>equal opportunity</b> , equal <b>access</b> and <b>non-discrimination</b> to support an <b>inclusive</b> society (p. 88 <a href="#">IAMA</a> ).	<ul style="list-style-type: none"> <li>City of Portland- <a href="#">Digital Equity Action Plan</a></li> <li>City of San Antonio- <a href="#">SASpeakUp</a></li> <li>City of Bordeaux- <a href="#">Observatoire métropolitain de l'inclusion numérique</a></li> <li><a href="#">Learn my way</a> - Kenya</li> <li>City of São Paulo- <a href="#">Pátio Digital</a></li> </ul>
Freedom, autonomy	<b>Freedom rights</b> are again connected to dignity, autonomy, identity and integrity, but from an external perspective. They refer to the right to <b>express one's philosophy of life without external limitations</b> . (p. 86 <a href="#">IAMA</a> ). People should be able to control what happens to the data generated by and about themselves, who gets to see and use it, and for what purposes.	<ul style="list-style-type: none"> <li><a href="#">City of Helsinki Data Strategy</a></li> <li><a href="#">MyData principles</a>, article IX: residents can determine how the data collected about them is utilised</li> </ul>
Privacy, safety, security and protection	<b>Personal rights</b> , Protection of self and personal relation in private and public sphere (no profiling). It is respected that people can form their own life and identity, with the possibilities for <b>self-development and discovery</b> . This also includes social and economical conditions for a dignified life (p.83 <a href="#">IAMA</a> ).	<ul style="list-style-type: none"> <li><a href="#">Mapping and Analysis of Privacy Laws and Policies in Africa</a></li> <li><a href="#">COVID-19 and the Right to Privacy: an Analysis of South Korean Experiences</a></li> </ul>
Community participation and Public engagement	Right to participate and shape the collective future of the city.	<ul style="list-style-type: none"> <li>City of Berlin- <a href="#">mein Berlin</a></li> <li>City of La Paz- <a href="#">Barrio Digital</a></li> <li><a href="#">Irembo Portal</a></li> </ul>
Transparency and Accountability	<b>Procedural rights</b> ( <i>structures</i> in this framework): refer to the right to a fair trial and <b>impartial judgment</b> , as well as to <b>public accountability</b> of governmental tasks (p. 90 <a href="#">IAMA</a> ). They enable procedural justice and an equal information position between people and government.	<ul style="list-style-type: none"> <li>City of Amsterdam</li> </ul>

Collective and individual well-being	Technology should <b>serve the individual and collective wellbeing in a prosperous community</b> . Data and technology contribute to today's challenges while safeguarding social, environmental and economical benefits.	<ul style="list-style-type: none"> <li>• City of Helsinki, Finland</li> <li>• City of Toronto, Canada</li> </ul>
Public Goods and Open infrastructures	Collectively or publically owned or accessible, for the public good, open to use for others. <b>Open standards. Safe and accessible. Shared benefits.</b>	<ul style="list-style-type: none"> <li>• City of São Paulo- <a href="#">Dados Abertos</a></li> </ul>

#### Case study: [Uganda's digital ID system](#)

Uganda's National Identity Card System, commonly known as "Ndaga Muntu", is a mandatory requirement to access public services such as healthcare, agricultural supplies, passport, registration of SIM cards, and voting in the elections. It has raised national debates around risks for discrimination and privacy concerns, and the impact of these mandatory requirements for the enjoyment of fundamental rights. Some respondents of the research expressed concern to provide personal information such as tribe and ethnicity. Mandatory policies and the long timeframe to obtain the ID impact the enjoyment of fundamental rights by making it difficult for the population to access services. In the case of Uganda's digital ID, it is possible to note the relation between digital platforms development and fundamental rights, in the sense that cumbersome processes in the public administration have a direct impact on residents rights to access and enjoy basic services.

## Setting commitment foundations

3. Combine these core-values and thematic areas and commit to the publication of a localized understanding of digital human rights in the form of a **bill of digital rights**, a **data-policy with sovereignty** or a **code of ethics**. A code of ethics can support moral judgments when rights are competing or when they cause dilemmas, guided by a shared set of values.

4. Provide a **formal declaration of the city's commitment to digital human rights at the highest political level**, e.g. mayor, vice-mayor and/or other governing body. The localized declaration could also make references to the links between human rights, the rule of law and democracy, as well as the principle of good administration.

### Examples

Commitments to digital human rights can be set differently, at various levels of the public administration. Some governments have published **charters** to define rights and obligations, such as London's (UK) [Emerging Technology Charter](#), with four principles for technology implementation (Be open, respect diversity, be trustworthy with people's data and be sustainable), or the Spanish national government's [Charter of Digital Rights](#) which proposes an action framework for all

**Cities should have strong data protection policies in place that ensure transparency about what data is collected about citizens, and how it is used, processed, and retained. As cities become "smarter", there are large amounts of data collected. Robust mechanisms must be in place to ensure that this data is not misused – Nighat Dad / Digital Rights Foundation (Pakistan)**

levels of government and actors, to ensure public policy related to technology and the digital world take into account digital rights and are more equal and sustainable.

In other cases, at the local level, digital bill of rights support the regulation of access, uses and data creation. The City of Los Angeles (USA) has created a [Digital Bill of Rights](#) to promote trust while rolling out innovative solutions that must be also ethical, by setting eight provisions for digital services development. At the national sphere, the Brazilian government approved the [Internet Bill of Rights](#) as a foundation for the governance of the online space in the country. A localized bill of digital human rights could also apply to third parties in the city stimulating corporate responsibility to respect human rights, as well as by empowering civil society and academia to access and contribute effective remedies, both judicial and non-judicial.<sup>4</sup>

**Digital policies, principles and declarations** are alternative ways for governments to communicate commitments and priorities in different themes. The City of Portland (USA), for example, counts with a [Human Rights Declaration Proclamation](#) (2018), a [Privacy and Information Protection Principles](#) and a policy on the regulation of face recognition in the [chapter 34.10 Prohibit the use of Face Recognition Technologies by Private Entities in Places of Public Accommodation](#).

#### Case study: Digital Infrastructure Plan, Toronto (Canada)

The City of Toronto is developing a [Digital Infrastructure Plan](#) (DIP) to modernize and formalize the roles, functions and procedures within which digital infrastructure decisions are made at the City. The Plan evolved from concerns raised by local residents, privacy advocates, City Council and City staff, about the lack of an appropriate and comprehensive policy framework for the city. Such concerns were raised in anticipation of a significant private-sector "smart city" development proposal, for Toronto's waterfront, dubbed "Sidewalk Toronto" - an agreement between a public agency and a private company, as it would have included the integration of digital infrastructure into the public realm in a variety of ways to monitor such things as the environment (e.g. air quality), building and site-level systems information, retail patterns; and the movement of pedestrians and vehicles in public spaces.

While the project did not proceed, the Digital Infrastructure Plan was developed and is founded on six key principles:

- |  |                               |
|--|-------------------------------|
| 1. Equity and Inclusion                      | 4. Privacy and Security       |
| 2. A Well-run City                           | 5. Democracy and Transparency |
| 3. Social, Economic and Environment Benefits | 6. Digital Autonomy           |

<sup>4</sup> [https://www.ohchr.org/documents/publications/guidingprinciplesbusinesshr\\_en.pdf](https://www.ohchr.org/documents/publications/guidingprinciplesbusinesshr_en.pdf)

## ii. Structures. Centralized mechanisms and bodies

**Structures integrate the digital human rights commitments into the city's work and decision-making processes.** They aim to advance governmental mechanisms and set the whole-of-government conditions that enable social and procedural justice, brought about by all digital human rights thematic areas together. These structures will often require centralized implementation, in order to promote a **'whole of government' approach**.

The structures supporting the governance of technology are driven by the foundations (section I) and are operationalised by the tools (section III):

**'Civil society representatives, who may encounter examples of human rights violations or discrimination by technology on a daily basis, should have a fast track to communicate these issues to officials' – Krzysztof Izdebski / ePanstwo foundation (Poland)**

Mechanism	Rationale
<b>Assign responsibility for digital human rights to an elected representative</b> in the city council. The CIO/CTO/CDO should also have a digital rights mandate.	Deputy mayors responsible for the digital city and/or ICT can advocate for digital human rights in their city. Via the CC4DR, these deputy mayors can actively communicate, exchange and collaborate on this topic.
<b>Mainstream digital human rights in all policy areas</b> and processes of the city administration, adopting a 'whole-of-government' approach to human rights rather than seeing it as the responsibility of one department only.	These commitments apply to the centralized digital governance process of a city, as well as to the digital services in individual domains of the city. (e.g. social and healthcare services, basic public services, education, culture and social activities and procurement processes.)
<b>Appoint external and diverse advisory council(s)</b> with key local actors, including civil society representatives, youth groups, sports associations and business etc.	To facilitate engagement, communication and cooperation on digital human rights with diverse groups living in the city, with a special focus on minority groups.
<b>Organize participation of inhabitants</b> in decisions that affect them. This concerns participation in the policy digitalization cyclus as well as in the design of individual digital solutions.	Structural processes for the engagement of civil society should be in place in order to create a digital city that works for all.
<b>Establish a municipal digital rights service loket</b> , an anti-discrimination office or Ombuds institution with a digital human rights remit. They could also be supplemented by community mediators to improve social inclusion.	People can go here when they are wronged by automated decision making or their data is not being processed correctly. Such facilities can provide low-threshold access to justice and legal remedy.
<b>Develop an annual reporting mechanism</b> on the digital human rights performance of the city.	The findings could be discussed in the city council to monitor progress, identify lessons learned and propose new activities. The goal would be to establish a process for monitoring and evaluation.
<b>Provide transparency in the way the city operates</b> and delivers services to the public directly or	An equal information position can be created between governments and constitutions by

through service providers by setting up quality control measures and users' feedback.	promoting Open Government philosophies
<b>Human rights based procurement of digital technologies</b> and funding for alternative technical initiatives.	Committing to digital human rights means that the 'Investment organizations' supported by the city adopts the same principles. Otherwise, the investment effort could stimulate the rise of initiatives that are counterproductive to your city ambition.
<b>Capacity building, training and human rights education</b> to uphold human rights principles, including training for elected politicians, management and municipal staff and human rights education for specific target audiences, in particular police, teachers, healthcare providers, social housing organizations.	It is wise to commit to protecting against human rights abuses by third parties, through appropriate training, policies, regulation, and adjudication where possible. This fosters respect for human rights and empowers civil society to access and contribute effective remedies, both judicial and non-judicial.
<b>Form a team</b> with suitable capabilities to explicitly advance digital human rights throughout the organization as their core purpose. One can also consider a transversal approach with dedicated personnel that have specific focus on digital rights within each sector (eg: mobility/transportation).	This creates visible positions in this new and emerging fields and builds resumes and inhouse-skills such as transparency & accountability advisor, fair algorithm developer, digital rights officer, open-source coder, data-representation analyst.
For emerging technologies, <b>create test-beds/living labs</b> to experiment to test new policy measures and technologies.	Citizen Beta Testing of new technologies for the public space. It could be a 'right' for citizens to take part in the beta testing phase before actual implementation takes place.
Organize an <b>annual Digital Rights day</b> on the 10th of december, Human Rights Day.	To raise awareness in the city and in the organization on digital rights and create debate in the city on the different scenarios of the digital city that lay ahead.
Build up a <b>repository of human rights impacts</b> assessment for new projects with emerging technologies and AI application,	To enable external audits, which are required to monitor compliance and evaluate the implementation of digital technologies through the local government.
<b>Foster partnerships, lobby strategies and cooperation</b> with national and international actors. Cities face challenges on this topic that can be tackled in collaboration with national governments. Cities can also contribute to the CC4DR, which facilitates the government-led urban collaboration on digital human rights issues.	Digital rights is not only gaining importance within cities, and local and regional governments but also at the global level of decision-making. Through the facilitation of networks such as UCLG, cities can advocate for the inclusion and prominence of digital rights within global agendas.
Establishing a local <b>Digital Rights House</b> can accelerate the local implementation of mechanisms as mentioned above. <sup>5</sup>	It can foster dialogue and advocacy among civil society organisations, citizens and experts in a city. It could facilitate the annual reporting process and provide asked as well as unwanted advice on the digital rights policies and actions in place. Moreover, it could play a role in the organization of a city-wide and local organisation of a human rights day. Finally, it could support citizens in their advocacy towards the city as well as the global community.

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<sup>5</sup> Supporting mechanism

**Case-Study: Digital inclusion as transversal government-wide topic, City of Barcelona (Spain)**

Digital Inclusion must be understood and fostered as a transversal government-wide topic. Thus, it should not only be the CTO's responsibility to promote it, even though tech is involved. Rather, the challenge should be tackled as a whole taking into account. Coordination between involved city council departments is a must. It might include:

- Social services: They work on-site in neighborhoods and are in close contact with citizens, and therefore they might detect needs more accurately
- IT department: They are in close contact with the private sector dealing with connectivity and digital device provision (e.g. telecom providers, digital device manufacturers, etc.). They might be a key piece in involving private stakeholders
- Local Economic Growth Agencies: They usually deal with citizen skills, promoting digital skills educational programmes. Training programmes related to IT might be implemented through these agencies.

### iii. Tools. Methods to implement digital rights

In this final chapter, tools, methods and resources are discussed that will **support a city to implement the above mentioned foundations and structures**. Human rights may play an important role in both the digitalization of municipal services as well as the digitalization of life and space in the city.

Tools can be applied to operationalise the structures (section II), following the foundations commitment (section I), and throughout the design and development of digital services in any city-government. They aim to fit the scope of data (input), code (software, applications, design, models), architecture (IT-architecture, operating system) and finally actions (decisions or policies) based on data. These instruments will be discussed following the thematic areas as mentioned in 'thematic areas':

- Digital Inclusion, Equality & Equity
- Freedom, Autonomy, Control and Self-determination
- Transparency and Accountability
- Public engagement and community participation
- Privacy, safety, security and protection
- Capacity Building
- Procurement
- Public goods and open infrastructures

#### *Digital Inclusion, Equality & Equity*

Digital inclusion and equality themes include **fair treatment, non-discrimination, equal opportunity, access and skills**. To ensure no one is left behind, governments must have inclusion as a priority to address inequalities and empower people, including:

- Taking positive measures to **improve access to services and increase participation** for marginalised and disadvantaged groups
- **Conducting bias assessment** in data-projects and actively improve the representation of minorities in your data, to minimize the risks of unintended discrimination
- **Understanding the digital divide** in your community and investing in addressing it, by providing infrastructure, devices and digital skills and capacities for the people in your city, via training and education

**'Embedding participation in digitalisation processes, can center people's voices and the role of the lived experience, to ensure that cities' digitalisation strategies are developed in ways that advance digital rights from the onset' – Democratic Society**

**'Do not start AI and automatic decision-making systems with vulnerable populations. Oftentimes, the first AI systems are introduced with the people who have less resources to defend themselves' – Gemma Galdon Clavell / Eticas (Spain)**



**Resources** for digital inclusion can include tools to help governments:

- Develop **digital transformation strategies** centered around residents' real needs
- Perform **digital gap surveys**, and use data to focus the actions in neighborhoods where the digital divide is wider
- Promote inclusion by **increasing the accessibility of digital platforms and services**
- Build a **digital inclusion observatory**, to map those residents most in need of support and access
- **Detect needs and demands** using information sourced from social services and schools

Area	Tool
Strategy	<a href="#">Centering People in Smart Cities</a> , UN-Habitat
Digital divide	<a href="#">Assessing the Digital Divide</a> , UN-Habitat
	<a href="#">Addressing the Digital Divide</a> , UN-Habitat
Digital Inclusion	<a href="#">Digital Inclusion Kit</a> , Leeds City Council, UK
Accessibility	<a href="#">Guidelines for designing digital services with accessibility and inclusion criteria</a> , São Paulo City Hall, Brazil
	<a href="#">Smart Cities for All Toolkit</a> <a href="#">Smart Cities for All Toolkit</a> , Smart Cities 4 All
	<a href="#">UCLG Community of Practice on Inclusive Cities and Territories</a> , UCLG

#### Case-Study: [Community networks in Latin America](#)

It is estimated that 250 million people in Latin America do not have access to the internet, the majority who are considered poorer, where men are more likely to access it than women. Among the barriers are the lack of affordability of internet access, digital literacy and education levels of the population, and the relevance of services offered. In such a landscape of infrastructure and access, in which the low income population is not an attractive market share nor has been reached by government subsidies policies, one of the alternatives found for communities to connect to the online environment is the establishment of community networks. Such bottom-up networks are owned by locals, who jointly manage it as a common good, for non-profit purposes, constituted by collectives, indigenous communities or non-profit civil society. They respond to demands for infrastructure, and create new governance models and novel possibilities and opportunities for information and technology access. They are evidence of how such networks promote better alignment with people's aspirations, development goals and worldviews. As governments play an important role in providing a regulatory framework that allows these networks to flourish, the Internet society proposes in this study a concept of a [regulatory framework for community networks](#).

## Freedom, Autonomy, Control and Self-determination

The digital footprint in cities grows exponentially as services and operations are digitized, and much of the data used by organizations is generated by individuals in their daily lives. Citizens data is produced when a government platform is accessed, or in public participatory processes, for example.

Supporting freedom, autonomy and self-determination include tools that help governments to:

- **Increase residents' control over the personal data collected** by the city and how it is shared.
- **Educate populations about when and what types of personal data are created and 'owned'** by the individual, and what is "owned" by the government

Area	Tool
Data sharing and public value	<a href="#">Data Collaboratives</a> , GovLab
Human-centric data	<a href="#">Introduction to human-centric use of personal data</a> , MyData

## Transparency and Accountability

Transparency about practices and use of data and in technology supports governments' accountability and monitoring of compliance with laws and regulations. In today's public sphere, where automated decision-making is increasingly being adopted, transparency of public decision-making needs to be made clear so there is a broader understanding of how algorithms and codified processes impact society. To support more balanced power relations, **governments should be held accountable for their actions and for the implications of the technology that is adopted in cities.**

Supporting transparency and accountability also means to:

- Publish in **open format**: policy documents, data sets and the organizations practices and use of data
- **Assess risks, harms and benefits** of data use
- Use **open registries** to be transparent about supplier, data collected and used, algorithms performance, which can include dedicated registries such as AI registry, Sensor registry.

Liability and accountability in Artificial Intelligence can include:

**To further collective mobilization on calls for meaningful transparency and accountability for online platforms in their due diligence to ensure their products and services uphold international human rights standards. – Asha Allen / Centre for Democracy & Technology (United States)**

- **Full access to the algorithm code** by the competent authorities whenever needed for inspection or verification purposes
- Obligations to **report which algorithms are used**
- **Framework for algorithmic auditing** that supports AI system development end-to-end

Area	Tool
Transparency	<a href="#">Public AI Registry</a>
Accountable AI	<a href="#">AI Observatory</a>
Ethics AI	<a href="#">AI Ethics Cards</a> , IDEO
Children AI	<a href="#">Policy guidance on AI for children</a> , UNESCO

### Public engagement and community participation

The decisions that are made and technologies that are developed by governments, municipalities and other public institutions often directly affect civil society. **Projects and designs that will affect citizens must involve these citizens** in one way or another. There are many ways in which citizens' voices can be heard and taken into consideration.

Some ways in which the civil society can be included in different projects are:

- Create a **pool of civil society organizations** and representatives that are open to consultation and participation in municipal projects.
- On short term projects, **create opportunities for public consultation** and organize focus groups. This is particularly useful when it comes to questions on the design and implementation of new technologies, and can be an opportunity for the inhabitants of a city to be directly involved in the process.
- On longer term projects, **involve civil society organizations to represent the voices of marginalized groups of society**. This is particularly important for policy proposals and changes.
- For longer projects with a large budget, create a **working group** that includes representatives of civil society organisations, experts, or representatives of specific groups particularly exposed to the consequences of technology.
- Create a mechanism which allows **civil society organizations to inform municipalities on urgent matters** regarding technologies. In case of an emerging issue or a breach of the technology, civil society representatives can step in and inform their elected officials.

**'Civil society organisations can provide ideas, prototypes, and feedback. They are a much needed counterweight to businesses and strengthen a holistic view on new technologies in their social context, not just economic benefits and promises'** – Elisa Lindinger / SuperrrrLab (Germany)

- Create a map of actual situations that can happen with regards to **digital rights ‘violations’ in the city**. And then have dialogues in the public space and ask for input on how to deal with these situations.
- Community Manager to **facilitate the contact** with these stakeholders.
- Organize **public consultations** on new and impactful digital policies.

Area	Tool
Surveillance	<a href="#">Community Engagement Plan for Surveillance Policy</a> , City of Portland (USA)
(Digital) platforms for public participation, participatory budgeting	<a href="#">Decidim</a> <a href="#">Plataforma Digital de Participación Ciudadana</a> , City of Mexico, Mexico
Ethical and/or Privacy committee with (non-)experts:	<a href="#">Oakland’s Privacy Advisory Commission</a> : Community based or public oversight or governance structures
Youth Digital Advisors: It could be worth considering linking the participation of all youth in the city to the validation of technology decisions made by the city. A Youth CTO Youth Council.	<a href="#">Urban Governance Lab</a> - example
Women & girls	<a href="#">GenderTech Toolkit</a> , UNICEF
Women & girls, Youth, Communities	<a href="#">Block by Block</a> , UN-Habitat

### Privacy, safety, security and protection

As a universal human right, no one should be subjected to interference with one’s privacy. **Individual data should be protected to not profile a specific identity or put people at risk**. People should be informed and have awareness of data practices, including information about surveillance and the capacity to freely communicate online, privately and anonymously.

Governments must take measures to safeguards people’s interest, and use tools, for example, to:

- **Have strict data protection and privacy practices** to obtain, collect, access, analyse and use data
- **De-identify personal data**
- **Data security** is crucial in ensuring data privacy and data protection
- Incorporate **privacy by design** at early stages of the data management plan
- **Consider different contexts** (cultural, geographic, socio-political, for example) and how it impacts the data available, including the possibility of it turning non-sensitive data into sensitive data

Area	Tool
Report sensors deployed in public spaces	<a href="#">Sensor Registry</a>
Right not to be tracked in public space	<a href="#">Crowd monitoring Technology</a>
Lawfully ban facial recognition	<a href="#">Ban on Facial Recognition</a>

**Case study: [Cybersecurity and gender](#)**

Gender dimensions in cybersecurity are recently being mainstreamed in international debates to include gender-sensitive capacity building and gender frameworks in the security context of information and communication technologies. To address the way gender informs cybersecurity, the study initially identified that gender-related identities associate, for example, technical expertise with masculinity; and secondly, gender influences social hierarchies, in the sense it attributes more value to masculine concepts of technical expertise over concepts connected to femininity, such as communications expertise, or equality and diversity. A new gender oriented cyber-centric framework is then proposed to consider design, defense and response. In design, technology development must consider gender representation in models, reporting and procedures; in defence, it must reflect on gender stereotypes that impact cooperation and transparency in how defence is thought about; and lastly, in responses, it calls for attention on how gender affects the recovery processes and post-incident investigation dynamics, especially in the context of vulnerable groups.

## Capacity building

Digital transformation requires governments to **upskill public servants with new capabilities and knowledge to manage inclusive and democratic uses of technology**. New ways of working, within the organization as well as with stakeholders and the communities are needed. These must respect local context needs and be able to answer real demands that arise, especially from vulnerable and marginalised groups.

Capacity building and training can cover areas such as:

- Digital human rights
- People-centered and human-centric strategies
- Innovation for public sector
- Digital divide, digital inclusion and digital transformation
- Data governance

Area	Tool
Partnerships	<a href="#">The SDG Partnership Guidebook</a>
Digital transformation	<a href="#">Digital Innovation Ecosystem Training</a>
Smart cities	<a href="#">Smart Cities for City Officials</a>
Indigenous population	<a href="#">Changing The Narrative About Native Americans, First Nations</a>

## Public goods and open infrastructures

**Open government, open data and interoperability are crucial to foster innovation**, and contribute for new solutions to existing urban challenges that impact people's lives in cities. Allowing any person or organization to access data, softwares and infrastructure prevents discrimination of groups and promotes inclusion. Governments can increase participation and contributions in the development of technology when it is open source.

Area	Tool
Public goods standards	<a href="#">Digital Public Goods Registry</a> , Digital Public Goods Standards
Interoperability	<a href="#">Minimal interoperability mechanisms</a> , Open & Agile Smart Cities
Interoperability	<a href="#">e-Government Interoperability Guide</a> , UNDP
Open software	<a href="#">Standard for public code</a> , Foundation for public code

## Procurement

Governments are a large portion of digital solutions and technology consumers, which makes procurement a powerful tool to shape markets and influence suppliers to adopt new standards. **New models for technology acquisition is a way to conduct due diligence processes with third party collaborates to ensure compliance** with regulations, laws and standards

Area	Tool
Accessibility	<a href="#">Accessible ICT public procurement policy</a> , G20 Global SMart Cities Alliance
Artificial Intelligence	<a href="#">Standard Clauses for Procurement of Trustworthy Algorithmic Systems</a> , City of Amsterdam
Human rights	<a href="#">Toolkit on human rights for procurement</a> , The Danish Institute for Human Rights

## *Collective and individual well-being*

**Good technologies in a good society systematically uphold patterns of wellbeing and justice.** Technology should serve the individual and collective wellbeing in a prosperous community. Data and technology contribute to today's challenges while safeguarding social, environmental and economical benefits.

- Putting in place **procedures for scrutinizing the compatibility of local policies and regulations with human rights** and assessing their human rights impact, for example through a committee in the local council.
- **Capacity building and profiles that are capable of judging technology** on the full scope and impact it may have on a society.

### **Case Study:** [Urban Governance Lab](#)

The Urban Governance Labs support cities to move forward with their digital transformation for better urban governance while empowering local communities, making them actors of change. A focus of these labs will be those most marginalized, especially women, and young people who have a large demographic footprint within many countries and cities of the developing world. The Labs offer a space for the young people, innovators, and researchers to reflect on the problems of their city in order to propose innovative digital solutions, data frameworks, contribute to national and local policies, strategies, and action plans that promote human-centered smart cities and accelerate digital transformation at the city level.

## Appendix 1: List of definitions

Concept	Definition (Source, if applicable)
Public Participation	<p>Public participation in governance involves the <b>direct involvement – or indirect involvement through representatives – of concerned stakeholders in decision-making about policies, plans or programs in which they have an interest</b>. Stakeholders are persons, groups or organizations that may influence or be affected by policy decisions or place a claim on an organization's or other entity's attention, resources or outputs (<a href="#">Quick and Bryson, 2016</a>).</p> <p><i>Other understandings:</i></p> <p>Public participation as an action or a series of actions a person takes to involve themselves in affairs of government or community. These activities include voting, attending meetings, participating in public or private political discussion or debate on issues, signing a petition on a desired government action or policy, volunteering in community activities and contributing money to a political party or candidate of one's choice among other similar activities (<a href="#">URAI, 2016</a>).</p>
Digital Inclusion	<p>The <b>gap between those who have access to, and use Information Communication Technologies (ICTs) including Internet connectivity, digital literacy skills, and Internet-enabled devices, and those who do not</b>. While every community is different, the digital divide consistently reflects and amplifies existing social, economic and cultural inequalities such as gender, age, race, income, and ability. Access is multidimensional and includes the physical, spatial, cultural, demographic and socioeconomic conditions of accessibility.</p> <p>A digital inclusion plan is a document that sets forth guiding principles, definitions, activities, roles and responsibilities and funding for reaching a shared vision of digital inclusion with stakeholders. Broadly, the plan should be evidence-based and developed in collaboration with various stakeholders.</p> <p><i>Other understandings:</i></p> <p>The activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of Information and Communication Technologies (ICTs). This includes 5 elements: 1) affordable, robust broadband internet service; 2) internet-enabled devices that meet the needs of the user; 3) access to digital literacy training; 4) quality technical support; and 5) applications and online content designed to enable and encourage self-sufficiency, participation and collaboration. Digital Inclusion must evolve as technology advances. Digital Inclusion requires intentional strategies and investments to reduce and eliminate historical, institutional and structural barriers to access and use technology. (<a href="#">Source</a>).</p>
Open and ethical service standards	<p><b>"Open Standards" are standards made available to the general public and are developed and maintained via a collaborative and consensus driven process, while ethical standards refer to the core values and responsible behaviour embedded within the civil service work</b>. These could set values such as Integrity, Accountability, Responsibility, Trustworthiness.</p>
Transparency	<p>Digital transparency refers here to <b>government organizations relying on digital technologies and networks to become more transparent</b>. Digital transparency is often viewed as an effective and low-cost way to create insights into government operations and decisions.</p> <p>Three characteristics are common to the different concepts of transparency: i) the need for the availability of the information in a timely manner; ii) the quality of the information disclosed, understood as precise and relevant; and iii) the accessibility to the information (<a href="#">Gandía et al., 2016</a>).</p> <p><i>Other understandings:</i></p> <p>Transparency refers to an environment in which the objectives of policy, its legal, institutional, and economic framework, policy decisions and their rationale, data and information related to monetary and financial policies, and the terms of agencies' accountability, are provided to the public in a comprehensible, accessible, and timely manner (<a href="#">OECD</a>).</p> <p>Transparency denotes a state of affairs in which the participants in the investment process are able to obtain sufficient information from each other in order to make informed decisions and meet obligations and commitments. As such, it may denote both an obligation and a requirement on the part of all</p>



	<p>participants in the investment process (<a href="#">UNCTAD</a>).</p> <p>It refers to the degree to which information is available to outsiders that enables them to have informed voice in decisions and/or to assess the decisions made by insiders (Florini,<a href="#">2007</a>)</p>
Public Accountability	<p>Accountability in public administration is usually understood as the <b>obligation of government officials to answer for performance to some legitimate authority</b> (<a href="#">Gregory, 2017</a>).</p> <p><i>Other understandings:</i></p> <p>The basic notion of accountability points to a condition of having to answer to an individual or body for one's actions. Government is held to account by someone (in the name of the public) for the way it uses its discretion and spends tax money. Accountability is the price government has to pay for exercising its authority (<a href="#">Willems, 2000</a>).</p> <p>How the public sector supports public trust and confidence, and the role of public accountability in doing that, is not well understood. Although a lot of theory exists, there are few agreed concepts, frameworks, or guidance(<a href="#">Source</a>).</p>
Algorithmic Fairness	<p>This term presents a counterpoint to the common belief that using an automated algorithm makes decisions more objective or fair, since data injected into the models are biased (<a href="#">Pessach &amp; Shmueli, 2020</a>). Fairness is therefore the <b>absence of any bias based on an individual's inherent or acquired characteristics that are irrelevant in the particular context of decision-making</b> (<a href="#">Chouldechova, 2017</a>).</p> <p>In this case, an algorithm would be fair, according to Saxena et al. (<a href="#">2018</a>), when accomplishing these three requisites: treating similar individuals similarly, never favor a worse individual over a better one, and calibrated fairness as selection of individuals in proportion to their merit.</p>
Digital Autonomy	<p>"Digital Autonomy refers to the <b>City's ability to develop, maintain and control the selection, use and design of its digital infrastructure to deliver public services and advance the public interest, as informed by legislation and community consultation</b>". (<a href="#">City of Toronto, 2021</a>)</p> <p><i>Other understandings:</i></p> <p>Related to this term is the <a href="#">Declaration of Digital Autonomy</a>. Away from a governance framework, this statement shows the importance of this autonomy under the principles of service to those who are affected by technology, informed consent, citizen empowerment and collective digital action, and privacy protection.</p>
Digital Human rights	<p><b>Digital human rights are human rights as they exist in online and digital spaces.</b> Digital technologies have the potential to advocate, defend and exercise human rights, but they can also be used to suppress, limit and violate human rights. Existing human rights treaties were signed in a pre-digital era, but online violations can today lead to offline abuses and, as highlighted by the UN Secretary-General, human rights exist online as they do offline and have to be respected in full. Of particular concern to the UN are data protection and privacy, digital identity, surveillance technologies including facial recognition and online harassment. In these areas, technologies are increasingly being used to violate and erode human rights, deepen inequalities and exacerbate existing discrimination, especially of people who are already vulnerable or left behind.</p>
Data equity	<p>It refers to the consideration, through an equity lens, of the <b>ways in which data is collected, analyzed, interpreted, and distributed</b>. It underscores marginalized communities' unequal opportunities to access data and, at times, their harm from data's misuse. It raises the issue of data sovereignty, and the democratization of data. And data equity pushes us to consider the ways that data can reinforce stereotypes, exacerbate problems like racial bias, or otherwise undermine social justice.</p> <p><i>Other terms related:</i></p> <p>"Data justice," a term that at times is used interchangeably or in close relation to "data equity," has been tied to the ethics of personal data privacy, big data, and decision making that results from the "datafication" of modern society (<a href="#">Taylor, 2017</a>) But it is also used to encompass the complex meanings that data equity captures (<a href="#">Denich et al., 2017</a>), including concerns regarding power and privilege, knowledge equity, and the ways that harmful decision making may be justified or maintained through data(<a href="#">Source</a>).</p>

	<p>Another conceptualization of “data justice is presented as a three-strand approach: one addressing the ways in which data used for governance can support power asymmetries , another focusing on the ways in which data technologies can provide greater distributive justice through making the poor visible (Heeks and Renken, 2016) and another that is interested in how practices of dataveillance can impact on the work of social justice organisations” (<a href="#">Taylor, 2017</a>).</p>
Security of person in digital sphere	<p>It refers to the <b>protection of personal data from any unauthorized third-party access or malicious attacks and exploitation of data</b>. It is set up to protect personal data using different methods and techniques to ensure data privacy (<a href="#">Source</a>).</p>
Privacy of personal sphere	<p>The <b>presumption that individuals should have an area of autonomous development, interaction and liberty, a “private sphere” with or without interaction with others, free from State intervention and from excessive unsolicited intervention by other uninvited individuals</b> (Lester and Pannick, 2004) . The right to privacy is also the ability of individuals to determine who holds information about them and how that information is used (<a href="#">UNHRC, 2013</a>).</p> <p><i>Other terms related:</i></p> <p>Another interesting term that arose from the latter conception is the “personal information sphere” (<a href="#">Eskens, 2020</a>). The personal information sphere is the domain where people can determine for themselves how they interact with information about the world and how other people may interact with information about themselves.</p>
Effective remedy	<p>Having the <b>aim of “enforcing the substance of human rights and freedoms in whatever form they might happen to be secured in the domestic legal order”</b> (<a href="#">Source</a>).</p> <p><i>Other understandings:</i></p> <p>In its 2017 report to the UN General Assembly (<a href="#">A/71/162</a>), the Working Group refers to it as a human right with both procedural and substantive elements. It imposes a duty on States to respect, protect and fulfil this right, but also entails responsibility for non-State actors, including businesses.</p> <p>The <a href="#">EU Charter of Fundamental rights</a> defined this right as the entitlement to a fair and public hearing within a reasonable time by an independent and impartial tribunal previously established by law with the possibility of being advised, defended and represented.</p>
Digital public good	<p><b>“Digital public goods are open source software, open data, open AI models, open standards, and open content that adhere to privacy and other applicable best practices, do no harm, and are of high relevance for attainment of the UN’s 2030 Sustainable Development Goals (SDGs)</b>. This definition is drawn from the UN Secretary-General’s definition found in the <a href="#">2020 Roadmap for Digital Cooperation</a> and serves as the foundation of the DPG Registry.” (<a href="#">Source</a>)</p>
Digital twin	<p>A <b>digital representation of a real-world entity or system</b>. The implementation of a digital twin is an encapsulated software object or model that mirrors a unique physical object, process, organization, person or other abstraction. Data from multiple digital twins can be aggregated for a composite view across a number of real-world entities, such as a power plant or a city, and their related processes.</p>
Community networks	<p>In this bottom-up approach, internet infrastructure deployment is carried out as a private initiative by local residents or community groups. These projects have shown to be particularly successful in offering inclusive and affordable internet access at smaller, “last mile” scales.</p>