4. Case Studies on Value Dilemmas in Systems Change

This chapter presents a selection of in-depth exploratory case studies. The framework of the case studies mirror that used in the report "Systems Approaches to Public Sector Challenges: Working with Change," (OECD, 2017). The case studies look at cities as examples of how government entities can address specific policy challenges that cannot be resolved through conventional policy processes. The cases cover areas around complex values, deliberative processes and different approaches around systems change where problems are redefined.

The OECD has selected seven in-depth case studies from around the world to exemplify the work. These seven cases were selected from a pool of 232 examples selected through a call to city level innovation on the OPSI platform in November 2016. Some case studies were previously published in the Global Innovation Review in 2017, while others were nominated by national country delegates from the Observatory. The list was narrowed down to 32 cases and eventually to 12. The research team conducted one-to-two pre-review interviews with all case owners either by telephone or in writing. As a result, seven case studies were selected for in-depth analysis: three cases (Regional Innovation Networks in North Rhine-Westphalia; Fusion Point; and Urban Data Centres) were developed based on telephone interviews and highlighted elsewhere in the report. For the seven in-depth cases, the OECD organised missions and met with all the involved teams and organisations in person at least once between June and December 2017 for semi-structured interviews.

A system approach lens was applied to the analysis of case studies. Systems approaches emphasise the involvement of all affected actors inside and outside government, as well as the importance of leaving room for iterative processes to account for the uncertainty associated with wicked problems (OECD 2017). Thus, the list of interviews was left open and expanded as necessary. Numerous follow-up interviews were organised with relevant stakeholders. In total, the OECD interviewed more than 80 individuals in connection with this study both inside and outside local governments.

The interviews were recorded and transcribed when one person conducted the interview, or developed from research notes. Based on additional desktop analysis of relevant material connected to the cases, case narratives were developed. From there, cases were grouped into three domains: bottom-up systems change and new forms of citizen engagement; the changing landscape of urban challenges; and tech-led transformation of urban environments.

Solving Complex Problems through Deliberative Democracy: Citizen Assemblies and Citizen Reference Panels in Canada

Summary

Sortition, or the drawing of lots, is not a new practice. Rather, it is one of the oldest forms of democracy. During the current democratic crisis, where trust in government is at historic lows, new ways of involving people in decision-making processes are being experimented with. One of the most long-standing practices of sortition can be found in Canada where the public engagement company, MASS LBP, has been reinventing consultation through long-form deliberative processes such as citizen reference panels and citizen assemblies at various government levels since 2008.[1] These processes, involving groups of randomly selected citizens meeting over numerous months to provide advice or recommendations to the government, have helped to tackle some of the toughest and most divisive issues in public policy, in which complex 'values conflict' or ingrained political self-interest is involved (e.g., amalgamating municipalities, infrastructure projects, housing legislation). The case of MASS LBP highlights the key elements of how to design forums in which a broad range of citizens with a variety of perspectives and interests can come together, learn, and propose shared public value propositions in a consensual manner. Integrating deliberative democracy approaches into the day-to-day workings of city government can elevate issues and move participants beyond self-interest.

This case is the most complex of the current report's portfolio: 26 interviews (including focus group interviews) were conducted by the OECD with MASS LBP representatives,

city officials, and members of citizen assemblies/panels across five different reference panels and citizen assemblies. Some of these cases are presented in detail below, while others were used for broader analysis.

Context

> *"It is a big problem in cities – how do you hear everybody's voices?" (City planner)*

In 2006, the government of the province of Ontario, Canada, established an Ontario's Citizens' Assembly on Electoral Reform that discussed potential changes to political representation. The Assembly released the final report in 2007. They recommended a mixed member proportional system, a suggestion that was later rejected through a referendum. Peter MacLeod, one of the founders of MASS LBP, worked on the assembly. After the process concluded, there was a general fear the Assembly would be seen as a "*populist gimmick*" and any learning opportunities from the experience would be lost. This led to the creation of the new public engagement company, MASS LBP, in 2008, to build on the lessons of the Citizens' Assembly and work to demonstrate the potential and value of similar processes for governments.

The overall rationale behind developing the practice was a perceived democratic deficit within political processes. It was also seen as an opportunity to bring together a wide cross-section of society to discuss public policies, while adding new voices to public decision-making. Traditional engagement tools such as town hall meetings and surveys are bad at handling trade-offs, which is at the core of most public value choices. The engagement is usually cursory and is often unable to collect a large volume of information effectively. Moreover, public engagement in general tends to be regressive in nature (Tõnurist et al. 2015): those who participate often have the time, resources, or skills (an ability to *"use the language of government,"* for example) to do so. However, these voices are likely not representative of the whole community. For governments, this adds to the appeal of citizens' assemblies – *"we wanted to have a mix of people, otherwise you always have the same kind of conversations"* (city planner).

> *"We had a number of open houses, community member's show up, middle-class home owners. It was very hard to hear from the business owners, renters, younger people, different ethnic groups…" (City official)*

While privilege and inequality cannot be fully removed, the process of randomly selecting panel members – known as a "civic lottery" – helps to mitigate the boundaries of class, age, and ethnic background to be more inclusive. Furthermore, a citizens' reference panel can build on a long-term strategy, fostering "*more thoughtful conversations*" by meeting numerous times over several months. For governments, this means going beyond the single-axis idea of decision-making authority by seeking recommendations from residents and stakeholders.[5] MASS LBP founder Peter MacLeod described moving towards deliberative democracy as a "*need to shift our sensibility from regarding the public as anonymous survey-takers and instead look to members of the public as barn raisers — individuals who collectively can help to solve complex tasks*."

Yet there are many questions about what citizen reference panels and citizen assemblies can do and what their role in local, provincial, and national governance should be. There are risks associated with public engagement – governments can be afraid to lose control of a debate, even more so in situations where decision-making power is, to some degree,

shared with a group of randomly selected individuals. As such, the team at MASS LBP wanted to *"upend the assumptions about the 'public' – that they are volatile, ill-informed, or emotional"* and show that *"they are curious, capable and fairly generous"* – in essence, to show that citizens can be productive and constructive.

While deliberative democracy has a long history, MASS LBP did not, in the beginning, have many modern practices to analyse, or peers around the world to confer with. Citizens' panels had been previously used in the United States and Germany in "deliberative juries" (i.e., a group of peers taking joint decisions on social problems), and there are some groups that support deliberative democracy in Australia (NewDemocracy)[2] and the UK that MASS LBP drew upon. Yet there was no common "how-to guide" for organising and supporting a 'reference panel' on different scales. Thus, MASS LBP had to develop its own approach and adapt the prior experiences from British Columbia and Ontario's Citizens' Assemblies from a year-long, $5 million exercise to a $100,000 exercise that could be completed over four to six months.

Getting the mechanics right: the civic lottery

At its core, a citizens' reference panel relies on a process of selecting panel members through a civic lottery, which creates a randomised group of participants.[3] It took MASS LBP several years to craft the sophisticated architecture needed to develop more advanced lotteries. They created the civic lottery process with the help of Canada's national postal service, Canada Post. In preparation for an assembly or panel, MASS LBP will mail tens of thousands of Canadian households a letter inviting residents to volunteer to participate in a particular reference panel or assembly. From those who volunteer, a randomised sample is selected with clearly negotiated key community characteristics in mind. The goal is to assemble a selection of citizens and residents stratified by key variables within the community (e.g., gender, age, geography) that will make it representative to a high degree.

> *"I thought it was some kind of junk mail, it didn't look serious, but still I sent the form back. I thought odds were so low to get selected from such a big population."* (Reference panel participant)

Assemblies and panels usually have 36 to 48 members who provide diversity to their panel. While one might assume that bigger is better, if the group becomes too large it is difficult to work together, to have a constructive discussion, and ensure all voices are equally heard. Furthermore, in MASS LBP's experience, larger groups do not yield a wider array of perspectives. On the contrary, they tend to become more expensive and unwieldy. In general, volunteers are not offered payment to participate, but any costs incurred (such as childcare, eldercare, food, and travel) are covered by the principal organiser – i.e., the government. Since people are volunteering their time to do this work, MASS LBP sees it as their firm's responsibility to provide a kind of a "*citizens' concierge service to make their Saturdays incredible*" by fully supporting panel members in their role as public representatives.

Scope and scale of problems

Citizens' assemblies and reference panels are not solutions for all problems in a democratic society, but they are a "*niche tool that works exceptionally well in specific circumstances*." For MASS LBP, deliberative processes are useful in the following circumstances: (1) when there is a conflict of interest and the rules of the game need to be changed (redistricting); (2) when the public sector knows they have to do something that will not benefit everyone

(taxation, regional transit, etc.); and (3) when a broader public trade-off (developing an international airport and NIMBYism is prevalent). According to MASS LBP, *"It is a big ask and a big task. We ask people to work on tangible, well-defined problems, low enough that they will be able to contribute, but high enough to be meaningful."* Many interviewed assembly/panel members echoed the observation that, *"the reference panels exist to help elected officials to make complicated choices."*

The panels work best when there is a concrete question the assembly or panel are asked to help answer – i.e., whether to amalgamate different municipalities. It is all too easy to ask questions that a panel will struggle to answer. For example, the Duncan-North Cowichan Citizens' Assembly (Box 4.1) was presented with a clear question for which the municipalities wanted an answer. Yet for some assembly members, this question was too "*binary,*" with no overwhelming factors against it, nor clear arguments in favour. As such, the starting question for the assembly was relatively clear, yet the answer became infinitely complicated since there is a lot of room for public discussion in determining which civic values (efficiency versus collaboration, a "sense of community", etc.) to prioritise.

Box 4.1. The Duncan-North Cowichan Citizens' Assembly

The Duncan-North Cowichan Citizens' Assembly was convened in 2017 to discuss the case for municipal amalgamation of the City of Duncan and the Municipality of North Cowichan on Vancouver Island.

The two municipalities used to form a single municipality at the beginning of the 20th century, though they separated in 1912. A merger was considered in the 1970s but never carried out. In 2014, citizens from both communities endorsed studying the possibility of amalgamation at a referendum.

The assembly was first proposed by the larger municipality, North Cowichan, where the question had become a matter of politics. As was described by one of the interviewees: "Certain councillors ran on the issue of amalgamation. That it would have significant financial benefits to water, sewage… Just bigger is better." Duncan supported the initiative, arguing that solutions should be driven by citizens. The assembly was ultimately commissioned by both municipalities to look into the needs and interests of local residents in the context of an amalgamated municipal structure.

Overall, the issue was perceived as "tricky" for politicians and administrative staff alike, as it was really a question of changing how city representatives regulate themselves; either alternative would require trade-offs that would affect them directly. Consequently, the "municipal staff was reluctant to do anything extra, apart from the financial element and public engagement." From the perspective of one interviewee, there was a disconnect between politicians and administration staff: the Municipal Council "felt the push," but senior staff "were not willing" to explore the topic of amalgamation. Councillors, meanwhile, wanted a clear mandate from citizens to act.

In this context, the assembly was called to advise both civic governments on the conditions under which each elected body should proceed with amalgamation. The task for the assembly was to develop:

- a set of values which described their aspirations for good local governance;

- a list of issues which they believed needed to be satisfactorily resolved for municipal amalgamation to merit consideration; and

- a detailed recommendation concerning municipal amalgamation, including any conditions that would need to be met if a merger were to proceed.

The assembly consisted of 36 individuals drawn from a civic lottery invitation that was randomly distributed to 10,000 area households. Of those, 144 people responded to the invitation, creating a pool from which the final assembly members were randomly selected to represent the two communities and roughly match their demographic profiles. Some members of the assembly had lived in their respective communities their entire lives, while others had recently migrated to the region. Twelve members were from Duncan and the remaining 24 were from North Cowichan; the first supports a population of approximately 5,000 people, the other has 40,000 residents. Proportionally, Duncan had a greater representation in the assembly compared to North Cowichan, whose residents saw themselves "as the ones with the most to lose in the amalgamation." The assembly met six times between January and April, 2017. They also hosted a public meeting to hear other voices from within the communities.

The assembly also used a technical consultant to analyse what financial costs or benefits amalgamation would bring. The technical report was based on the needs of the assembly – the direct involvement of government staff was eliminated to ensure the objectivity of the assembly process. To advise the technical consultant, a technical committee was put together consisting of ex-politicians and retired city managers who no longer had political influence but whose knowledge was useful.

Figure 4.1. General characteristics of the Duncan-North Cowichan Citizens' Assembly

Source: Final Report of the Duncan-North Cowichan Citizens' Assembly. 2017.

In some cases, the scale of problems citizens' assemblies and reference panels are faced with are too broad to solve (see the case of Grandview-Woodland Citizen Assembly, where rather than reach a specific conclusion, the panel was asked to identify its preferences and priorities) or too limited in scope to provide a challenge (see the Planning Review Panel experience in Toronto). The right balance is hard to find. Thus, framing the problem correctly is a crucial first step in creating a successful citizens' reference panel. With the problem clearly identified and the mandate explicit, a panel allows citizens to learn about a complex issue from leading experts (and debate it thereafter) with the help of trained facilitators.

Learning to deliberate

Constructive debates do not happen by themselves. In addition to writing how-to guides for running a civic lottery and commissioning a citizens' assembly, MASS LBP has also developed the Reference Panel Playbook[4] (Figure 4.2), which discusses eight key questions connected to planning citizens' reference panels. The Playbook and other how-to publications emphasise the need to not only plan the problem for the panel to address, but to think about how the work will be used and what the response to the panel's recommendations could be. To benefit fully from the panel's work it needs to be independent from direct interference – hence, the involvement of public officials needs to be minimal. Furthermore, the panel should not be isolated from the public, but must try to connect with — and represent — the broader community.

Figure 4.2. MASS LBP Reference Panel Playbook

Source: Image based on MASS LBP.

Neither city officials nor panel members typically know what to expect of the assembly or panel process at first. The process itself is divided into four phases: orientation and learning, identifying issues and establishing priorities, reaching consensus, and drafting recommendations. For panellists, the works starts by examining the scope of the tasks at hand and gaining subject matter expertise:

> *"On day one, we heard about what we are going to look at, this is our scope, this is what we are trying to represent. There was a course that taught content about*

> *subject matter, a range of speakers (academic, neutral, high level) who came in and talked to us – the kind of lay of the land. Some high level discussions took place to identify what our values and principles are. We took a first stab at what is important to all, if we don't get into trade-offs yet." (Panel participant)*

The Playbook (Figure 4.2) also calls for the development of a curriculum for the reference panels. Most panels start with an orientation session featuring many learning elements connected to the topic. Operating under limited time constraints, the aim is to give people "*just enough*" information to make informed decisions, but also offer varied enough perspectives from dozens of different speakers who represent a wide range of views. Developing curricula for a reference panel or assembly is an important step towards helping citizen participants understand how the government operates and any boundaries to action. The panels can include both members, who have more subject matter expertise in urban planning – lawyers, architects, even planners who have come in contact with the city government on numerous occasions – and other participants who "*give a layman's point of view – what I would want if this was my neighbourhood.*" Both are important and representative of the community themselves. However, everyone needs to understand the basics. As one participant outlined:

> *"The first orientation day was very helpful. Experts came and talked about a variety of areas. They really tried to break it down for us. It was good that we all had the same knowledge."*

Yet, it is impossible to remove all knowledge differences or cognitive biases:

> *"Maybe it is the question of time, but the educational side should be improved. The panel really doesn't know much about civics. How to question themselves: for example, how valuable their views are; conflicts in society… To improve results we need to have a deeper understanding of what goes on in society." (Reference panel member)*

Curriculum development also helps *"the government to make what it knows or think it knows understandable"* (city official). The presentation of material to panellists compels the government to stop *"hiding behind"* administrative language. According to one city official: *"MASS helped us flesh out what we wanted to get out of it. They helped us to decide what to bring to the panel and how to frame open-ended questions."* As one member of the MASS LBP team put it: *"We often joke that you buy consultation and get the strategy for free. Talking to people will get you halfway there."* Panellists also see the benefit of this approach:

> *"For me, the most value comes from up front. Around messaging and communication. They usually don't speak the language that average citizens can fully comprehend. The panel helps to understand that."*

Panellists seek to understand people's experience with the city, their relationship with government, and their specific perspectives on the issue are discussed. Consequently, a panellist spends much of his or her time engaged in a process of extended learning.

> *"I would say that 60-70% of the process was really about learning. In the last meetings we started producing." (Panel participant)*

Panellists are asked not only to inform government decision-making, but also to write their recommendations collaboratively. To achieve this, facilitators work closely with panel members to write a final report together. Collective writing is a skill that needs to be honed as part of the process as the assemblies work and write their own reports.

Guided deliberation

> *"The first day of the assembly I remember being impressed with the range of the people. They were a bunch of people that I wouldn't normally meet. It was intriguing from minute one. How on earth was this going to work?" (Panel participant)*

Citizens' reference panels are often led by a panel chair or moderator who facilitates the deliberative process. Participating civil servants act in good faith to allow for a genuine debate among panellists and airing of various views. Yet it should not become a directionless debate. MASS LBP envisioned different methods to avoid falling into the 'endless talk' trap, partly through the work of moderators and facilitators to keep conversations on track, and partly by crafting an explicit mandate for each panel so the objective was always clear. Furthermore, (rough) consensus cannot always be achieved, especially when there are people who have different values, and when considerable trade-offs have to be made. How then to make everybody feel that they are making a valuable contribution to the discussion? Facilitators ensure the group stays on topic, prevents any one person in the group from dominating the discussion, and, when needed, steer the group towards a constructive path:

> *"There were some pivotal moments in the discussion. These Eureka moments, a valid comment that everybody seemed to share and the facilitators were able to steer us to act on them and do something." (Panel participant)*

The quality of facilitation was heard from all interviewees and across different assemblies and panels. However, these boundaries can also create frustration for some panel participants:

> *"The orientation felt like the first day of school. Everyone were wearing name tags. They gave us an overview of what the process looks like – the agenda was very much set. My impression was that this was a guided process."*

> *"They are not really conversations. It is presentation by experts, then the panel is divided into 4-5 groups, whose discussion is facilitated. It is directed discussion guided by specific questions and facilitation. Then those opinions are summarised. MASS does a fantastic job and I am truly amazed by the skills of facilitators, they summarise things so beautifully, but again we are working within the boundaries of the system, under directed questions."*

Even under guidance, not all individuals feel comfortable in a group setting regardless of the efforts made by facilitators. Sometimes individuals feel like they are not being heard. In small groups, people with strong opinions may derail the discussion; in other cases, the approach itself (group deliberations) may benefit extroverts more than introverts, as was described by some panel participants:

> *"Through facilitation people get good at communicating with each other, yet, one cannot fully minimise the effect of strong personalities."*

> *"For me the most challenging was to be forced into group discussions. I am not extroverted. I need to think out things myself. Groups take a really long time to get somewhere. I lost a lot, didn't have time to take notes."*

Managing conflict and value trade-offs

In the context of complex problems and value debates, conflicts are bound to arise. Many panel participants who were interviewed expressed that they were surprised how "*effective*" the methodology was, especially in conflict situations. The role of the facilitators here was praised – "*in the highest conflict they can disarm people without embarrassing them.*" The participants learned and internalised the rules of constructive deliberation over time so that "*decisions and consensus emerge evolutionarily.*" For many panellists, this was a very different experience with public engagement:

> *"I really think that the emotional scaffolding allowed us to get beyond opinion. It was more about informed opinion maybe… That is why there was no anger. A traditional community meeting can be really ugly." (Panel participant)*

> *"The word that stands out as a point of pain was "change". People didn't want things to change. However, change is inevitable; the local city residents had a difficult time with that. A lot of people came into the room with that kind of an attitude. But opinions change with increased awareness, you see a switch in their ballot really." (Assembly member)*

Panellists and assembly members either have strong, sometimes vested interests connected to the topic being discussed or no particular opinion at all – all of which is part of representing different perspectives within a community. Yet through deliberation, tough calls can be made in the interest of the entire community. Finding consensus to make difficult decisions can be challenging:

> *"Consensus on values seemed rather easy to reach. Maybe it is always like that in a public forum – we want to be…or at least seem…inclusive and creative. The difficult part of the consensus was what it means on the ground. It is easy to state your values, but what does it mean in terms of what kind of housing to build." (Assembly member)*

Consequently, the importance of including minority perspectives in a final report was acknowledged by all interview participants:

> *"The facilitators also stopped conversation to allow for dissenting opinion. They made it clear that it is not easy if the majority is going in a different direction. It made us more empathetic."*

> *"I am the voice of dissent. Yet most of the time the debate was not really angry which was fantastic. I didn't agree but the debate was still super interesting."*

The reference panel or citizens' assembly approach enables participants to address very difficult and occasionally heated topics. For example, MASS has worked on public consultation that addressed supervised injection services (SIS) in Toronto (these services provide hygienic environments for people who inject drugs to do so under the supervision of a trained nurse). This topic often produces strong reactions from communities involved. Through a panel approach, community members were able to examine the issue more deeply and analyse *"the lived experience with family members and police so they could challenge and question directly, which has not been filtered through research."* As such, a more balanced understanding emerged. Through the broad consultation process, Toronto Public Health and the Toronto Central Local Health Integration Network were able to propose three SIS sites.[5]

The value of objectivity

In some cases, governments initiate citizens' assemblies and reference panels when conventional decision-making approaches have failed, and when they are looking to build a strong public mandate for a contentious decision. From the government's perspective, transparency, balanced representation, and objectivity are some of the key motivations to organise a citizens' reference panel. Governments benefit from new insights and also from creating a constituency that broadly supports a potentially contentious policy decision. As one of the public sector interviewees put it: "*We all do engagement. All staff does. But there is an implementation gap when it comes to visioning, long-term planning.*" There are risks involved with public engagement for the broader public sector. Indeed, the processes can be unpredictable and influenced by loud, sometimes unrepresentative voices from the community. For this reason, facilitation as outlined above is so important. The legitimacy and objectivity of the process – not just the outcomes – are fundamental to a successful panel.

> "*The BC assembly on electoral reform was quite some time ago. But we started to learn more about it. That it legitimises the recommendation, it is a good process, you find community sponsors regardless of outcomes.*" (Public official)

While the government could organise a panel internally there is value in involving a third party to organise and run the process on behalf of public officials. One government official involved with commissioning a citizens' assembly described the process: "*MASS brought legitimacy, objectivity, and transparency to the process. We wanted to prevent specific staff members or politicians from skewing the process.*" Panellists seem to notice the legitimacy that third party organisers bring to the process as well: "*There is a heightened sense of neutrality connected to the panel*" (panel participant).

Yet in highly contested contexts, the assembly process cannot always regain trust that has eroded over time as was the case with the Grandview-Woodland Citizen Assembly (see Box 4.2). In general, all interviewees connected with the particular assembly agreed that the political context was negative and weighed on the process - "*on the first day people showed up hostile. It was a real challenge.*" Therefore, there was a great deal of scepticism about the planning exercise in general and the city in particular and some remained sceptical to the end: "*There was a bit of apple polishing. Cosmetics*" (Assembly member). Yet, the process was favourably reviewed by the local press and appreciated by councillors who voted unanimously to endorse the panel's report. The assembly itself was a signalling device that the local government was willing to change its approach and start building trust again:

> "*It was a high profile exercise. The city was going to invest money in it; they were going to invest in the process. They were not offering any guarantees, but I got the sense that our recommendations were important to them. They needed us.*" (Assembly member)

Box 4.2. Grandview-Woodland Citizen Assembly

"*Planning is not as explicitly apolitical as elections, it is a technical activity, but there are also a lot of political aspects.*" (City official)

"*This is about power. The city has become a kind of a battleground for resources.*" (Assembly member)

In September 2013, the Vancouver City Council voted to form a citizens' assembly on the Grandview-Woodland Community Plan. Community plans are official city documents that provide guidance on issues such as land use, urban design, housing, transportation, and community facilities. Originally, the area was a mono-cultural neighbourhood, but changing demographics had introduced issues around affordable housing and the interests of renters and homeowners. The assembly was tasked with examining different directions for neighbourhood development over the next 30 years and proposing recommendations to City Council that would shape the community plan. In comparison to the mandates for other deliberative panels, the scope of the Grandview-Woodland assembly was broad.

To further complicate matters, this was not the city's first attempt to pass the community plan. In 2012-2013, community work and consultation led to the creation of the "Emerging Directions" report, though some of the city's recommendations were heavily contested within the community. The main points of friction concerned building density, a rapid transit station, and train connections. One assembly member explained: "After two, three community consultations, tons of new high-rise buildings appeared. It didn't fit in with the community." The local government saw the reference panel as a way to build trust back into the planning process.

In June 2014, letters containing a special invitation to volunteer for the assembly were mailed to more than 19,000 local households, in addition to being made available at various locations throughout the community. Of those 19,000, 504 people volunteered. In August, 48 people were randomly selected by civic lottery to join the assembly. Census data was used to ensure there was a proportional number of owners, renters and co-op members, and a proportional number of residents from each area in the assembly. In addition, proportional representation of those identifying as indigenous. In addition, a gender balance was ensured. The assembly came together on 11 Saturdays over nine months, in addition to holding public roundtable meetings, walking tours, additional research, and community outreach. Nine months later, 43 members of the original 48 remained.

During its first phase of work, the assembly heard from guest speakers who were selected to give an overview of both planning principles and technical considerations, as well as a nuanced appreciation for issues facing the community. Most of the assembly's learning sessions were open to the public. Special walking tours were organised to get acquainted with the Grandview-Woodland's seven sub-areas, and to explore how density has been addressed in other Vancouver neighbourhoods. The assembly also held public roundtable meetings to discuss their proposed values and areas of interest with local residents. Despite seeing value from the public outreach, the assembly was nonetheless somewhat surprised how little the broader community knew about the assembly and its role.

In the beginning, some members were deeply suspicious of the process: "A lot of scepticism, here we are knowing little and the city can tell us what is what." During its first meeting, the assembly discussed the values they believed should guide their deliberations and the development of their community. With such a sizable task, the panel was often "overwhelmed" and the learning process was slow. As one participant described:

"It was really a complex task for 40+ people to do. Frame the challenge and come up with guidelines for the evolution of the community for the next 30 years. Topics as broad as inclusion, housing, climate change..."

Therefore, the process had to be iterative:

"We started with questions like what our values are, what is important to you? We broke into roundtables, 6-8 people, did various exercises and had smaller group discussions. Through discussions we ended up with the same values. The neighbourhood has a lot of students, ethnic backgrounds, cultures, diversity of income levels, homeowners, renters – seemed appropriate to talk about the 'weirdness' of it and how to keep it weird." (Assembly member)

The exercise for the city and some assembly members did become a bit repetitive, echoing the discussions from prior consultations. "I know that there were people who thought that it should not be so open. That we were reinventing the wheel" (Assembly member). Yet this slow process of gathering information established a framework for further discussions and began repairing lost trust. Facilitators tried to reach consensus on easier questions first before addressing deeper divisions.

In the second phase, the assembly discussed potential directions, policies, and new recommendations. The task of the assembly was to draft recommendations to inform neighbourhood-wide policies, and to draft recommendations and guidance maps for each neighbourhood sub-area. The assembly examined the city's prior policy direction from its June 2013 Emerging Directions report, and in parallel, they also launched a series of workshops concerning each of the seven sub-areas in Grandview-Woodland. Some members of the assembly took on individual research projects (sharing economy, sustainability, etc.), contacted various community groups and exchanged materials.

City planning staff attended each of the assembly meetings – the city's lead community planner for Grandview-Woodland was highlighted as a positive influence on the proceedings, providing additional context for panellists and sharing the results of prior consultations with local residents. Yet some assembly members believed that a number of high-level civil servants did not understand what the "citizen assembly was prepared to do," which created some frustration: "We are here on our own time. We are helping you to clear up your mess."

Land use planning and housing proved to be exceptionally difficult topics to address, and, ultimately, no real consensus emerged. One participant described how demanding the process was: "There wasn't enough time, but I was also tapped out to get another gathering in there." Assembly members disagreed with well-established homeowners and young people struggling to find quality and affordable housing: "I don't want higher towers, but that is where I need to live." Hence, the Assembly "reached a consensus on larger issues, but not really on specific sites."

> *"Land use was hard. Way harder than anything else. It is directly about resources and power. There was not enough time to drill down the topic. A lot of the questions are really expert questions and you need to go deep into them. It took some personal cost, extra unpaid hours to research this, probably from some other people too." (Assembly member)*

> *"Housing was the biggest issue. I feel like maybe with another 9-10 months we would have gotten there. None of us were experts in city planning yet we were told to make proposals. It felt really rushed." (Assembly member)*

Recommendations were drafted in phase three. Assembly members worked in both sub-area groups and collectively to discuss how their recommendations would fit together. It was difficult for the group to wrestle with specific trade-offs, especially regarding land use planning and housing policy. Consequently, a number of minority reports were presented.

The assembly prepared a final report for the Vancouver City Council in June 2015. In 2016, a new community plan was drafted that incorporated most of the assembly's policy suggestions. "Based on the assembly's recommendations we built another document for the council where we integrated 93-95% of the recommendations. Some were out of scope, some we weren't able to do" (City official). Assembly members were generally happy with the process, albeit some wished for more feedback from the city after the deliberations were concluded. Still, the baggage of the previous debate wore down some participants:

"If we had to do it all over again then start with a totally new plan. Take the same route. Put down the big picture first and then discuss details." (Assembly member)

Source: OECD conducted interviews; Citizens' Assembly on the Grandview-Woodland Community Plan. Final Report. 2015. Available at: http://www.grandview-woodland.ca/

Time as a critical resource

> *"I felt a little bit burnt out. I would have continued, if it were longer, but I need a bit of a reprieve." (Panel participant)*

It takes time to find answers to complicated questions. Assemblies and citizens' panels are resource-intensive processes that need to be concluded eventually to respect citizens' time, but also to ensure focus on a clear target. It is not surprising that the issue of time emerged as one of the most critical concerns connected to the process.

> *"The limitation was the time constraint. Would have liked to have more time to explore. Very black and white question as well, yes or no. I guess politicians don't know what the answer really is. They try to simplify the question at the end of the day." (Panel participant)*

In practice, city officials see that "there is a lot of 'scope creep' among the traditional advisory bodies: if they don't have a lot to talk about they start to talk about something else." A more concentrated approach can have its benefits.[6] In some cases the engagement process can take longer than a typical citizens' assembly or reference panel, as is the case with Toronto's Planning Review Panel (Box 4.3) that runs over two years. This process is different to other reference panels as TPRP has been designed as a standing advisory body made up of randomly selected residents from throughout the city.

Box 4.3. A Planning Review Panel for the City of Toronto

Toronto is a rapidly expanding city with 20,000 net new residents arriving and settling annually. It is also one of the most multicultural and multiracial cities in the world: the 2016 Canadian Census showed more than half of all people living in Toronto identified as visible minorities. The city consists of approximately 140 neighbourhoods that many citizens associate with strongly. As one interviewee explained: "Toronto amalgamated in 1997. 92% of the citizens said 'no' during the referendum, but the region went ahead with the reform anyway. Different city regions in people's minds remained, and there is a continued affinity with their former municipality areas." In this context of such diversity, in the mid-2010s Toronto began a conversation regarding how people engage with the City of Toronto's planning decisions, especially around the New York-style planning boards and local advisory planning bodies. In May 2015, Toronto put out a procurement call to

run a new planning advisory committee. MASS LBP won the tender, but the project was slightly outside of their normal remit.

"Our request was a bit outside of MASS's normal practice. They engaged with discrete topics, but we wanted a longer engagement with different issues. This presented new challenges for them: logistics, how the panel was to be trained." (City official)

As such, MASS LBP was commissioned by the Toronto City Planning Division to randomly select 28 volunteer members of the panel in a manner that represents the diversity of Toronto's population. From the thousands of randomly distributed invitation letters, 503 people volunteered. The final members were randomly selected to find a balance between six criteria: age, gender, Community Council Districts' representation, visible minority status, renter/owner status, and at least one Indigenous member. These criteria were established based on the most recent available census profile to best represent the demographic composition of Toronto. (In the second iteration of the civic lottery, the city also represented the disabled community and people living in subsidised housing).

Following this, the Toronto Planning Review Panel (TPRP) was established. In essence, the panel is made up of Toronto residents brought together to learn, discuss, and provide input to City Planning staff on important planning issues and major initiatives. The Planning Review Panel was designed to bring new voices into the planning process, and to offer members access to city planners, independent experts, and stakeholders connected to different planning topics. The City of Toronto's Planning Division and other connected city agencies use inputs from the panel to complement other forms of community consultation and help ensure that growth occurs in ways that reflect the values and priorities of Toronto's residents. For the civil servants it was "part of the move away from the traditional town hall meeting. It is a more effective way of getting there."

After four training sessions in October and November 2015, all designed and hosted by MASS LBP, the panel met six times each year over its two-year term. Toronto's Planning Division requested input from the Planning Review Panel on issues such as transportation planning, the optimal density and character of different neighbourhoods, the importance of historic buildings and public art, and the location of new civic amenities such as parks, libraries, and community centres. The panel did not review individual development applications. The Toronto City Planning Division created terms of reference for the panel and encouraged their colleagues to attend panel sessions. The first panel reviewed plans connected to city density (the Townhouse & Low-Rise Apartment Guidelines); recreation areas (Parks & Recreation Facilities Master Plan); transportation (Scarborough Centre Transportation Master Plan, Don Mills Crossing, Rail Corridor Planning Framework); and planning visual communication around urban planning (Development Review Signage). Some planning documents, like the Parks & Recreation Facilities Master Plan, were taken back to the panel for review several times.

TPRP examines two projects per session on average. City planners involved with a particular initiative identify 1-2 external stakeholders to speak on the issue with the reference panel members; they also participate in the discussions. The panel has a general discussion before breaking into smaller groups to dig deeper.

"There are a series of pre-prepared questions based on what staff has put forward with MASS. There are usually 2-3 questions per project. Sometimes we take part in the conversation, sometimes act in an educational capacity." (Representative of the city)

As a rule, the panel does not vote – rather, it relies on consensus-building. MASS LBP's role in facilitating the process was to concentrate on the questions at hand and "tease out the panel's experiences around different things." Planners in general saw value in the process: "It was definitely worthwhile: it brought out the citizens' values versus how planners would look at things. It made me think about what is good for the city." The reference panel had to deal with many conflicts over values – the most obvious being the need to balance the interests of real estate developers with community benefits.

The panel's perspectives, insights, and priorities are drafted as a final report, presented to the City Council and published on the City of Toronto's website. The sessions themselves were designed and held in bright and accessible locations and moved between city buildings, libraries and community centres.

The first panel concluded its two-year mandate on 18 November, 2017. The review panel is in its second iteration with a 32-member advisory body consisting of residents selected through a randomised civic lottery process. The OECD engaged and interviewed members of the first review panel and stakeholders connected to the latter.

Source: OECD interviews.

The Toronto Planning Review Panel does not address a single issue but a multitude of initiatives connected to the planning process. The group had to adapt their discussions to a variety of different topics, compressing the time available for panellists to engage with any one issue. Overall, the panel harnessed citizens' input as they became 'experts' over time on a broad range of planning related problems. Yet it also created problems for the overall deliberative democracy process (for example, by not offering enough time to examine issues over a longer period of time). The model for some is successful: *"I think it is the strength of the panel that they are not called together around a single issue. They see other areas of the city, understand the system"*; others, meanwhile, saw the panel process differently: *"We do focus on individual projects. We don't take the wider plans and transformation into consideration. We don't really connect it to a more holistic view."* The panel is designed to look at a broad range of issues related to planning policy, while focussed consultations continue to inform specific site decisions.

In more constrained engagements, the ability to shift perspectives is relatively limited. Civil servants who had submitted plans to the Planning Review Panel agreed that policy decisions were improved by suggestions emanating from a panel's final recommendations (as an enhanced form of public accountability), but that policy outcomes do not tend to be altered substantially.

> *"Participants themselves… I guess the level of impact they perceive is not that large. It is not about changing direction. Maybe they expected to have more significant impact. MASS is updating them where the process is, where the project is." (City official)*

As such, a panel's recommendations are always stronger when the project being discussed is in development, as panellists feel their feedback is of greater value.

> *"When the documentation is already written and completed then it is overwhelming. It is always a must to send the materials in advance, but even then it is quite challenging to react to a document."*

Role of reference panels in public engagement:

> *"I am not sure that it was really clear from the get go what the limits were. How the product of what we would do, the recommendations, would affect the process. There were big question marks." (Panel participant)*

The role of citizens' assemblies and reference panels in strengthening democratic accountability is difficult to measure, as it is not clear in some cases to what degree the responsibilities for influencing policy decisions have actually devolved to panellists. Panels do not have binding decision-making powers, but there is typically a two-way contract with the government that stipulates they do not necessarily need to accept all the panel's recommendations, but they do need to thoroughly engage with them, respond publicly to recommendations, and explain why it is choosing to accept or reject them. By design, citizens' assemblies and reference panels complement (but do not replace) other methods of public consultation. Rather, they become the "*informed community voice*" among other forms of engagement.

For example, the Parks & Recreation Facilities Master Plan that went through the Toronto Planning Review Panel twice featured several rounds of public engagement (based on stakeholder roles and geographic representation) that involved broad surveys, focus groups, interviews with targeted stakeholder groups, stakeholder advisory committees, school boards, town hall meetings, and web-based feedback.

However, many engagement strategies became less effective over time:

> *"The review panel next to all that was a different opportunity, there was more time to spend with them. They were also forearmed with a certain level of understanding of the system. It allowed us to not talk about services or programs, but really about facilities. /.../ It in some ways reinforced what we had learned before, confirmed it. In some areas it gave more specific feedback, it allowed us to dig deeper, talk about funding and sponsorship, different public-private thresholds. It didn't change the course, but added to it." (City planner)*

Some organisations such as Metrolinx (an agency in the Greater Toronto Area that manages and integrates road and public transport) have organised reference panels on several occasions. In 2015, Metrolinx organisation was thinking about launching a reference panel to discuss the Davenport Community Rail Overpass to gauge public interest in the project and draft recommendations about how to proceed. It was *"a contentious project in the community, very political."* Metrolinx viewed the panel as an opportunity to establish validation for future action. Ultimately, it was instrumental that senior management believed in transparency. *"We helped to draft the curriculum and then let it go,"* said the planner involved. The experience was successful, and the planners ended up with recommendations that were surprising to the Metrolinx team – i.e., ideas that "*experts in their silos*" would likely not have thought of.

Impact and beyond

> *"As an immigrant in Toronto, it allowed me to get to know to the city better, find out what the city councillors are actually doing. It gives you knowledge of the overall operation, a new perspective of the city and the direction the city should take." (Panel participant)*

MASS LBP's portfolio showcases a diverse set of circumstances in which a citizens' assembly or reference panel model has been applied. Since 2008, 32 different panels and

assemblies have been convened. As described in the cases above, the concrete results and requests of the reference panellists and assemblies have been varied. Hence, it is yet to be seen how successful the reference panel in their substantive effects across the board have been.

Nevertheless, positive experiences with spreading these deliberative processes by word-of-mouth ("*hey this is something that seems to work*"), specifically in Ontario, has enabled the model to become a go-to way of working for some organisations.

For governments in general, panels and assemblies have been very different processes of public engagement compared to traditional methods. For interviewed civil servants, the panels and citizens' assemblies produce a "very different class of meetings." When people come to traditional town hall meetings with specific issues, there tends to be greater pushback to change. Often, the meetings themselves are poorly attended, as opposed to "the panel where it was a more balanced conversation, more strategic in nature" (city planner). The long-form deliberative format seemed for some to limit self-interest and produce more constructive feedback. City officials perceived the process in a positive light, which is something that does not often go hand-in-hand with public engagement. "I was very pleased with the level of intense curiosity, people were curious to understand," said one official: "I was amazed how quickly they grasped the magnitude of the challenges they faced." As such, the deeper form of public engagement also influences civil servants and the "potential value staff see in public engagement." In general, the experience of MASS shows that "clients finish these days very giddy." The process was described by many as "fun."

Since participation is voluntary there are some 'selection effects' in play (i.e., you have to volunteer to be part of the pool up for consideration) and the issue of representation should be addressed. The commitment it takes to participate can eliminate certain groups of people: "*Time commitment for sure, it was hard. If I were a parent I am sure it wouldn't have worked*" (Panel participant). Another interviewed panellist explained: "*Most disadvantaged people don't have so much time to waste, but it was a step in the right direction*." Furthermore, in most cases, the city officials noted that they had "a group of quite progressive people." In some cases, it is just reflective of the sensibilities of communities the citizens represent.

> "*My concern was that people self-select, that people who already engage with us will join and their ideas and thoughts are already on record. It is important to understand how we can reach those other populations*" (City official)

> "*It might be a bit of self-selection. That more progressive views come forth and nobody overtly expresses very conservative beliefs. Toronto in general is more progressive. Politically I have no idea how other panellists vote, but if you strip all that away then you end up with 28 people who have the same values and want the same things for their city.*" (Toronto Planning Review Panellist)

From the citizen side there was an overall satisfaction with how the process was organised. It was a large commitment for most people, but most felt that their time and effort was valued:

> "*Initially I thought: how are we going to fill all those Saturdays? This was going to be quite a lesson. I felt that my time was valued, didn't feel left out or overwhelmed.*" (Panel participant)

And the work MASS LBP completed together with public sector organisations commissioning the panels was not unnoticed by the participants:

> *"I think the success of these assemblies is driven by the forcefulness of the leadership of the process, the facilitation skills, the location is conducive to communication and relationship-building."*

When it comes to hard results, MASS LBP tries to invest its time where the assembly's work is most likely to be valuable; otherwise, there is a danger that it could evolve into a public relations exercise. Yet there is not a lot of time for the team itself to step back and evaluate the work. Sometimes public processes take a long time to complete. Thus, citizens' are left to wait for feedback and effects:

> *"Impact? We haven't seen much yet. We don't get feedback very quickly or often. Need a bit more feedback that this is the process." (Assembly member)*

Yet there are many soft impacts. Panel participants appreciated the educational element of the approach: "we educated ourselves in civics, talked with each other" and "in hindsight it is really different from ticking a box at the ballot – yes, no. In the end it is writing a paragraph or two about something that I have considered." Since panellists are highly engaged, the drop-off rate across the examined panels and assemblies was minimal – on average just one or two people per panel, and mostly due to changes with work schedules. Yet some panellists noticed that *"a couple of people who were representing the lower economic strata have dropped out, because they didn't feel they belonged there. They needed more confidence to speak in front of a group. They need to be encouraged to talk more, that their views have value, especially in the context of time constraints."*

However, participants seem to appreciate their community and city more when an assembly or panel concludes, and have more "empathy with the city" – both in terms of how they experience the physical city and its government. One panellist describes: *"From time to time I experience the city differently. Notice, this must be why this is happening – that things don't happen randomly."* Awareness about the general governance of local municipalities increased considerably:

> *"So much work, skill, experience goes into the day-to-day running of the city. I am quite amazed. All the housing guidelines, regulations."*

> *"It was informative to know what the city can and cannot do in urban planning. To think about the fact that doing things costs money. That other things needed to be available for funding. Yes, the process made much more aware."*

While others become more informed, some believe that the process itself should become more critical of the interests of local government:

"My view has not changed about politics in the city over the last year. City caters to the interests of developers, large businesses. It tries to adjust society to the business model not the other way around."

Due to the overall positive experience with the panels it is difficult for people to let go at the end of the process. Yet the process itself is highly perishable. "There are always questions about how we can we keep this going – but they (citizens' review panels) must end at some point."

> *"All panels must end. Otherwise people can become entitled. It is part of the democratic process. Everyone gets the chance to participate at some point."*

The city officials involved did not observe a saturation of ideas within their respective panels. Overall, advisory boards noted that:

> *"Advisory bodies eventually become isolated, internally oriented. Also, externally oriented engagements have to be renewable over time so they don't become complacent. Yet it is very difficult to eliminate a body once it is established."*

Over time there is also a small danger of groupthink forming:

> *"Group think – yes and no. I guess the format that makes if efficient might endorse that, but I cannot predict other people's opinions, I cannot speak for everybody in the room. I miss socializing with the group a bit, but it is actually important that they are strangers. There is an element of distance, respect. If you know someone very well, you feel comfortable assuming that you know their opinion."*

From the participants' perspective it is different: "When the assembly is over, they still want to do something. There are broader ways of being engaged." As such, there remains a need for a much more structured follow-up with panellists, because through the process they had become invested and motivated community champions who wanted to know their recommendations had made a difference. Many panellists continued to be more engaged in community groups or other public activities after the conclusion of the panels.

User-Driven City Transformation: The Mayor's Office of New Urban Mechanics, Boston

Summary

The Mayor's Office of New Urban Mechanics (MONUM) is Boston's civic research and development team, which aims to improve the quality of life of the city's residents by steering experiments and working across the city government with design-led approaches. The approach relies on the idea of 'civic innovation'. Its scope reaches well beyond increasing government efficiency. Thus, MONUM has a singular focus on user-driven, peer-led innovation: service improvement that citizens can feel today. The MONUM team has observed that civic governments are systematically losing ground in their traditional domains to outside "competitors" and big changes in revenue bases and city operations are on the horizon or already operative. Yet, few cities have a "systemic" change plan. The MONUM model assumes that generating more value for citizens today will lead to the best kind of adaptation and that change can be influenced and effected through a tactical rather than strategic approach. Employing a mix of policy entrepreneurs or 'hustlers,'[7] MONUM is very effective in producing positive cases in the city that everybody can see and experience, but is the approach sustainable in the long term?

Context

> *"At City Hall, we'll forge ahead with a new kind of urban mechanics. The generation that gave us Facebook wants to engage in public service more than ever before. I say to them that Boston can be your proving ground and home to a wave of municipal innovation not seen since cities first brought water into people's homes."* (Mayor Thomas Menino, campaign announcement, April 2009)

The Mayor's Office of New Urban Mechanics (MONUM) was established in 2010 as one of the first municipal innovation offices in the world at the city level. MONUM got its name after former Mayor Thomas Menino's nickname, The Urban Mechanic which denoted the extreme results-orientation that characterised his tenure, which spanned over

20 years as mayor of Boston. For Menino, "it was not about how things happened, but that they happened."

In 2009, as he campaigned for another term in office, Menino had accumulated political capital and popularity that allowed him to try new things and assert a modest vision for the city. He strongly believed the city should serve the people that live there. The Mayor had a very personal touch to city leadership – a poll taken in 2013 showed that almost half of all Bostonians had shaken the mayor's hand (Boston Globe through Crawford and Walters 2013). Mayor Menino was known to be "constantly connecting the dots, connecting with people," rather than big vanity projects. As such, there was also not a long-term, grandiose vision for the city: "The vision was in the functioning of the city, to keep things going" (city official). This mentality influenced greatly the strategy and approach of MONUM.

Due to the Mayor's singular focus on high-quality, personally delivered municipal services, MONUM's aim also became to positively impact citizens' lives through a user-driven, civic innovation focus. Consequently, MONUM counteracts the culture in the city that perpetuates low expectations from public services in and outside of government. The attitude of civil servants that "hard things should be hard" or a "Spinach Model" of public services ("the service is good for you but it will taste like hell") was common in Boston as it was in other cities. As such, a very specific mentality of change developed inside MONUM that worked to address the culture of government itself.

> *"Local government is a service agency picking up trash, etc. If citizens understand you to be a service agency, then government will need to innovate to improve services. This is the simple rationale for MONUM, innovation in city government." (City official)*

Development of the approach

The story of MONUM is not static: it has developed over the years with various narratives that have given operating coverage to the team and in essence, justified its existence in the city (the unit survived Mayor Menino's retirement, a rare accomplishment given that mayoral changes have proven fatal to many other innovation units (Tõnurist et al. 2017)).

MONUM was not started around a large-scale new initiative. It started small and it is arguable that not having a big project to finance the team also meant that MONUM had to take a very "lean" approach to working within the city government of Boston. And they had to prove their worth to a very pragmatic mayor. As such, for a long time MONUM had neither budget nor staff. In fact, it did not show up in the budget until four years after starting up. All the founders had other roles in the city. MONUM went from five team members in 2012-2013 to seven in 2014-2015 and to the current 13 people in 2017. MONUM also employs a plethora of fellows during the summer, an initiative that was originally started in 2007 under the Director of Emerging Technologies and senior adviser to the mayor on innovation.

Resources come from both inside the city government but also from outside grants. The expansion in recent years has mostly come through the inclusion of grant funding from private foundations, such as Bloomberg Philanthropies and the MacArthur Foundation, while the City Hall covers the salaries of core staff and a small amount of risk capital. Currently, MONUM's budget is around USD 1 million per year, which is spent mostly on salaries. With the inclusion of a larger grant from Bloomberg Philanthropies, the operating model has changed slightly, because it allowed the team to concentrate more on core issues – "unlocking more time in cities also requires money." They can now think about diffusing

their working methods into the city more systematically, building up a broader capacity for change, rather than only chasing after "quick wins" and demonstration effects. As such, it is not surprising that over the years, the storyline has moved from "a start-up in government" to MONUM as a "design school." Here, internal narratives become instructive to analysis: "Pitch, narrative, importance of storytelling in the way we work. You need elements of truth, but also need to be inspiring" (MONUM fellow).

At the same time, their early reputation as a technology entrepreneur has stayed with them – they are best known for being an "i-team" (e.g., Carrera et al. 2013; Crawford and Walters 2013; Puttnick et al. 2014; Agawu 2017). As MONUM was not given funds of its own, they focused on how citizens could more productively interact with the city. There were several visible wins with apps early on in the lifespan of MONUM, including Citizens Connect (equivalent to New York City's 311 that allows community members to report issues directly to government and track responses) and the Where's My School Bus app. The widespread use of the latter earned MONUM a lot of credibility. As described by one of the team members: "We don't need a lot of money to do a lot of damage." These cases have stayed with MONUM, as they were instrumental in legitimising the unit within the city. However, tech is not something that the people at MONUM want to promote: "tech stuff – that is not actually what we primarily do" (team member).

> *"MONUM is a widely recognised name. Municipal tech shop doesn't have the necessary sex appeal." (MONUM member)*

This does not mean that MONUM does not do technology projects, they have many in their active portfolio from a platform for city-owned property, a pothole-tracking app (StreetBump) to IoT and sensor use (Barkham et al. 2018). Here, MONUM partners closely with the Boston Department of Innovation and Technology (DoIT) which is responsible for mainly data and the collection and organisation of Big Data in particular (Nguyen and Boundy 2017). While DoIT is more connected to the datafication side of the city, MONUM has the freedom to concentrate more on launching innovative, and sometimes risky programmes that if successful, will be scaled up within a city department or citywide. It has moved from only increasing access to relevant content, and improving city-citizen interactions and digitalising services to expanding and creating new services and government functions (Agawu, 2017). They are also dabbling in policy innovation, a domain that is not exclusive to MONUM in the City. As such, over time, with experience and growth, the MONUM team's narrative, purpose and the way it works (and looks at technology) has, to some degree, changed.

City as a "just-in-time agency"

While MONUM has started to talk about technology as being "instrumental" to its aims and is – slowly, but surely – letting go of the start-up image, the lean and hungry mentality has remained. The group works with a quick, iterative, rapid prototyping approach. It can be pared down to four design-led concepts: explore, experiment, evaluate and expand. As described by one of the team members: "Our methodology is problem-led, sometimes technological, but mostly just good design. A lot of ethnography. Longitudinal studies are good, but they don't solve problems now – we are dealing with a sped-up process." The team has to prioritise the "now" compared to more transformative systemic issues. MONUM does "not define innovation purposefully; we are allowing it to happen – we concentrate on human centred design, how to make people's lives better." The aim is to bring problems down to the individual level, share experiences and have normal

conversation with city residents. "It is surprising how much people were willing to open up to civil servants" (team member at MONUM).

Thus, MONUM at its core works very incrementally: "We don't have the luxury for built-in products, we work more superficially." The approach starts from the quality of the service, through which intelligent ways to reach the broader system can be found. And while the instrumental methodology could be interpreted as a way MONUM has had to survive in a volatile situation (minimum funds, needing to justify its existence during the change of political leadership, etc.), the team sees a deeper philosophy behind it. Simply put, the challenges for government are not going to get simpler. Income revenues for cities are mostly inelastic and in this setting new resources can be freed up only with finding operational efficiencies. Cities in the future will face even bigger financial constraints when the transport systems switch to autonomous vehicles, which will mean in practice that parking fees for cities will evaporate.

> *"Cities have to find new ways to create revenue. 70% of the city budget is workforce; the way to create efficiencies is by creating solutions "to" people in the system, otherwise, government could become the self-checkout line at the grocery store…" (MONUM member)*

According to MONOM's core philosophy, people are the core unit of cities and they are the ones that cities must be designed for. It is, in broad strokes, the same strategy that Mayor Menino followed without defining the logic behind it. When the people and the service quality perspective becomes clear, other barriers fall away as unimportant. Consequently, processes that seemed to be barriers to innovation become less important when the purpose of government action (not the role of documents it produces) becomes clear. Sometimes governments with the support of universities focus on singular functions and responsibilities of government and more systemic solutions.

> *"Harvard has a procurement obsession. This in practice is absolutely not true. Just write better procurement documents. It is how you think about the role of government. It is not about writing better documents." (MONUM member)*

If the strategy for a city becomes adaptation to user needs, then long-term visioning does not make sense. Nor do the traditional ways government has addressed mid- and long-term planning: "Government is not going to white paper its way out of this future. Government needs action research teams." Thus, MONUM team leaders have been resistant to Blue Sky thinking that does not fit within existing operations (Puttick et al. 2014).

What does this mean in practice? For example, in an education lab, MONUM would hear from parents about what they did not like about the education system. They would then try to fix those tactical problems, not the whole system. It was hoped that the success of the tactical improvement would spill over into other areas, providing positive feedback and enforcing the iterative change practice to emerge over time with cumulative effects within the system. Thus, success for MONUM is to not precisely define actions, but to "do what makes the most sense" and the expectation is that "you do whatever it takes" to get it done. As one of the team members explained "the world is littered with pilots that do not do anything" and thus MONUM tries to avoid the trap. The work is therefore fast-paced and action oriented: "I was surprised how fast things moved here, a kind of hit-the-ground-running mentality" (MONUM fellow). Thus, the culture to innovate should not be distinct from the culture to execute. After all, it is the core activities that make line departments successful. However, MONUM has not cracked the challenge of diffusion and scale entirely and is challenged by the culture and language of the public sector.

> *"In government innovation, there is a language problem. Pilots are often vanity projects for local governments. Prototypes or experiments are better titles because government must be learning something from the project." (MONUM member)*

As such, MONUM tries to quickly experiment, pilot things and then leverage line departments in the city to put it into practice (a practice that sometimes requires quite a lot of persuasion). For example, as a bid to make the city streets safer for cyclists MONUM worked on developing municipal truck side guards by building a prototype that could be put on public works trucks. The Sanitation Department then only bought trucks with side guards which then led to side guards becoming a city ordinance. Now Mayor Walsh is advocating for the adoption of side guards at a national level. By experimenting, learning and showcasing the usefulness of solutions in practice, MONUM helps build momentum towards a bigger change.

Consequently, the approach calls for policy entrepreneurs or "policy hustlers" that go above and beyond to achieve results: "We are interested in hiring 'hustlers' – it is very vague… People who get our work style." MONUM is not interested in writing skills per se or other traditional public sector skillsets: "There are too many public policy people in government; they are good at memos, but that is where good ideas go to die." MONUM sees its role as redefining problems; interpreting what services really mean to citizens or what they could mean to them.

"Interpretation is what we do. For example, Boston transportation wants to create a parking meter, but we need to analyse what we mean by 'parking.' A lot of the associated documents, programs are cultural baggage that we need to overcome. Roadway usage, for one, is a visual thing – that is something that a lawyer would never do."

Furthermore, cities do not have the capacity to be forward-looking or create demand by funding transformative thinking. Many city departments have large budgets, the bulk of which is tied up in service delivery, however. As a result, few resources can be allocated to thinking about what the service really needs to be for citizens, or what its purpose should be (see example in Box 4.4).

Box 4.4. Getting to the 'salad equilibrium'

In 2017, MONUM was working together with Boston Public Schools (BPS) Food and Nutrition Services (FNS) on the composition of school meals. The Department serves more than 11.1 million meals in a schoolyear, including 21,000 breakfasts, 31,000 lunches, 5,000 afterschool snacks and 9,600 summer meals per day. These are incredible volumes of service to Boston's schoolchildren each day.

The department puts a lot of effort into maintaining the highest possible nutritional standards and quality for school meals. Yet, it used to be a daily occurrence that schools would run out of salads, leaving children with less healthy choices. Talking to children directly, it was clear that they actually wanted healthier options and more salad on their school menu. So, why were they not offered more options or even more salad in general if there was clearly demand for it?

MONUM's analysis of the problem showed that school workers in charge of meal services were suffering a severe lack of agency to make decisions, even when the solution was obvious and in line with the school district's goals. School workers were neither asked nor empowered to look for signals of changing or differing demand than what was currently

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offered by the district. Hence, workers did not feel safe to challenge current norms, assumptions and conditions.

"Workers would see that they run out of salad every day, but this observation was not instrumentalised. This was due in part to the immediacy of their other tasks and the scale of the system." (MONUM fellow)

After gaining this understanding, MONUM together with the staff tried to find the 'salad equilibrium' to meet demand and work toward healthy eating objectives:

"In order to ask kids what they want to eat, you need agency to make decisions. Just performing the tasks in front of me [as a public servant] is a massive undertaking. It seems impossible to go on and think about what the right kind of 'salad equilibrium' is /…/ It is the same in other areas [of the city], for example, parking sign clutter in the streets, maybe there is a 'sign equilibrium,' maybe there is already too much information."

Source: OECD interviews; https://www.bostonpublicschools.org/fns

Compared to other city employees, the MONUM team has the flexibility and freedom to experiment – characteristics that other city departments usually do not have (see also some examples in Barkham et al. 2018). This ability to manoeuvre beyond the existing norms and think outside of the box is also recognised by the city departments as an advantage when they work together with MONUM:

> *"I need someone who is not constrained by the day-to-day work. Sometimes we need to stop doing things; need to rethink how the city works, move away from what we have done." (MONUM partner in the city government)*

For example, while MONUM worked on the public engagement for the Go Boston 2030 Plan, they asked citizens what transport should look like in Boston. Experimentation ranked fourth for citizens (behind access, cost, etc.). It was something that the city's Transportation Department did not know that residents cared about. MONUM was able to assist with this experiential dimension. Hence, they are currently working with the Boston Transportation Department to determine what the role of the city is in the future of autonomous vehicles. In this project MONUM is a "thought partner" as well as project manager to a traditional city department. They can also lobby for various ideas at City Hall.

In another project connected to demand-based parking costs (performance parking), MONUM helped to "get traction on the issue and reduce interference from the bureaucracy to almost zero." The Transportation Department was curious about this approach to parking for a long time, but did not have time or capacity to investigate it. MONUM, however, has the time and scope in the city to take these kinds of new problems on. Another example of this approach is the Smart City Playbook project (Box 4.5).

Box 4.5. Boston's Smart City Playbook

MONUM together with the Boston Department of Innovation and Technology (DoIT) created the Smart City Playbook in 2016. The Playbook documents what the City believes its principles are for the 'digital right of way'. It set digital priorities for what was quickly becoming a vendor-driven space. The creation of the playbook was prompted by companies selling products to the local government on a continuous basis and the lack of a coherent

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position on digital priorities on the city side. Currently, the Playbook has six smart city plays:

1.   Stop sending salespeople

2.   Solve real problems for real people

3.   Don't worship efficiency

4.   Better decisions, not (just) better data

5.   Platforms make us go ¯_(ツ)_/¯

6.   Towards a "public" privacy policy

The Smart City Playbook is a living document and provides a public guide for considering different aspects when commissioning smart city services; it issued a call for 100 ideas about the future of 'smart Boston'.

As with the rest of MONUM's work, the Playbook was created very quickly and iteratively; however, it also meant that there was not a lot of awareness about the product or buy-in from all corners of the city, making its adoption more arduous.

Source: OECD interviews.

Hence, in concrete innovation projects, MONUM staff and fellows play a significant role. The team works with departments across City Hall to help scale and implement solutions. While MONUM is responsible for instigating change and quickly prototyping solutions, it cannot – in the current model – shepherd these initiatives indefinitely. Thus, MONUM tries to guarantee that their partners in different city departments have the ability, time and resources to integrate change into existing operations. As such, MONUM has a great deal of independence and the ability to be innovative while not being encumbered by maintaining and supporting the innovation. All in all, the added value that MONUM offers to city departments is mostly non-financial: not because they lack the financial resources to motivate city departments in that way, but their model itself involves rethinking problems, making connections beyond city silos, and creating networks beyond the city government with researchers, developers and others who can help advance a particular idea.

Collaboration

MONUM's model builds on networks in and outside of the city, i.e., a collaboration-driven innovation approach. For MONUM, good projects come with good people, leveraging resources beyond their own team – "we talk about network." As such, MONUM's work is inherently relational: the model relies on access to line departments and services. The sustainability of its projects and programmes depends on the ability to build innovation capacity in line departments themselves. This requires building trust. However, city government's working culture is built on low expectations, which are a constant challenge for MONUM especially in problems areas where different government silos have to be involved. As described by one of the fellows: "the hardest problems are those that cross departments." Thus, in many cases it is easier to 'say' collaboration, then actually 'work' together collaboratively. Yet, "*it is also easy to become arrogant when you have the time, skills and other resources to think about change because a "smart hustler" [automatically] sees the benefit in these cross-disciplinary projects*."

Consequently, MONUM has to be able to ask challenging questions, but also develop empathy for the lived experience in the city bureaucracy itself and not alienate the departments they rely upon. The solution lies in insisting on a high quality human experience for citizens and the city's workforce. It is a purpose that is very difficult to challenge or critique. Furthermore, MONUM operates with a motto of "What do you need? We will get that done for you!" As such, MONUM builds relationships by getting work done, even the trivial stuff – it is a "soft power play" where "being available is an innovation in and of itself." The fact that MONUM's name does not entail innovation (making people immediately think about change or technology) provides additional cover. The key as described by MONUM is to be "surprising and delightful" which can become bona fide outcomes in their own right because they "move mountains". This has been noticed by the line departments: "They came to me with cups of coffee."

Building networks and partnerships is not only an 'inside-of-government' strategy. To create a new type of value to citizens, ideas, skills and talent have to be drawn in from the outside as well (e.g., Weiss 2015). Thus, MONUM has cultivated a lab-approach to working on specific thematic problems (Burstein and Black 2014). Currently MONUM is working alongside a Housing Innovation Lab, Engagement Lab, Education Lab, Third Space Lab and a Civic Research lab. The Education Lab was one of the earliest in the MONUM experience, and led to a spin-off in housing (Box 4.6). Among other tasks, the Education Lab helped schools to think about time outside of academic hours, where the housing Innovation Lab works with middle income residents when subsidies dry up. The Engagement Lab tries to find new ways for democratic action in both analogue as well as digital format. This also involves the idea of "play" and integrating gamification and emersion platforms into public engagement. The Lab has developed solutions such as Participatory Pokémon GO, Adopt-A-Hydrant and Hub2.

Box 4.6. Housing Innovation Lab

Boston's population is expected to grow above 700,000 residents by 2030 (Housing A Changing City: Boston 2030). This growth creates many challenges to the city from the need for increased facilities, open spaces to urban density, growing housing needs and its affordability. Thus in 2014, Mayor Martin J. Walsh called for the creation of a Housing Innovation Lab. In 2015, with start-up funding from a Bloomberg Philanthropies Innovation Team Grant, MONUM established the lab. In 2017, the city continued its committed by taking over the funding of the programme itself.

The lab is built to test innovative housing models and accelerate the pace of innovation in the housing sector. Similar to other MONUM initiatives it prioritises people, tries to engage both internal and external partners to move the work forward and aims to experiment early and often. A number of projects have already emerged from the lab including the Housing Innovation Competition seeking proposals on innovative compact living designs; Density Bonus Pilot which gives developers incentives in exchange for more affordable units; the Additional Dwelling Unit Pilot to simplify the process for homeowners looking to create a rental unit; and the Intergenerational Homeshare Pilot. MONUM's role in each of the pilots is varying, in some cases a social entrepreneur outside of the city takes the lead, in others MONUM is more directly involved. As such, the specific projects advanced in labs are very diverse, in scale and scope, yet still based on identified user values.

Source: OECD interviews; https://www.boston.gov/departments/new-urban-mechanics/housing-innovation-lab

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Third Spaces are the newest focus area for MONUM and include spaces in between home and work that city residents can use to connect and create with others. This includes everything from city facilities, parks to barbershops and coffee shops. The aim of the particular lab is to spark community-driven enhancements of these spaces. This again requires "interpretation" – showing not only the economic benefit of investments in third spaces from the city and community perspective, but their influence on the quality of life of city residents.

In each lab, the MONUM team builds partnerships across a variety of stakeholders: relevant city departments and staff, residents, academics, entrepreneurs, and non-profits to design, develop and evaluate pilots. There is no method or methodology governing the labs. Approaches and partners are selected in accordance with the problem at hand or are identified by the partners themselves; this is representative of a kind of professional opportunism rare in the public sector. Thus, the main function of MONUM is to act as a network broker and facilitator. Here, MONUM benefits strongly from the closeness of Harvard University, MIT, and Boston University, which offer myriad opportunities for collaboration, open innovation and also great talent to hire. MONUM created the Boston Area Research Initiative (BARI) to strengthen the ties between local universities and the City. They have also created the Urban Mechanics Fellowship which recruits top graduates and appoints them as direct advisors to the mayor. This can be done under a summer programme (involving a small innovation project over eight weeks) or a year-long fellowship for those with prior experience in the public and private sector. The majority of fellows end up staying in City Government. Thus, MONUM becomes a pipeline for talent to enter city government (e.g., DoIT Boston has hired 6-7 people from MONUM). At the same time, the flexibility of fellows and talent in general is a challenge for the organisation. It is difficult to extend people's fellowships and hire them as employees as described by one of the MONUM leaders: "if I want to hire 3-4 people from them, then that does not happen, because creating new positions is difficult." At the same time, the hiring issue may be a blessing in disguise as the team with the current model of iterative development is at its maximum size: "If we grew even further, then something probably needs to change in how we operate."

Influence of position within hierarchy

One of the key factors to MONUM's cross-departmental model is their location within City Hall. Specifically, placement within the Mayor's Office and the role of a "utility player" are fundamental to MONUM's relevance and success. It is a slightly different model and role from traditional chief innovation offices in the US (as it is possible to see also different models emerge in strong mayor versus city manager systems).

The Mayor's Office provides political cover and support. This is not only important due to the clout and "hard power" it gives to MONUM, but it is important to the nature of the work itself:

> *"A group focused on innovation must be separate from the line departments because execution is the imperative in line departments and any extra capacity would quickly be subsumed. An innovation group must be isolated/protected from daily demands to deliver services." (MONUM member)*

Within the Mayor's suite, MONUM has been able to nudge, encourage, and facilitate collaboration inside City Hall and across academic institutions, technologists, and other city governments (see also Crawford and Walters 2013). While the MONUM brand carries

its own weight in the city government "there is always the unspoken Mayor Card that we are representing the mayor, but if you plan to work here for longer [than a political cycle], then you need credibility outside of that." Stated differently, you need strong informal power and a strong reputation to make the model work.

In their position within the city hierarchy, MONUM can also act as a buffer for city innovators:

> *"We have been around for a while, understand risk taking, failure tolerance. Fear of failure boils down to communication; a nasty phone call from the mayor, bad press – all communication things. What can MONUM do? Intercept the phone call."*

The unit takes ownership of the innovation projects and carries the risks: "we will take the phone call from the mayor; explain that things are fine, not a catastrophic failure." And in their experience, city innovators – more often than not – do not want their names to be mentioned.

Being close to a strong mayor, delivering results that also the city leadership can engage becomes very important. Within the portfolio approach MONUM is always "thinking what we are getting out of it in 2-3 months." Furthermore, "there needs to be a healthy number of projects that the mayor can instantly get, talk about and get some press on," but this has to be balanced with other activities. It is a traditional mistake in local governments. As such, there is also a critique of the city leadership-centred model in regards to the tendencies to go for the low-hanging fruit, cherry picking: "city level units, CIOs and i-teams tend to concentrate on things that they can get done, not politically difficult topics" (city official). Some interviewees put it even more strongly: "MONUM was a foil to Mayor Menino's priorities. They could operationalise his priorities quickly. "

Being so close to the political leadership of the city also puts MONUM's longevity in danger. Becoming too closely identified with a political leader's agenda can become fatal during the exchange of power. As MONUM was closely linked to the vision and operating mentality of Mayor Menino, it was not surprising that during the exchange in mayors in 2015, it was uncertain if the team would remain. MONUM had a good reputation by that time, results to show for its work, but had to still defend its existence and prove its value in the first months after the exchange. The team, which is used to delivering demonstrable results fast, did not fail in the task. Bloomberg Philanthropy's grant that came in the same year did not hurt either.

The New Urban Mechanics operating model has been tried in other cities under the same name as well: Mayor Michael Nutter of Philadelphia established a Mayor's Office of New Urban Mechanics office in his city in 2012. Utah Valley University launched an affiliate of the New Urban Mechanics in 2014 to serve towns and cities in its region. The Philadelphia MONUM, for one, closed its doors in 2016 after the exchange in city leadership (Wood, 2016).

Impact: from tactical to strategic

> *"What does success look like? It is not only how much money we saved, but have we brought joy, delight into someone's day." (MONUM member)*

MONUM is an incremental, user-driven model to city government transformation. Not governed by grand challenges, but everyday civic innovation and delivering value to

citizens on the ground. As such, the model relies on leading with citizens' value. MONUM uses 'quick and dirty' methodologies to get things done. They try to align tactical responses into a coherent portfolio that over time will start to accumulate and lead systems change within the city. Only over time is it possible to evaluate if this is actually working as intended or not. As MONUM indeed moves very quickly, prioritising tactics over strategic planning, it is important to periodically review its actions and examine its portfolio to be sure that 'quick wins' will not dominate over projects with the most potential value to citizens. The aim is to be consistent across the portfolio, so that it might eventually result in systemic change. As such, MONUM looks over its portfolio annually:

"We do a deep dive into what we have done, analyse what we think we are doing, how long our projects are taking; that during the election season we get a healthy dose of things." (MONUM team member)

Figure 4.3. MONUM growth and reach

Source: MONUM year in review 2017.

In everyday practice, MONUM tends to track interactional metrics (network size and interaction; documentation of projects and how many of them have scaled; see Figure 8) as a general form of evaluation, while integrating information from various sources (administrative data, user feedback surveys, focus groups, participant observations, qualitative interviews, etc.) to show their impact on the ground with specific projects. It is important to "tell a good story", therefore MONUM tries to provide a "qualitative, quantitative mix with the focus on storytelling.

"A lot of people have a cognitive bias to process numbers, others prefer qualitative information. We need to demonstrate that we have done the work of both. Decisions are based on it."

Here non-conventional tools that allow for good storytelling are very important. For example, MONUM's videography work has been very influential. It marries both quantitative and qualitative information. Here the team believes that "humans are wired for qualitative information, joy and delight." One does not hear often word like "joy" and "delight" as government metrics for success. For the user-driven innovation team however, this provides an opportunity to have a new kind of conversation about emotionally intelligent public services.

> "*Public servants never talk about why they are doing the work. Joy and delight gives them space to discuss/engage conversations of purpose. For the upper middle class, experience with government is very narrow. If a family is at risk, marginalised, government services are a VERY big deal. They are critical to well-being. Joy and delight changes the discussion around these critical services."* (MONUM member)

As such, MONUM credits its good track record, and the resulting reputation, to a high emotional quotient (EQ); their role as utility players with a delivery orientation; and their position at the right level of government to make a difference. As outlined above, the operating model itself depends on extremely dedicated staff, individuals – "policy hustlers" – that go above and beyond to get things done and are able to build partnerships in and outside city government. MONUM builds internal capacity to experiment so they can take over some risks from their partners who are doing the main fieldwork. In addition, their position within the mayor's office means that they "have the ear" of senior leadership if something unexpected comes up.

Box 4.7. Main self-identified lessons from the MONUM model

The MONUM operating model (based on user-driven innovation, interaction and collaboration) has taught the team that:

1. how you build is as important as what you build;

2. you need to build things that people want to have or need, not what makes your job easier;

3. technology should be used to build compassion and trust, not make things faster – people need to be engaged in dialogue using ethnography;

4. interventions are strongest when they are on the sociological, community level;

5. it is important to be delightful – "we don't have to be ugly, scary, and difficult to be around."

Source: OECD interviews.

Working in this way over the years, MONUM has learned to prioritise process in its various aspects (see Box 15). In many ways MONUM and its ilk will be a critical part of city governments in the future as the pace of change will accelerate and the need for innovation culture and capacity in local governments will only grow. At the same time, other types of innovation (e.g., systems transformation) should also be prioritised in city governments. Regardless of the cumulative effect of the portfolio approach, other structures beyond MONUM are surely needed.

Hope Care System: Citizen-led Response to Welfare Blind Spots in Namyangju

Summary

The Hope Care System is a systemic response to welfare blind spots in the City of Namyangju. With a mutual-assistance based citizen action system it tries to solve the complex problems of people in poverty or near poverty so that their situation does not worsen and they become self-reliant. The system is built around a number of Hope Care Centers distributed across a multi-core city domain. The Hope Care Center acts as a study and training place for private and public sector stakeholders to cooperate to co-produce new types of welfare services. While the initiative started partially due to concern about increasing demand for welfare spending, the public value of extending the welfare system coverage for long-term effects was quickly realised together with the emergence of a sharing culture within the community at large.

Context

Over the years, Korea has enjoyed rapid economic growth, even while the improvement of welfare systems within the country are still an unresolved issue. As the social welfare demand – connected to the world's fastest ageing society, lowest birth rate, and expanding poor strata – is largely increasing, Korea is implementing new welfare services and increasing welfare budgets for both the central government and local governments. Nevertheless, the perception of welfare in the eyes of the people is still generally negative.

The National Basic Living Security System, the representative cash grant offered via the central government, strictly classifies service recipients based on the minimum cost of living. This system is not available to lower-income families that exceed the benefit criteria even by minute differences, for example those that live just above the poverty line. Even if they are included as beneficiaries, efficient measures to cover urgent spending (e.g., medical or educational expenditure to prevent 'passing down' poverty) are not provided. Overall, the system provides limited coverage across citizens' life-course, which means that many will have to forego basic services as they grow older.

Koreans who are eligible for the National Basic Living Security System get help from both national and regional services. Institutional overlap can occur for citizens with more access to public service providers; while those who live farther afield or whose need has not been identified, will have had limited access to welfare services. In many cases, potential service users have to identify their needs themselves and connect with the public organisations. This can be a barrier for many. Therefore, the improvement of public delivery systems aiming to efficiently execute various welfare policies in Korea is standing out as an urgent policy issue.

These problems are especially acute in municipalities such as Namyangju City with a sprawling, less-densely populated area where people in need do not live in concentrated hubs, and are therefore more difficult to identify and reach. Namyangju City is 458 535 square kilometres, which is 75% of the area of Seoul, the capital of Korea, while its population is 662 582 persons, which is just 6.5% that of Seoul. Furthermore, there are not many alternative private service providers in Namyangju compared to larger cities. The city, however, is growing due to large-scale land development projects and inflow of low-income groups and younger families escaping high property prices in the capital. The living zone, decentralised into multi-core zones, makes it difficult for the city to be governed by a single service institution. As more and more people need welfare services and with limited funding, a new approach to welfare was needed.

The establishment of a volunteer-led system

The Hope Care System was established by a long-time mayor of Namyanju. Under his leadership a task force was put together and plans were made to open a Hope Care Center in October 2006. The connections the leadership of the city had across public, private and other local networks were essential to the establishment of the new welfare initiative. The aim was to establish a system to synergise previously dispersed expertise from both the private and public sector and integrate welfare resources into one service delivery point. By doing so, the city aimed to not only increase the effectiveness of services but also minimise the increase in the welfare budget and leverage other resources from the private, non-profit sectors.

A task force to implement the plan was established and instructed to create a master plan for the installation and operation of the Hope Care System. In parallel, an 'advisory group' for the Hope Care Center was assembled from among social welfare facility workers, social welfare experts, health and medical experts, and related civil servants. Initially, there were negative opinions about the effect, validity and sustainability of the project. This was because of the uncertainty about the direction of the reform, but also because the civic and private partners did not trust the working method (e.g., Will the city authorities use it to just closely scrutinise and monitor private and non-profit partners?). To overcome these issues, private and public sector stakeholders in the advisory group jointly discussed the project operation method, which also laid the foundation for working through other conflicts. Also, briefing sessions to the city council, private institutions and civic groups were used to overcome the mistrust in the planning stage. This was essential as, over the years, the development of the system became a process of trial and error. Learning from this was only possible because city officials in charge of welfare services were able to (and required to) participate in research, pilot implementation, etc. of citizen-led initiatives under the Hope Care System.

In 2007, the project team started to investigate the living conditions and needs of welfare recipients. This information was juxtaposed with potential resources, both established designated services and community welfare resources. The community welfare consultation groups were established to create a network of different stakeholders. As such, the city conducted a systemic review of all welfare resources in use in the region. Based on the aforementioned work, the team outlined which services Hope Care Center was going to provide. In addition, the decision was made to establish centers in four zones due to the multi-core nature of Namyangju.

Box 4.8. Management of the Hope Care Center

Namyangju City, which has a wide area, is divided into four zones (East, West, South, North), each of which has a Hope Care Center operated by a private non-profit foundation. Thus, the regional centres are entrusted to private social welfare foundations, while, the central care centre is run by the Namyangju City Hall.

New projects are led by the municipal government and the private welfare trust in charge of the management of the Hope Care System. The city government only supports the required manpower and operating expenses for regional centres, while the expenses and

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workers required for the project are supported by citizens' voluntary donations and services.

The distributed system gives easier access to welfare recipients. To prevent dead zones in a wide area, a mobile service for residents who have trouble travelling, such as the elderly and the disabled, was created. The mobile unit visits at-risk areas by automobile and provides consultation and services. It is operated via the central Hope Care Center. Furthermore, centres cannot refuse services to remote welfare recipients – thus avoiding to some degree "creaming" (service provider behaviour that prioritises easy cases), which is not uncommon among quasi-market welfare service systems.

The system operates as an integrated case management system, which facilitates sharing of information with private welfare service providers. Working across sectoral boundaries proved troublesome as public and private sectors could not share information due to the separated computer systems. To have a systemic overview of the citizens reached and benefits provided, the city built a database to register personal service details being provided by Namyangju City that has a plug-in to the Hope Care Computer system. This prevents services from being overlapped or omitted. Furthermore, within the system welfare information is recoded in line with the recipient's life cycle. In addition, there is an online donation system which enables citizens to support welfare recipients directly (this also allows matching specific welfare recipients to donors making it possible to direct funds personally to those in need).

Figure 4.4. The Hope Care System

Source: Namyangju City Hope Care Center. Presentation to the OECD.

The Hope Care Center develops services based on need surveys of Namyanju citizens and operates those services using volunteers in various areas such as assistance for going out, improvement of residential environments, and educational, medical and living support. Citizens can also help discover welfare blind spots by reporting them through an app called "Knocking Talk".

> The Hope Care Center receives funds from the local government's welfare budget, the private financial resources of profit-making/non-profit groups, and various donations and support payments. The Namyangju City budget pays for personal expenses of regional workers (a total of 44 including centre heads, social workers, and nurses) who engage in commissioned institutions, Hope Care Center project costs, and operating expenses. Civil support payments and private resources contribute to funding for low-income groups. Subsidies for regional Hope Care Centers are supported by the Namyangju City budget to the tune of approximately KRW 1,140 million on annual average from 2007 to 2011. However, the support payments collected during the same period were KRW 1 110 million. The support payments amount to about 98% of the subsidies. This exceeds by three times the rate (32%) of support payments of average subsidies for community welfare centres in Korea
>
> Source: Namyangju Hope Care System case description.

The city passed an ordinance to install the first Hope Care Center in April 2007 and the project team reached a co-signed operations plan by November 2007. The ordinance leveraged institutional support for the initiative and helped the civic-led system garner trust, which later helped with getting more donations and funding. The team saw this as an early indication regarding the continuity of the organisation and operation of the system from an institutional aspect.

In 2008, the system created its own website, which made it more accessible and enabled more citizens to participate. Furthermore, the team started consultations with academia to find more specialised workers and volunteers for the Center. In 2010, the Hope Care System was expanded to include one-on-one "hope managers" who could help people living alone or personalise their help to specific family's/individual's needs be it companionship, joint outings, house cleaning or other housekeeping tasks. Hope managers are professional volunteers who have completed a specialised training course. They regularly visit target families and help them in daily life or provide other necessary services. Thus, the system is increasingly reliant on volunteers and seeks their help in addition to other specialised "talent donations". For example, 189 volunteers for the Hope House project (primarily from the Architects Association, Korea Electrical Safety Corporation, Korea Boiler Engineering Association etc.) have repaired around 1 400 houses since 2007. As such, a corporate voluntary service centre was also established and activated along with the creation of the Hope Care Center. Some 944 businesses including restaurants, private learning institutions, beauty salons, and movie theatres participate in the campaign to donate their resources or "talents" to the poor. In one particular example, restaurants provide elderly people living alone with food once a month. Participating in the system is a positive endorsement for companies as well, due to high public interest.

Substantial effort is currently being put into expanding the volunteer base, including volunteer development, specialised management, and the introduction of an incentive system. The Hope Care Center also strives to match the right volunteers with the right people. The number of volunteers registered in the voluntary service centre was approximately 62 000 persons as of 2012. It has steadily increased every year. The number of voluntary services being conducted via the Hope Care Center amounts to about 8 000 instances in various sectors such as housework support, education, bathing, and house repair, etc. By the end of 2016, the number of talent donators and volunteers was up to 124 297.

Box 4.9. Roles within the Hope Care System

The aim of the system is to provide user-centred one-stop services in the areas of employment, welfare, financing and culture together in one place. These include:

- Administrative organisation (city officials): Integrated investigation and management, discovery of welfare blind spots, case management, visiting consultation service, etc.

- Private Organisation: visiting care, provision of linked services, resource management, sponsor management, etc.

- Private Institutions: Independent operations carried out by private institutions, urgent social services provided in cooperation with the city.

- Miso (Smile) Finance: Start-up loans for disadvantaged people with a credit score of less than 7. Results: 1 160 cases handled; loan amount KRW 16 250 million.

- Credit Recovery: Credit recovery counselling for the low-income individuals with bad credit, including people who have defaulted on loans in the past. 8 318 cases handled; 3 398 credit recovery cases.

- Food Market: Providing low-income individuals in need with donated food. Six operational locations and 57 383 users.

Source: Namyangju Hope Care System case description.

In successive rounds, the co-production between public, private and non-profit providers has become more extensive. The service scope provided by the Hope Care System has continuously expanded. In 2011, a small financial group was established to lend initial expenses to people with low credit ratings. Now the centres also integrate psychotherapy centres, community health centres, and food banks – enabling citizens to get these services in one place.

As the offered services became more varied and the needs addressed more complex, the system became crippled by a lack of expertise. While there were a variety of services available, the response to complex issues was insufficient as there was a lack of manpower and expertise for case management. From 2009 onward, the Case Management Teams were established and additionally a job counsellor position was created. From 2012 onward, mixed, private-public welfare cooperation teams have been dispatched to all four regional Hope Care Centers. This allows officials in charge of public services, private social workers and volunteers in the Hope Care Center to work in one place and discuss how they jointly intervene in cases in which help is required. Consequently the system integrates welfare resources and sets up partnership networks for at-risk groups. The aim is to not only provide welfare, but to help families in crisis to emerge from poverty. Thus, many interventions concentrate on self-support to prevent those living just above the poverty line from becoming welfare recipients. All of these components add to a mutual-assistance citizen action system centred on users and the welfare services they need.

Box 4.10. Six stages of the Hope Care System development

1. Establishment of the Hope Care Centers in four regions (2007) with private social welfare workers and home care nurses.

2. Strengthening the links with other social services (2009-2011): the establishment of the credit recovery committee, food market Miso (Smile) financing.

3. Start of a co-productive work approach with private partners (2012): establishment of a welfare cooperation team, welfare support team, doctor services at home and legal affairs.

4. Integration of employment and welfare (2013): placement of job counsellors, self-support projects.

5. Pilot to re-organise the welfare delivery system (2014-2015): strengthening local community (village) welfare functions and additional pilots

6. Establishment of a Welfare Hub and Administrative Center (2016-2017): installation of a customised welfare team in an administration center and placement of experts (case managers in Hope Care Centers).

Source: Namyangju Hope Care System case description.

By now, the system has developed into a customised service based on welfare recipients' complex needs. This is based on a lifecycle-based approach and both the family's or individual's needs are evaluated together. The varying welfare components that case experts evaluate are presented in Figure 9: the system now provides a variety of services over eight categories with a mixture of public services, private providers, professional volunteers, regular and occasional volunteers. Cases can address one or two of the outlined components, but can also span all eight categories in extreme cases. Based on needs, customised welfare teams are put together with specialised volunteers from specific areas – these experts work together to find systemic, cross-cutting solutions for recipients' welfare needs. For example, life support can include housekeeping support (e.g., laundry service, etc.); emotional support (e.g., cultural outings, watching movies, granting wishes); house support (e.g., home repair), or providing a Hope House.

Figure 4.5. Welfare platform of the Hope Care System

Source: Seoul 50+ Foundation, Presentation to the OECD.

As entitlement for help from the Hope Care System is not set in any regulation, the system developed an 'Electronic Display of Welfare' to make clear to citizens what potential services they could receive. The online displays allow people to view what services are provided and run a simulation to determine whether they are a potential beneficiary. This was a first of its kind in Korea.

Sustainable funding of the system

Funding was a topic of concern for the system from the start. The city, like most other public organizations, had budget restrictions and no input from government funds for the reform. Thus, only part of municipal welfare resources were deployed to develop the system. The city also saved resources by remodelling older, disused public offices for the care centres. Nevertheless, it was difficult for the city of Namyangju to find the resources to man the initiative in the long term. The sustainability concern was that if the systems started to work in earnest, donations from existing private facilities or social welfare institutions might over time be reduced, and existing service providers might be interfered with, meaning a loss in services to existing welfare recipients. Indeed, the experts involved foresaw that the initial commitment of the private sector and also social welfare institutions was likely to dwindle over time. As the government had insufficient sources of funding, an alternative solution had to be found.

The Hope Care System was, thus, built on civic donations. Initially, various plans to enable a donation culture to emerge were drawn up. In the end, the city launched a pan-citizen campaign – "One Person One Account" – which amounts to KRW 5 000 (19 681 accounts of 4 975 people). Care centres and the relevant non-profit/for-profit organisations are encouraged to participate in large-scale (nationwide) donation campaigns. They have used these to collect funding for special causes and for people with specific, more substantial needs. Overall finances have been collected through online fundraising campaigns.

During its establishment, the Hope Care Center collected donations of KRW 400 million, and about KRW 2 billion on average annually since 2014. Various support methods through which all citizens, including adolescents and young adults, can participate in fundraising are provided. For example, Hope Care System made agreements with 20 schools for online donations and launched a parallel campaign "1004 Money Box." At present 4 065 money boxes have been donated so far. Approximately KRW 6 800 million has been collected at present from the initial foundation in 2007. The funds are used to cover solely living and medical expenses (operating costs of services are covered by the city hall) for those in welfare blind spots. In addition, further access to training and education for children is provided in an effort to avoid the perpetuation of poverty across generations. This legitimises the donation system and provides greater transparency about where the money is going.

Impact and the vision of the future

While the Hope Care System was initially put in place in part with fiscal savings in mind, it has become an exemplary case of systematic co-production based on a community welfare provision, which is integrated into the city's long-term social welfare development plan. While redundant welfare services and fraudulent benefits have been reduced through the implementation of the system, this has not been the main impact of the initiative. Through trial and error and continuous discussions around the "values" connected to the system, the City of Namyangju was able to rise above a "budget-oriented" welfare policy.

The city takes pride in transforming one of its major disadvantages – an inadequate social welfare infrastructure – into something that has also helped build up strong community ties. Through the development of the system, the community's consciousness about welfare issues has increased substantially and so has the resolve to address neighbourhood welfare issues locally. Thus, accessibility of welfare services has also substantially improved in remote locations. The interventions are customised to the needs of the recipient and try to go beyond half-measures, thus, giving specialised help – sometimes beyond specific local communities – to address welfare needs systematically.

As the project has continued, a more sharing-oriented culture has started to emerge with an increase in donations and volunteers. Also diverse support methods have been put in place to support volunteering of all kinds – for example, gas stations and restaurants might donate parts of sales at a fixed rate, restaurant owners host birthday parties and support food expenses for the day, or citizens collect and donate points from commercial advertisement on the Internet, etc. In addition, many specialised volunteers who have a national health personnel license offer care for elderly individuals living alone. Furthermore, smaller, local welfare service facilities were integrated into a wider network.

In 2007, at the beginning of the system, the care system recorded 16 000 service cases; in 2011, this figure had grown to 180 000 service cases provided directly or through volunteers. The amount of cases has increased 20-fold over the last ten years (from 13 220 cases in 2007 to 274 484 cases in 2016). As a result, the overall satisfaction rate with health and welfare services of the city has grown substantially over the years. The Hope Care System has created a second social safety net for households that are on the brink of poverty (Figure 4.6) and had previously fallen into welfare blind spots. However, the system does not shut out basic welfare recipients. There are currently over 83 000 identified care targets of which 11 124 are basic welfare recipients, 48 631 are near poverty and 23 668 belong to a low income group. While initially there was concern about the system undercutting existing welfare services, this has not materialised, and the system has been recognised nationally. Thus, a system has been created where citizens help to cope with the limitations of the public welfare system.

Figure 4.6. Expansion of welfare system coverage
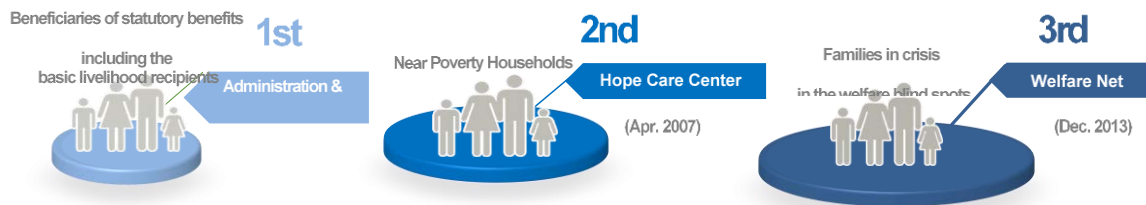
Source: Presentation to OECD, 2017.

There are other municipalities in Korea trying to replicate the system: six other similar welfare models have been created with a Support Team at the Ministry of Health and Welfare. However, the system relies heavily on networks between different sectors to be operational. Strong political support with extensive networks outside the public sector was essential to the success of the initiative. Beyond that, it was crucial that institutions (advisory committee and community welfare consultation groups) were established, where conflicts between partners could be discussed, before the Hope Care System was

institutionally enforced by the local government. Thus, the gradual expansion, development and building of trust between different partners proved to be crucial to building the system. Would it be possible to copy-paste a similar system to another location? Probably not; but building processes and partnerships to mimic such network emergence is more probable. In the case of Namyanju, the changed system has been allowed to emerge over ten years' time amid political stability. Would a similar trial and error system prevail in other conditions?

There are of course multiple challenges in building a system change like this: first of all, the reliance on citizen participation. While the numbers are impressive – around 19% of the local community volunteers or have done so in the past – volunteers are difficult to rely on as they have other engagements and demands outside of the system. This is especially crucial when professional, specialised skills are needed. Also there are many in this pool that volunteer occasionally. Hence, while the system spreads the value of coexistence, of sharing, it also puts increased responsibility on the shoulders of citizens. The system in Namyangju is kept in check by the central steering from the city, but it is heavily reliant on working networks of people, resources and supporting technological solutions. Furthermore, reliance on donations and national collection drives becomes questionable if more, competing welfare models spring up in a variety of locations. Who will capture the attention and charity drive of the population then?

Namyangju currently plans to spread the systemic model towards an intelligent welfare city to develop even more customised policies through analysing welfare needs by regions, by preventing elderly people dying alone and resolving the inequality of access to local resources. The city has plans to establish a foundation of a preventive welfare system using IoT and mobile technologies and to construct an intelligent welfare city. It is also going to develop welfare policies that are tailored to specific regions and individuals to provide premium services. Combining peer-to-peer production of welfare with new technological developments, a new welfare method for citizens to mutually assist one another is expected to emerge.

Collaborative Innovation in Gothenburg Region: Working across Outdated Administrative Boundaries

Summary

Governments on all levels are facing increasingly complex problems that cannot be solved in one jurisdiction alone be it local, regional or the state. What should local municipalities do when citizens' needs do not follow their administrative boundaries anymore? The region of Gothenburg in Sweden has been over time developing new ways to push collaboration across traditional municipal boundaries. The Gothenburg Region Association of Local Authorities (GR) has been working to offset restrictions imposed by administrative boundaries between the city and the surrounding municipalities since its establishment in 1995. The inhabitants of the Gothenburg region want their needs to be met seamlessly, regardless of these imposed boundaries which play no role in their everyday lives. Over time, new forms of collaboration have emerged in a host of areas such as sustainable urban planning, education, the environment and, more recently the response to the refugee crisis. As such, the case shows that new types of complexity also require different structural solutions to address new types of problems.

Context

Sweden is divided into 290 municipalities, some bigger, some quite small. The Gothenburg Region Association of Local Authorities (GR) is a co-operative organisation uniting 13 municipalities in Western Sweden. These include: Ale, Alingsås, Göteborg (Gothenburg), Härryda, Kungsbacka, Kungälv, Lerum, Lilla Edet, Mölndal, Partille, Stenungsund, Tjörn, and Öckerö. The region serves a population of close to 1 million. The City of Gothenburg with a population of more than 570,000 people is by far the largest municipality within the Association. The region on the whole is growing over 1% per year mostly due to immigration. It is highly integrated: people live in one municipality and go to work or school in another (usually in the City of Gothenburg).

While regional collaboration has been developing in the area since the late 1940s (esp. in the field of education), regional associations are not part of the legal structure of public governance in Sweden. The associations have no legal authority. Municipalities participate on a voluntary basis. Moreover, devolving power or delegating service delivery in any form to the bodies is not compulsory. However, complicated governance structures have evolved around the regional bodies (Box 4.11) and they are taking up increasingly complex tasks (especially GR).

Box 4.11. GR governance and main areas of action

The GR delegation has 97 members and it has a political board of directors composed of 22 representatives and 11 deputies. The chairman and three vice chairmen make up the board of directors. The board appoints management groups for different areas of activity within GR. Politicians are not elected to the GR board, but political parties elect people to serve on it themselves. Consequently, the representatives are "selected not elected." To ensure fair representation, the political representation is balanced for the overall region and board positions assigned to parties accordingly. The City of Gothenburg has even given up a seat to give more voice to the surrounding regions, which was seen as a turning point in the relationship between the city and the surrounding municipalities:

"Gothenburg does pay attention to the smaller municipalities. It's a good relationship between the different representatives of collaborating municipalities in general – we-need-the-others-attitude. Even though we [smaller municipalities] cannot give so much back." (Municipal representative)

The regionally balanced governance structure creates situations where the party in power in a particular municipality will have their own representative in the Association directly. "This makes it possible to have a Chairman of GR from a conservative party, while Gothenburg is more social democrat" (GR board member). This is both an opportunity and a challenge: on the one hand, it forces GR to look for consensus past party politics; on the other hand, it is quite challenging as the chain back to the municipal government is either strong or weak, and sometimes GR has to "work hard to make sure it is strong."

The different GR focus areas – education, social welfare, regional planning and environment issues – are directed by political steering groups that are supported by the GR departments. The departments have their own staff, most of them working full time but there is also temporary staff hired for special assignments or for shorter-term projects. In addition, there are many networks consisting of representatives from the municipalities that meet regularly and exchange ideas and experiences in order to develop quality. As such,

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very specific types of people join the organisation, as was described by one GR employee: "You tend to get the most energetic people who are interesting in doing more."

The Association is financed through membership fees (10-15% of the total revenue) and partly through income from conference and training sessions, special investigations, research projects, EU funding, initiatives at national level (that can be targeted to regional and local levels) and other joint endeavours with municipalities.

Source: OECD interviews, Gothenburg Region Association of Local Authorities (n.d.) webpage.

The task of the Association is to promote cooperation across municipal borders in the region, because, simply put: "people living in these areas don't care about municipal boundaries. We have to work together to give each person the same possibilities and same potential" (GR employee). GR enables local governments to explore ideas and experiences within the region by creating a platform that stimulates cross-municipality innovation processes. As part of the latter, GR's role is to pilot and experiment with new ways of securing social welfare within the region. Thus, the Association has become a de facto intermediary for discussing future scenarios for the region. GR does this by running development projects, creating and leading networks and stimulating constructive dialogue and debate within the latter.

Development of the collaborative approach

GR is a relatively small organisation with a long history. Yet, there are "no issues too big or small for GR, but it is not possible for GR to take over municipal work" (association member). The organisation and initiatives are very political and their ability to act is based on "tradition and trust." The model is a viable form of collaboration only if GR is able to demonstrate value added to its members and garner solid backing to act in a specific area. GR itself sees its greatest value in areas where there is a high demand for cooperation, even where individual municipalities have competing values and goals (Figure 4.7).

Figure 4.7. When and how is collaboration through GR useful?
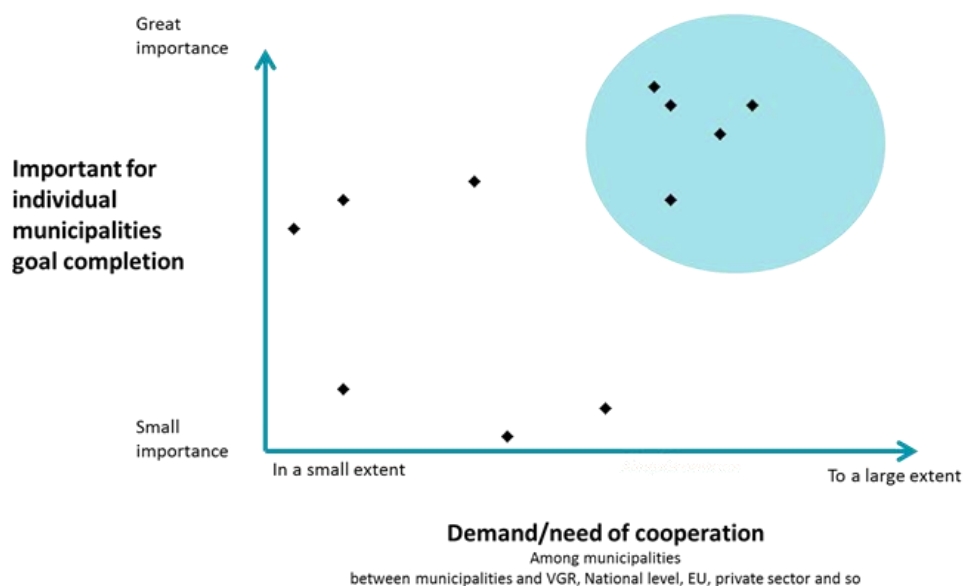
Source: GR presentation to the OECD, 2017.

While "almost every topic could be discussed regionally" (GR employee), GR concentrates on issues such as regional planning, sustainability, infrastructure and transportation strategies, education, etc. Currently there are eight challenges that GR is dealing with:

- good conditions and future for young people
- inclusive region with good living conditions throughout life
- lifelong learning
- housing and living (physical housing)
- balanced labour market
- sustainable environment
- infrastructure
- digital development and technology

GR can only proceed with new topics if the participating municipalities agree to do so. There is no hard power or incentives to use. The strongest thing the GR Board can do is make a recommendation to municipalities. The two exceptions are in the field of education (school admissions) and regional spatial planning where municipalities have placed some of the responsibility with GR. Outside of these areas: "We do things we agree upon, other things we leave out" (GR employee). Hence, GR's strategy could be described as "cooperation on the lowest common denominator" with the possibility that over time mandates and areas of collaboration can be stretched.

> *"What we cannot agree upon – let's avoid it, let's put it aside. We are gradually building the picture, build trust. And then you can stress and stretch how far you can go." (GR employee)*

This is a pragmatic strategy in the domain where no hard power exists to expand on the issues. The region can only go as far as the members are willing. As such, collaboration is "organic" in many ways, varying levels of co-operation and collaboration have emerged in different fields and are "backed by history." As GR relies heavily on outside funding, dependence on project funding has had an effect. Some areas that have been successful in fundraising (from the EU or elsewhere) can experiment more and expand their portfolios, while other focus areas have remained smaller. "Sometimes these [projects funded by outside bodies] will lead a municipality to become a shared service provider, especially with education programs." As such, in some domains like education (Box 4.12), collaboration has become more institutionalised and GR has taken over some of the functions from its members.

Box 4.12. Education cooperation in GR

The earliest form of formal collaboration in the region took place in 1947, when the municipalities surrounding Gothenburg found out that pencils were cheaper in the city. In 1950, 13 Directors of Education created an organisation procurement plan (starting with pencils) together. In the 1980s, several professional networks were founded bringing together Directors of Education, upper secondary schools' principles, Heads of Adult Education, etc. In 1995, GR was founded, from the merger of existing municipality networks from 1947 with the City of Gothenburg.

With the prior history of collaboration, joint actions in the field of education increased rapidly. One of the earliest piloted initiatives was the internet-based central admission for

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upper secondary schools in the region. In 2000, a joint international school was founded, in response to demand from large multi-national companies (e.g., Volvo). In the late 2000s, several large-scale projects followed, often funded by the EU. This allowed the education unit to grow from 15 to 90 people within GR.

In early 2010, municipalities put money together for a wider selection of vocational education and training for adults in GR. This had been preceded by a longer term collaboration buying all teaching material for all schools in the 13 municipalities.

At present, GR has 25 domain-based professional networks in the field of education. The meetings are fairly informal, in many ways facilitated by informal connections and friendships; though the decisions to recommend collaboration can be more formal. In the context of smaller municipalities "representatives often feel very lonely when on their own in the municipality." Not all recommendations are appreciated by all – there are many value trade-offs and directors all negotiate among themselves or with their networks to get recommendations to find common ground. One of the Chairman's explicit roles in the professional networks is to keep discussions at regional level. Every network has a secretary belonging to a department, but political networks/committees at GR normally do not have mixed network meetings with senior officers from the municipalities. They see value in not mixing roles (e.g., political and administrative), and want separation between regional and local thinking. The network secretaries serve as links to GR. These professional networks are important because they allow GR to reach into communities of practice and ask questions or attend meetings to see what is on the horizon.

In the field of education, cooperation agreements (usually for four years) are applied where municipalities voluntarily agree with the recommendations. With a cooperation agreement, admissions to upper secondary schools were ceded to GR in 1995. This means that students in the 13 municipalities can choose their own program and school no matter where it is located. It was the first region in Sweden to achieve this (many have followed in GR's footsteps) and it took a lot of trust to roll out the innovation.

> *"This worries smaller municipalities because they thought too many would go to Gothenburg. This happened, but many people also went from Gothenburg to other municipalities. Logical next step would be to do the same with preschool." (Political representative to GR)*

That did not mean that hard choices did not follow. Through the central IT system that was developed to carry out the system, GR had also great statistics on school admissions and retention. The organisation is very transparent with the former and publishes this information without obstacles from local governments. Municipalities chose to use this system voluntarily because it made things easier and more efficient and gave them better visibility for planning. Furthermore, privately run upper secondary schools (42% of the offer) have chosen to pay for the same service even though they do not have to. This has also meant that two large, but less attractive public schools for students have by now closed and from an individual municipality perspective this has not been easy:

> *"We closed our upper-secondary school. It was too expensive, too few people. It damaged the prestige of the municipality and was raised as an issue during the election. We paid the price for it in elections – it hurt us politically." (Local politician)*

Currently, the education unit at GR sees the need for more regional collaboration with industry. National steering documents only say that schools should cooperate with schools

> locally, but GR moves with the identified regional demand and is building more strategic partnerships with industry.
>
> Source: OECD interviews.

Yet through dialogue over time common ground can be built also in areas where GR does not have a historic remit: "we will still discuss things that aren't on the front burner so that maybe two years later they become our key focus areas" (GR platform lead). Thus, it is important to get topics on the table, allow the municipal representatives to "take the municipality hat off and think about the regional level." For this, platforms are established where municipalities can come together and exchange experiences; where decisions are usually not made, and questions are relayed to other groups or to municipalities. The common discussions contribute to what was described as the "shame factor."

> *"If we discuss something then some municipality cannot go against the group if all others say they will do it. You want to be part of the gang."*

Even so, representatives can forget their promises when they go home. The GR employees see that their key factor is "how to make them keep their promises when they go home?" For example, in the area of urban planning, which is a very important area for municipal development, the regional plan is made in agreement with municipalities, and then development and decisions are made within municipalities according to that plan. For example, in the field of transportation a clear direction was taken (K2020, Public transport development program for the Göteborg Region):

> *"We decided on five directions for train, bus and car traffic. We decided that everything we build should be within these five fingers [the main planned transportation lines are in five lines similar to a hand] for sustainable infrastructure so our efforts are complementary. This could not be possible without the trust-based relationships we have in GR, otherwise we can't trust everyone will stick to the main plan."*

Hence, the collaborative innovation model depends on the motivation of municipalities to adhere to the common vision, creating a feedback loop. At the same time, "there are many research teams and centres that are all competing for the attention of politicians. Collaboration is not that sexy for journalists" (GR employee). So, representatives have to internalise the issues discussed so that the trade-off between keeping to the regional promises and going their own way is more balanced and clear.

> *"Intellectually, we could solve the problems in a day, but when it comes to practice it won't work because we depend on people. People are different. We can only get them to the same point by talking together. Unless people understand the problems in their own stomach and their ear, they won't know how to solve it." (Political representative at GR)*

In some cases, the benefits and the impact to users are so clear that it is possible to quickly find a consensus, act and change conditions for the better:

> *"When the Chair of the Social Steering Group looked into the issue of special transport for the disabled in the 13 municipalities and was amazed that none had the same regulations or pricing. It was so obvious that people who designed the systems did not think disabled people would cross municipal borders. If this were*

the same for broader public transportation, there would be an uproar. So, he brought people together to make new policy to make all GR one 'voyage area' with the same pricing model. It doesn't affect a lot of people, but will be big for the people affected." (GR employee)

Getting beyond the low hanging fruit

Of course, GR's collaborative innovation model (based on lowest common denominator cooperation) also affects the type of work GR is able to do. Invariably, the low hanging fruit get picked first. Those wanting to see progress faster get frustrated: "GR networks don't work, and I don't know why" (GR employee). Thus, more difficult questions are ahead:

> *"I see the problem of low hanging fruit emerging. Lot of fruits have already been picked. Politicians haven't asked themselves tough questions – what is GR really for." (GR political representative)*

At the same time, politicians are very wary of 'scope creep' and the expansion of GR's mandate over time, because it invariably threatens their role and decision-making power in their local municipality context. Consequently, some cautious voices emerged warning against GR becoming self-directive and the possibility that the 'organic' development model may not be the most efficient or effective in the end:

> *"The risk is that the organization itself starts to invent missions on their own – to*
>
> *keep them occupied. They should be dependent on the missions that politicians give them. That is a risk with any political organisation." (GR political leadership)*

> *"Sometimes public organisations start to invent things to do, shop it to politicians, which then make it part of their mandate. Maybe things could be better allocated to more pressing issues perhaps in other areas." (Representative of the national government)*

It is clear that politically, some things would likely never be done at GR level under the current local governance model in Sweden. In time, things may change of course, as public policy problems become increasingly complex. Then again, there are some political disparities between the regions that make some topics almost impossible to discuss on a consensual basis. As described by one of the municipal leaders:

> *"The Green Party is very influential in Gothenburg, but nearly non-existent in the*
>
> *other municipalities. It is their interest to keep decisions at local level. An example is that we want a bridge to a neighbouring municipality (currently a ferry route), and it would require roads in some other municipalities. The Green Party doesn't want the bridge, so, they can block the issue from going to GR."*

At the same time, GR has been able to invest in future oriented activities in various forms (e.g., Box 4.13). They try to build partnerships with research communities for future thinking as this is an area where municipal capacities are lacking. One stakeholder described it this way: "If forecasting exists, it is not permeating the cities and their organizations." It is very hard to get people to move beyond knee-jerk reactions and think about the future instead.

Box 4.13. Exploring the Future: Mistra Urban Futures

"Public organisations tend to think about the collective wellbeing of people. Universities tend to be more about single careers. These cultures tend to not speak well with each other. There is different vocabulary for common things, even different logic of understanding things. Mistra's challenge is to be an interpreter and translator." (Gothenburg project coordinator)

Mistra Urban Futures (MUF) is an international research and knowledge centre addressing the issue of sustainable urbanisation. Since 2010, MUF has funded the Gothenburg Platform involving seven different organisations (City of Gothenburg, VGR, University of Gothenburg, Technical School of Chalmers, Research Institute of Sweden, Swedish Environmental Institute, Transportation Authority and GR). The aim of the platform is to create a meeting place between research and practice. GR uses the network of Mistra Urban Futures to identify and explore future areas of interest connected to sustainable cities.

The Platform co-funds collaborative projects in the domain, if they meet the criteria of the Centre. The four basic principles for the projects are that they should be transdisciplinary, based on co-creation, have broad funding and involve international cooperation or anchoring. The initiatives for projects may come from partners or other stakeholders, but they have to be supported by at least two platform partners. In concrete projects, they try to pair an academic with a practical project employee. The programme has changed over time and shifted towards seed financing, smaller projects and building networks with both practitioners and academics. Currently, it has a number of scientific projects (e.g., Knowledge Agenda) where important questions for future city development are identified.

Mistra Urban Futures Gothenburg Platform has also launched an open research school based on transdisciplinarity and co-creation. The research school aims at working closely with researchers from different disciplines and is based on the Mistra Urban Futures research agenda: to construct fair, green and accessible cities. The Gothenburg Platform is part of an international network of platforms where knowledge and experience are exchanged and shared.

Starting from 2019, Mistra will no longer give economic support and is currently discussing the road forward.

Source: OECD interviews; https://www.mistraurbanfutures.org/en/lip/gothenburg

Advancing regional collaboration is, thus, possible as it is another area that is not threatening to the day-to-day politics of local governments. Planning for the future in areas more closely connected to concrete value trade-offs (e.g., the coastal plans where the interest of use and protection have to be balanced) are much more difficult, especially if they are too concrete or force municipalities to move faster than they are willing. Thus, GR starts with long-term directions that allow space and time to think about long-term goals.

"GR wanted to have a hand in coastal areas; funding was available from us for coastal work, so it made sense to join forces. A few municipalities didn't initially see value of doing it this way at first, but they didn't put up a lot of resistance with outside funding available. The process won't end up in regional plan, but it will be a knowledge platform with a directive component. It raises awareness that these issues need to be taken into consideration with comprehensive plans; it illuminates the gaps that should be reflected in the plans. This signals that there is political

will to support these activities." (Representative from the Swedish Agency for Marine and Water Management)

Putting these topics into knowledge platforms where only soft power is used and no direct decisions are made allows them to concentrate on information sharing, enabling conversations that usually do not happen in municipalities:

"It is the most important thing: if you are working on a specific topic in a municipality, you are likely the only one. It is important to have a place to convene with others working on similar issues to discuss and exchange ideas. Then everyone is on the same page. Otherwise, it's too easy to blame other people because it's hard to see others' challenges and actions." (Public official)

Nevertheless, outcomes of these knowledge platforms vary greatly based on participants. "People will gain knowledge, but it doesn't tend to relay upwards. More horizontal than vertical. Some pieces certainly work upwards, but not generally" (GR collaborator). Funding these kinds of collaboration methods is also problematic. GR does not have discretionary funds for these kinds of activities for the most part. Platforms are mostly financed by outside bodies, e.g., the county.

Crisis as a source of collaborative innovation

While previous sections outlined the 'organic' model of collaborative innovation in GR, things can also happen much faster through exogenous forces disrupting the system. A good example of the latter is the GR's role in the response to the recent refugee crisis, where in the context of divided responsibilities (Box 4.14) - between national and municipal level - the refugees' needs must be met collectively.

Box 4.14. The changing responsibility of migrant integration

The acceptance of refugees has changed over time in Sweden, which is reflected in the governance narrative of integration policies. Since the mid-1980s, Swedish municipalities have had broad responsibilities for refugee reception. Sweden also used to have a National Integration Agency, but it was abolished in the mid-2000s. Until 2010, most of the integration-related tasks lay with municipalities; however, in the beginning of the decade the main responsibility was transferred to the employment agency. This fragmented the accountability for integration outcomes:

"The previous government thought integration was a by-product of work, so no agency was needed. When this happened "everyone turned to us" even though we don't really have an official integration role." (Representative from the Employment Agency)

"I think that the government saw the labour market as the most important question. Thought it was better that the original agency work with the refugees, but municipalities had a role to play in housing, social care, etc., so responsibility got broken up into two different organisations." (Local government official)

The employment agency is a fairly large organisation, but is under strain from its variety of tasks. During the crisis, it became clear that work and thus the agency's specialisation

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was not enough to meet migrants' needs especially when the refugee volumes increased substantially.

> *"The change away from municipalities to national level in 2010 did not really improve things. A lot of variables played a role mostly, of course, the migration level, so, it's hard to know if it would have been better without the big influx in migrants. The track record was better before."* (GR employee)

The state got most of the blame for a lack of a well-coordinated response: *"Right now people blame the state and Public Employment Agency because they have the responsibility. Before, people would blame the municipalities because they had the responsibility"* (GR collaborator on migration). In practice, where the immigrant lives (municipality, county) became the focal point. Municipalities started to step up more and take the main responsibility. As was described by one of the stakeholders:

> *"By now politicians speaking openly about how the employment board is not living up to expectations. Partially this is because immigration is becoming a fact of life and municipalities get more used to dealing with migrants."*

In 2015, the government (with some lobbying from municipalities that previously had the highest numbers of migrants (generally cities)) changed its regulations on the distribution of migrants. From 2016 onward, the Migration Agency distributes adult migrants to all of the municipalities based on a county quota. Before, it was voluntary and the County Administration Board negotiated with municipalities to accept refugees. Challenges in labour, housing, education and transportation are significant in the rural areas because they take many more refugees per capita. In addition, in accordance with the new act, municipalities need to arrange housing for refugees (who have a residence permit to stay) in addition to other social welfare services. There is also a two-year special programme for adult refugees in which municipalities became responsible for civic orientation and Swedish language courses. The County's administrative boards report to government on the progress of integration. No one has responsibility for overall integration, which led to one of the interviewed experts to ask:

> *"Who is ultimately responsible? The issue is a national responsibility, but the national government is dependent on the municipalities because that is where people live. There will always be a discussion about money (municipalities think they don't get enough money related to impact and the level responsibility. The pendulum keeps swinging: municipality to the employment agency and now moving back to the municipality."*

Source: OECD interviews.

During the refugee crisis, municipalities needed to adapt quickly to new rules and learn about changing needs. Furthermore, they needed to learn how to deal with acute problems. It quickly became clear that even the biggest municipalities in the region could not do it alone and, thus, collaborative innovation on the regional level was needed (Box 4.15).

> *"Learning together in complex, difficult, and ever-changing situations was key. It wouldn't have worked if everyone else assumed it was someone else's problem."*

Box 4.15. Regional collaboration during the refugee crisis

The inflow of refugees was acute in the autumn of 2015 – in that year close to 163 000 people sought asylum in Sweden with over 35 000 children without a guardian among the numbers. This—for a country with a population of 9.9 million—was a great challenge. Within the Gothenburg Region, the biggest strain was on the municipalities Mölndal and the City of Gothenburg (i.e., where migrants arrived in Sweden). While migration is not a new issue for Swedish municipalities, the volumes were unprecedented. Furthermore, their countries of origin (primarily Afghanistan and Syria) were slightly different. This introduced new challenges to municipalities as they needed to evaluate the needs of the refugees.

Municipalities were faced with new and growing needs that they were not prepared for. Both strengths and weaknesses in different municipalities became magnified. For instance, where the housing shortage was high before, then the problem escalated further. The education system was tested, especially due to language skills needed and the need to validate professional skills and grades of migrants. Not only municipal agencies but also national agencies were under strain (Migration Board, etc.), which added to the processing times of migrants. Overall, social services, the education system and primary care were all areas that had to adapt quickly. This was not only an issue for the smaller municipalities in the region, but also for the bigger ones as well:

"Gothenburg had been dealing with refugees before, while the others did not have as much experience with it. But now they [Gothenburg] were being flooded and didn't know how to respond. So it made sense to roll up things at a GR level." (GR collaborator)

In October 2015, the Federal Board of the GR approved 30 different measures from tactical to strategic (housing, education, community development etc.) to intensify efforts to strengthen refugee reception. This gave them the mandate to do new things and started the "creative process" to find solutions.

"Board did this because GR had earned trust in their ability to successfully do big things. And the regional level was here of special importance: e.g., it is not possible to arrange 500 beds in one night for children at a municipal level. This requires a regional approach. If not regional, would just fall on Gothenburg, but even the biggest city can't absorb it all." (GR platform coordinator)

Not being at the centre of immediate demand directly from refugees, GR took on the coordination and new roles within the process. They established a small consultative group to rapidly respond to demand, which was especially useful during the emergency phase. GR used their established education networks to help cope with the huge influx in 2015. They identified what was needed and was going on in each municipality to help decide what to do in short and long term. After the crisis, GR turned to more regular structures and working methods.

After meeting the urgent demand, collaborating with civil society in integrating migrants with the general population became very important:

"GR doesn't work directly with inhabitants. It works with municipalities and officials. Their work generally doesn't involve absorption of migrants into general society, though they do help to convene relevant players who do work in this space. It is mostly left to civil society." (GR platform participant)

GR created two platforms, one for unaccompanied minors and the other for adult refugees. While connected topics, it was seen as helpful to keep them separate as different municipal workers were involved and sometimes extremely specialised issues had to be tackled. Different laws applied depending on different people (depending on age, whether someone was an unaccompanied minor or with a parent/guardian). For unaccompanied minors, the discussion had already started in 2014 when it became a bigger issue. Thus, the push to start platforms came from the municipalities themselves. This was very helpful because it allowed them to scale up quickly due to these relationships that already existed. All municipalities wanted to join a platform. In September 2015, a platform working with unaccompanied minors was created by the County Administration Board, the Migration Agency and municipal employees. The platforms meet 2-3 times every half-year (about 4-6 times a year). The frequency is similar to that of other networks in GR. However, subgroups are very active in between meetings.

Various issues are explored via the platforms, including topics related to unaccompanied minors and adult refugees. For the first, housing is a major topic of discussion. In fact, the GR has created statistics and demographics, and analysed rules connected to guardians and their funding. It was a difficult topic to tackle because legislation changes all the time (e.g., new law resulted in providing less money to municipalities, which makes it more difficult for municipalities to adapt).

Collaborating on the Civic Orientation courses (now compulsory, provided by all local governments to refugees) has been the platforms' biggest tangible success. All other municipalities in the region now use the Gothenburg course infrastructure and provide funding directly to the city. Most other municipalities are too small to provide courses or it simply becomes too expensive with small numbers of participants, especially when it comes to the right to take a course in one's mother tongue.

Awareness of services is something platform participants identified as something that could be strengthened. Communication channels are also not transparent in this flexible format of collaboration so it is not clear if messages make their way to all municipalities. Hence, the overall sentiment is that the migration issue has not "moved" to GR level. GR is where the discussions take place, but it does not have formal decision making power, only providing recommendations to municipalities" (GR platform member).

Source: OECD interviews.

While previously the belief was that the ordinary structure would also accompany refugees, special arrangements for the latter were created during the crisis. Accordingly, arrangements were made at the regional level. "It has moved a bit towards having a separate service ecosystem for the refugees." And yet, most of the work has been reactive and not pro-active, managing the problem instead of preparing a long-term solution. One of the GR platform participants described it as follows:

> *"There is a tendency to treat this as "problem solving" rather than planning ahead. It's about reactive, backlog, with negative spin that immigration is a problem to deal with rather than a potential positive that can be worked with."*

Hence many systematic problems remain in housing (people get stuck in temporary housing as not all municipalities comply with the law given the lack of penalties), labour market participation and language skills, which all contribute to negative integration outcomes:

> *"As it's arranged now, immigrants are funded by the state for two years, then expected to be self-sufficient. If they aren't, municipalities are responsible for social welfare. This period should be a bit longer. Adjusting to the Swedish labour market may take longer."*

> *"The Employment Office says not to come until you speak better Swedish. So people give up and take money from social care. Then after two years, so many doors close, and then you have to take social money but then can't participate in education because they only can take money from the 2-year funding."*

> *"There are very few who have been able to enter the labour market in that period of time."*

Furthermore, there are significant challenges connected to unaccompanied minors when they turn 18 – the transition services are lacking.

> *"When children turn 18 they lose eligibility for a lot of benefits. For example, they may be forced to move because they are no longer entitled to the same housing. People sometimes will choose to be on the streets rather than relocate to housing farther away." (GR platform participant)*

Even in the regional setting, municipalities are not organised to deal with complexity: "People want a quick response, but the way we are organised does not allow for a quick response – that is our main focus for the moment" (local politician). There could be many opportunities for GR to compare practices in the field with other cities where they are doing more work with private sector and civil society. GR could be a platform for this type of collaboration, which would hopefully also allow them to look into more systemic solutions for integration. Thus, GR itself self-identifies the need to "be flexible, but try to fit our flexibility within a strategic structure."

Collaboration beyond the region

Citizens' needs do not end when they cross regional borders. As such, state agencies are interested in using GR more as outreach, rather than discussing with each city and municipality individually. The county works with GR to help shape relevant parts of its agenda. For example, the county wants employment agencies and municipalities to enter into agreements to help refugees find work. For them, GR is not just a vehicle to get the message out, but a service developer in its own right as "municipalities are too small to have their own successful programs (e.g., language courses)." The county also provides some of the funding, because GR allows for a "more sophisticated cooperation among municipalities" from the counties' perspective. However, "GR must be careful to be working for the 13 members and not the counties. Their ambitions and plans are the grounds for GR's work" (municipal representative at GR).

At the same time, the Association has been known to try to use its weight to change national laws and regulation clarifying grey areas for its action through national legislation. The pressure to speak on behalf of all members for all questions is difficult for GR and they cannot do that even if smaller municipalities would want them to do so - as the City of Gothenburg undoubtedly wants to hold on to its decision-making power. Currently, as mentioned above, GR's remit is rooted in history. The only exception is healthcare, where GR asked for a mandate from members to be the negotiating party against the county for healthcare decisions. Members approved as long as someone from Gothenburg was part of a negotiating team.

While there are things certainly happening at the county and national level, there is a distinct lack of planning models beyond national boundaries especially in the Western Scandinavia area (OECD 2018). For example, one GR employee argued: *"right now, Norway is not considered even though there is a need to collaborate. Planning should not stop at the national boundary."*

Impact and main challenges for the future

As outlined above, the collaborative innovation model described above starts with the smallest common denominator and builds and extends consensus by collaborating across municipalities. To some extent it contributes to bringing down silos for information sharing and collaboration in the region.

> *"Since GR has full-time workers who can find information from national and municipal governments, and support the municipalities, the GR services and collaboration are very helpful. It is impactful; it allows people to find a "common denominator" to work on together." (Public officer from a smaller municipality)*

With GR, the right "administrative infrastructure" (i.e., the "variable geographic logic" that makes regions more functional) can be explored. This means that different questions (such as allowing young people to choose a school in any municipality) can be explored at different levels.

> *"Sometimes here people call for merging the 13 municipalities into one city, but geography gets in the way. The key is to decide which questions are best for GR-level and which are best for municipality level." (GR leadership)*

The local level is where people live and hands-on interventions are needed. Yet, the regional level seems to serve as a strategic platform, where different organisations and municipalities can come together. It assists in connecting the smaller pieces, and experts across municipalities while avoiding duplication. It helps to "know who to call and get in touch with when you have idea or something you want to do." Within GR, politicians can dare to be bolder and less risk averse versus their regular political work within the confines of bureaucracy.

Yet, GR probably needs to become better at playing a more sophisticated multi-level governance game; it is part of the evolution of the model.

> *"GR is at a point where all low hanging fruit has been picked. We need to sit down and decide what is the purpose of GR? What do we need to do now? Don't think they have asked themselves that question, but if they did, it would be very fruitful. They don't dare ask themselves that question." (GR collaborator)*

This might entail more explicitly defining the field of interests and taking new initiatives. Already during the last big consultation (2014) on the continued economic growth in GR area, the Association visited all 13 councils starting with informal discussions. It was clear people were more comfortable talking mainly about physical infrastructure, than softer services and values. *"We learned that it's much easier to talk about physical infrastructure than things you can't touch (e.g., education)" (GR employee).* Yet it has importance and therefore, GR had to create ways to bring it to the fore: so, to force people to reflect on other topics GR came up with discussion document, a talking guideline. However, it remains unclear what the next steps in the evolution of the collaborative innovation model will be.

Seoul 50+ Policy – Redefining the Meaning of Work in an Aging Society
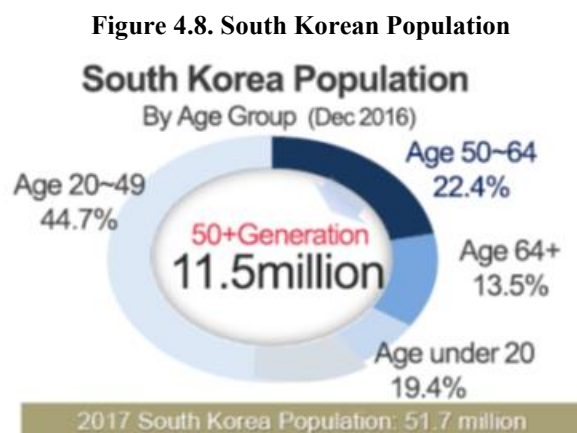
Summary

The 50+ policy is one of the Seoul Metropolitan Government's social innovation models created to help Koreans in their 50s and 60s to create new life and work models appropriate for them in their later life. The initiative originates from the civic society and is geared towards a new demographic of well-educated retirees entering their "second life." 50+ campuses, centres and connected initiatives provide comprehensive support to the 50+ generation from life-training, emotional support, cultural experiences and also retraining for continued employment. As jobs are scarce (and will be even scarcer in this age of automation) the initiative also aims to redefine what haveing a "job" actually means.

Context

Korean society is rapidly heading towards the "Homo-Hundred Era", centennial society, with the super-elderly part of the population soaring. In 2000, Korea became an aging society with 7.2% of the population aged 65 or older. In 2017, the country entered an aged society (14.2%) and should be a super aged society by 2026 (20.8%).[8] The nation's speed of aging is three times faster than other countries that have entered into an aging society phase before Korea. As the working-age population is continuously decreasing, intergenerational conflicts emerge due to growing fiscal burden on healthcare, social welfare and pensions. The 100-year life after a period of 25-30 years of economic activity is not feasible in the current socio-economic setting.

Concurrently, a large Post War demographic group, the main labour force behind Korean economic growth – the "Miracle of the Han River" – is reaching retirement age. The large-scale wave of baby boomers approaching retirement is creating a serious social problem. The demographic trend will span 30 years and three generations: those born from 1955 to 1963, from 1968 to 1974, and from 1979 to 1985. Currently the 50+ population (aged 50-64) constitutes 11.5 million people, which is 22.4% of the entire population of Korea.

Figure 4.8. South Korean Population

South Korea Population
By Age Group (Dec 2016)

Age 20~49 44.7%
Age 50~64 22.4%
50+Generation 11.5million
Age 64+ 13.5%
Age under 20 19.4%
2017 South Korea Population: 51.7 million

Source: Seoul 50+ Foundation of the Seoul Metropolitan Government, Seoul, 2017.

In Seoul alone, there are 2.19 million people in this age group. These population groups are highly educated professionals with differing values from previous generations – they have been the main force behind the economic development and democratisation of Korea. Thus, they have been known to dedicate their life to work, which was required from a generation dedicated to rebuilding the country's economy. This means that many in this

group derived their identity from their profession or company they worked for (job-for-life) and spent exorbitant hours at work. Retirement for them means an "identity crisis;" high levels of insecurity about what life will look like afterwards and fear about financial sustainability during retirement: "I am insecure", "I have nowhere to go," "I want to work" (Needs assessment of 50+ generation 2015). They are looking for a variety of things from their retirement age: a "second job," leisure and communication and have strong self-development needs.

> "*In the existing model, everything becomes worse after retirement: your identity disappears, your family relations get worse and you have much less money." (A member of the 50+ community)*

Thus, they are distinct in many ways and the current welfare system does not address their complex needs. At the same time, the group's experiences, capabilities and participation in the labour market are seen as a solution for an aging society.

In this new life phase, many people feel they do not fit in anywhere: *"There is a lot of concern about the future. People are too old for young people, too young for the community senior centre."*

Figure 4.9. Characteristics of the Seoul 50+ Generation
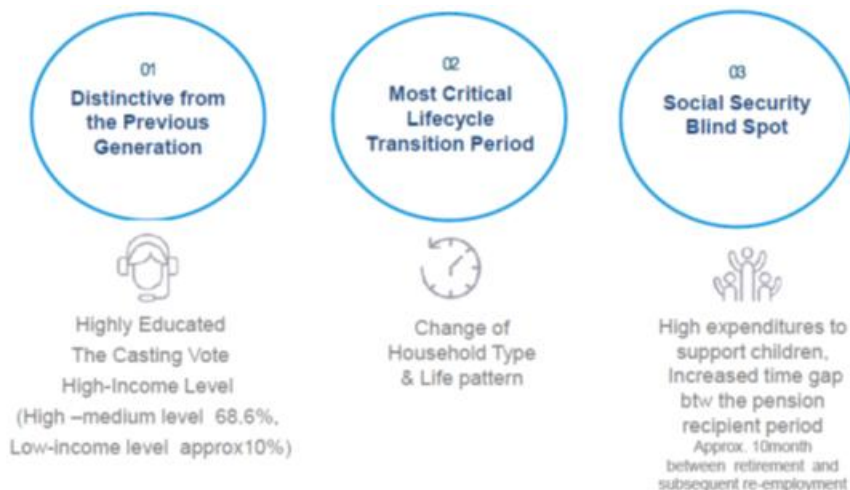
Source: Seoul 50+ Foundation, Presentation to the OECD.

In Europe—and elsewhere in the world with aging populations—the policy reaction has been to increase the retirement age to keep the able elderly in the labour market longer. Korea has also recently amended its existing legislation on retirement, raising the minimum normal retirement age to 60 in 2013. Yet it is common practice in Korea to set a mandatory age of retirement well below the age of 60, often as low as 55. The official retirement age is, in reality, only followed in the public sectors – i.e., public officials, government/local authorities affiliated organisations. Despite the legal retirement age, contracts in the private sector, especially for senior management positions (late 40s or 50s), are sometimes switched to a short-term contract. Sometimes these individuals are reassigned to trivial jobs, which is a not-so subtle hint that they should leave the company. At the same time, older workers continue to work well beyond their retirement. In Korea, both men and women leave the labour force for good at, on average, 72 years of age (OECD, Older

workers scoreboard, 2016), which is higher than in many other OECD countries. Consequently, the average age of actual retirement, particularly in the private sector, stands at 53. In other countries with similar issues, the trend to ensure "continuous employment" makes older workers accept lower wages – often significantly lower (Ujikane, Kuwako and Schneider, 2016). Those individuals retiring in their 50s and early 60s, the 50+ generation, (an age group between 50 and 64) are also excluded from various welfare policies. Moreover, the retirement benefits for many do not allow people to maintain the same living standards as before. Consequently, pensioners are at risk of falling into the low-income strata.

To complicate matters further, the nature and availability of jobs due to automation is increasingly changing. The unemployment rate is rising in Korea, standing at more than 1 million for a 6-month period in 2017. In particular, the youth unemployment rate reached a record high, and some statistics indicate that one out of every three young people is de facto unemployed. This situation is unlikely to improve in the immediate future as different industries worldwide are facing de-industrialisation and the movement of jobs to the service sector, leaving both older and younger workers competing for jobs.

Setting up the 50+ policy

The 50+ initiative was first set up by the Mayor of Seoul, Park Won-soon, who had a long history in social justice and human rights activism. He established the Hope Institute in 2006, as a think tank designed to promote grass roots solutions for social, educational, environmental, and political issues. When he was elected Mayor of Seoul in 2011, collaboration with civil society came to the forefront of policy development. With the change in city leadership, the civic initiative outlining the limitations of welfare resources, sustainability and participation for the 50+ generation was brought into the public realm and the city started working on the problem. One of the city officials described it as follows:

> "It was fortunate that the mayor supported the program and was personally interested in it. Mayor Park has a background in civic engagement and worked with a different NGO, the Hope Institute that began educating the elderly [i.e., the Baby-boomers] in 2006, so, more than 10 years ago. He had a lot of ideas about how to prepare the elderly for their later life."

As the 50+ generation has markedly different needs compared to previous generations of elderly people, the work started with problem definition and needs assessment. First, the city analysed the civil society-led 50+ initiative from 2006. Based on the aforementioned Comprehensive Plan for Baby Boomer Support, created in April 2014, with five areas and 25 detailed tasks. For broader buy-in, the Policy Forum for Seoul's 50+ Generation was held during the development of the Comprehensive Plan.

Box 4.16. 50+ policy

The 50+ policy is a convergence of social welfare, employment and life-long learning policies geared towards the needs and characteristics of people 50-64 who have retired, but wish to remain active and participate in community life. This group has specific characteristics that go beyond traditional welfare programmes. However, the policy provides more comprehensive support and also deals with the practical and emotional aspects of life transitions (e.g., offering cooking classes for retired men or overall life-transition courses for newly-joined members). It represents a one-stop-shop, offering tailor-

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made counselling services, education and jobs models for the 50+ generation with the aim to also promote intergenerational exchange. Thus, the mission is to improve the quality of life n, produce a shift in perception of the image of the elderly and enhance social participation and sharing in society.

The 50+ policy is run by the Seoul 50+ Foundation, its "policy control tower" and managed by the special division in the Seoul Metropolitan Government (SMG), i.e., the Post-Retirement Support Division. The Comprehensive plan is managed by the SMG and the Foundation is the main implementing body. The SMG plans to populate the 50+ policy with six 50+ campuses (three of which will be running by the end of 2017) and nineteen 50+ centres across Seoul by 2020 (the latter are contracted out and co-funded by the SMG and autonomous regional districts). 50+ campuses are post-school support centres for the preparation for life transitions offering systematic interventions including education, employment opportunities and cultural opportunities. There are also activity spaces to provide guidance for 50+ at their local communities – the operation of these centres is outsourced by the city of Seoul.

Source: Seoul 50+ Foundation case description; presentation to the OECD.

At the end of 2014, a more comprehensive needs assessment on post-retirement support for the 50+ generation was carried out. It was clear the 50+ generation was not only a policy subject, but also an active social agent with considerable power in society, in a position to possibly drive positive social change. However, due to the position the generation had in society, the initiative was critiqued "Why direct resources to them? They are not the poorest segment of society." The Mayor had to defend the idea in political debates: the policy was designed to create a possibility for the 50+ generation to contribute to society with their experience and skills rather than becoming a welfare recipient themselves.

> *"In the beginning the mayor had a hard time. A lot of people didn't understand the initiative. The City Council didn't understand: there are so many poor people in our society, why target the 50+ middle class. There are so many poor people who need this money more. But Mayor Park really convinced them: we need to prepare the 50+ for later life, otherwise they will in 10-15 years become poor too."*
> *(Member of the 50+ Foundation)*

To debate the conflicting values and engage stakeholders in the process, a series of public hearings and meetings (such as with welfare institutes, life-long learning institutes, universities and companies) were organised during the summer of 2015 in addition to expert advisory meetings on the 50+ policy of the Seoul Metropolitan Government.

While there was a general consensus that the needs of the middle-aged group differentiated from the more senior population, no single effective solution was agreed upon.

> *"The preparation of the program was hard – to form the vision, philosophy behind the approach. There is no similar organisation elsewhere in the world to get information from. So we talked and talked." (Member of the 50+ Foundation)*

In August 2014, the city studied how it could set up a 50+ Foundation and 50+ Campus and a feasibility study followed the next year. There was already a Seoul Welfare Foundation in place, specialised in elder care. The city considered various factors – public nature of the problem, publicness, sustainability and other policy features (importance of networks, cooperation across sectors, attribution) – and chose to create an independent

public organisation, the Seoul 50+ Foundation to take charge of the problem. A clear division of roles and functions was made with the previously existing organisation, which continued to focus on older (over the age of 65) retirees with different needs. Inside the city administration, the needs of the 50+ generation would have competed for attention with traditional constituencies. The Seoul Metropolitan Government established a new Post-Retirement Support Division to also support the work and focus more on 50+ policy problems, issues and solutions.

Box 4.17. Methods and techniques applied to define a demand-based 50+ policy

As the 50+ generation could be seen as a group with specific needs different from prior generations, it was crucial for policy makers to understand the needs of the group. Thus, the policy process was designed deliberately to include the 50+ generation into the policy formulation as much as possible. For this, a variety of methods and problem solving techniques were applied:

- Demand analysis. Qualitative information about the 50+ needs were collected through policy conferences, public forums, public hearings and outreach activities. In addition, more formal survey research and needs assessments were conducted (including information from focus group interviews categorised by income, residential area, 50+ group meetings, etc.).

- Stakeholder coordination and mediation. The Seoul Metropolitan Government organised various meetings with 50+ related public, non-profit agencies and organisations to discuss diverging opinions and issues related to the policy.

- Expert meetings. The Expert Advisory Group was put together to conduct in-depth research and provide professional input, guidelines and insights into the Foundation plan, 50+ campus activities and their design.

- Data analysis. Statistics were compiled to identify the characteristics, status and needs of the 50+ population on the national level and compare such data with other countries.

- Institutional and policy analysis. Overlapping or similar support measures to the 50+ population were identified (services available for different entities, income levels, jobs, health and social participation) to design an effective implementation system that would work conjointly with the city's policies and also national policy landscape.

However, as the 50+centres, which are different than the 50+ campuses, were planned at the autonomous regional level in Seoul, this governance level had to be consulted as well. The regional level did not understand the urgency of this issue. As a result, only a few autonomous regions with strong political leadership signed up to participate in the initiative (interest has increased since then and three more 50+ centres are planned; and by September 2018 five in total were functioning). In establishing the 50+ campuses, regional needs are also taken into account. As such the Foundation follows a "Different, but Together" strategy: there are specialised approaches for each campus (e.g., startups and job creation; community and university, ventures and enterprises; culture industry and intergenerational programmes and public jobs) based on local conditions and environments. The 50+ Foundation operates and coordinates the activities and the campuses are open to all Seoul residents all over the city.

Figure 4.10. Different, but together – established 50+ campuses

Moreover, a Post-Retirement Support Implementation Team, which is affiliated with Seoul-affiliated was created, including 50+ programme experts and experienced personnel to differentiate and coordinate the roles and responsibilities between public officials and 50+ experts. This structure helped to coordinate research, content development and solutions between different bodies. Coordination was especially needed with elder welfare institutes to avoid overlap of welfare services. For this, a consultative group was set up to build a long-term cooperation system.

A further complication was that the SMG had to get approval from the national government to establish a city-affiliated agency, which meant additional consultations and deliberation with the national government. Given the newness of the policy, it was not easy to gain full support by the government in the initial stage. However, with Seoul's Forefront Initiative, the national government has also announced a cross-ministry initiative 'A Plan to support the 3rd Act of Life for the New-Middle Aged' in 2017 which provided a basis for national replication. Consequently, after change in administration in May 2017 on the national level, 50-60 Generation Policies are actively being promoted, especially in connection to creating jobs and establishing a social safety net programme for 50+ generation.

Nevertheless, with other city-level support structures in place, in mid-2015 special regulation for Post-Retirement Support for the Middle-Aged was passed by the city council. In October of the same year, the Seoul 50+ Foundation was established with the legislative status and financial support of the city. The 50+ policy platform will be developed in three phases. In the current introductory phase (2016-2017), the Foundation was developed, three 50+ campuses were opened and various pilot programmes launched. In the growth stage (2018-2019), the programmes will be scaled up. Finally, in the mature stage (2020 onward) the policy programme should enter into a more stable development stage.

The distinctive nature of the 50+ policy

The nature of the dilemma is that while 50+ generation is subject to policy support, they also wish, and have the capacity, to contribute to society. Thus, the city has to change its perspective on how it interacts with the group: they are not only passive welfare recipients, but part of improving their wellbeing is to become active in social and economic life. Nevertheless, they need help with their role change in society that for many can be quite

traumatic. This requires a distinct welfare policy that addresses both the short- and long-term needs of life transitions. According to Peter Laslett's (1987) book "The Emergence of the Third Age. Aging and Society": 50+ policy is preventive in nature. Indeed, it attempts to prevent social problems from emerging as pensioners live longer and longer after retirement.

The nucleus of the innovation is a comprehensive 50+ infrastructure planned across Seoul. This includes the establishment of the Seoul 50+ Foundation (the coordinating body), and several 50+ campuses and centres built on multi-sectoral collaboration. Nineteen 50+ centres are planned for city districts by 2020 and five centres are currently in operation. As each city district has different characteristics – ranging from densely populated neighbourhoods to university or office areas – the centres will reflect specific, local features and needs. The campuses are bigger one-stop-shops offering tailor-made services including counselling, education and new job models, and intergenerational exchange. Six 50+ campuses are planned by 2020 and three are currently in operation.

This infrastructure provides support and cultural spaces for the 50+ generation to interact among peers, drive change and generate needs-based services for one other. It goes beyond traditional policy interventions, providing more comprehensive support and dealing with the practical and emotional side of life transitions. Half of the courses offered at the campuses are initiated and designed by the 50+ generation and the target group also provides peer-to-peer counselling. As the older generation becomes a large market segment for services, Seoul's 50+ policy helps the demographic group and generate self-initiated projects and work opportunities. In essence, the social capital of the target group is used to cope with aging issues in society.

The 50+ programmes start with comprehensive counselling which can be followed by other customised services from capacity building and education programmes to volunteering to job opportunities and community activities (Figure 4.11). The road usually starts with an introductory course on redesigning life (in 50+ Life School), leading to community activities (small group activities, research groups, local action groups, talent volunteering), new employment opportunities (new job, jobs for social enterprises); it could also including starting an altogether new business, cooperative association or social enterprise. These activities are mutually exclusive. The aim is to set a new life vision, reflect on the changes in work, money, relationships, health, etc. after the age of 50.

Figure 4.11. The 50+ policy service model
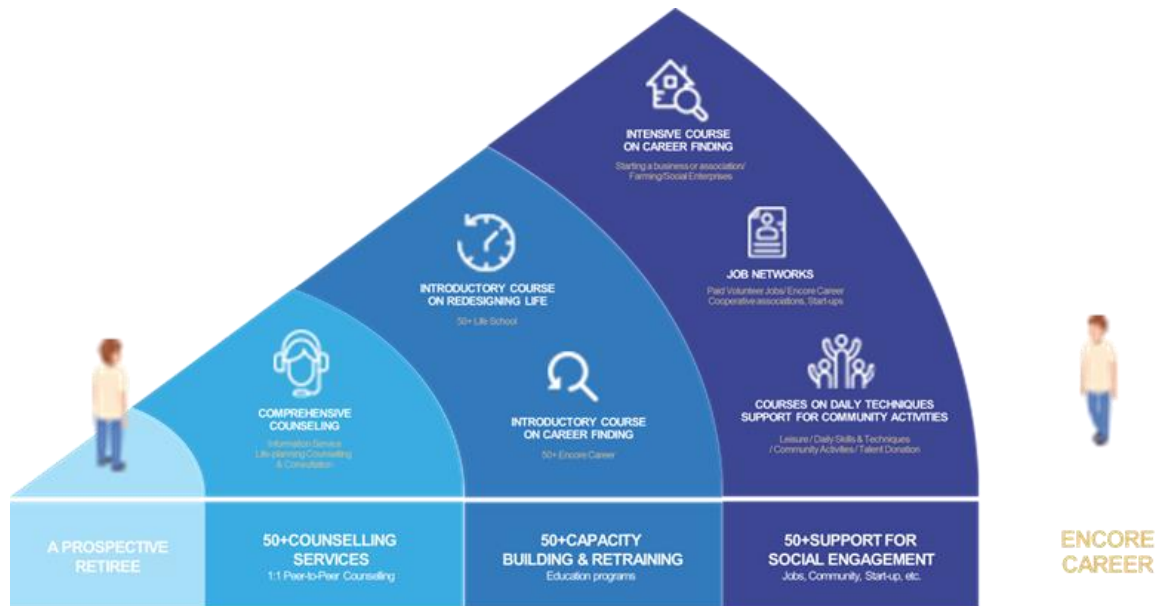
Furthermore, Seoul 50+ policy tries to redefine what work in Korean society means for an entire generation that has dedicated itself to rebuilding the country. The initiative tries to connect the population's broader interests and social aspirations with job opportunities and new types of employment in the form of an "encore career". This implies continued work opportunities across projects, not just "belonging" to a single employer. This approach also enables the 50+ demographic to build social connections and find new ways to serve their communities. It allows them to make the most of this time of life, while also continuing to earn an income, acquire new personal meaning and have a social impact. Thus, as described by one of the 50+ community members: *"The second career is not just about income, it is about personal interests and social meaning. It is about changing our work-life paradigm."*

Furthermore, these new types of employment and networking opportunities help individuals in the community break free of life-long hierarchies they have experienced: "Before joining the 50+ life school my life was in a hierarchy – career and family. I did not connect with people on the same level. This is a new type of networking and interacting."

The Seoul 50+ policy creates and promotes new 50+ job models for the public and private sectors, by expanding socially meaningful job models through paid volunteer jobs ("Boram jobs") and operating 50+ start-up venture competition, incubation and encore out-placement programmes. 50+ consultants are in fact volunteers themselves. The aim is to provide solutions to second life with friendly, relatable counselling services to the 50+ campus visitors. In 2017, eight such job models were developed. Since their establishment, over 800 people have participated in social contribution job positions and over 220 people in encore education courses for job switching.

50+ policy could be seen as offering "encore career"[9] opportunities. This, however, is subject to conflicting values. On the one hand, there is high level of pressure in Korea for immediate employment: the issue of jobs has been a high-priority item on the national agenda for some time and some say that there should be an immediate link with 50+ employment. On the other, detractors would like to see jobs opening up for younger

generations that are struggling with youth unemployment. As such, there is little understanding about the newly designed "Encore Career Transition Model" which emphasises work opportunities not just "being hired to an employer." The 50+ struggles with communicating the policy purpose effectively to the broader public to lessen the pressure for training for immediate employment.

Encore Career is continued work in later life that is personally and socially meaningful. As such, an encore job is paid or non-paid employment in the second half of life that fulfils a diverse range of personal needs from personal meaning, achievements, social impact and value. The aim of Boram[10] jobs, which are paid volunteer jobs, is to meet the new demand in social welfare and address societal challenges with the knowledge and experience of the 50+ generation. Beyond Boram jobs the Foundation aims to create 50+ jobs in synergy with the city of Seoul and the private sector (in tourism, urban-rural farming and SMEs). The aim is to create 12 000 Boram jobs in five years including welfare services (e.g. elderly centre coordinators, elderly job coordinators), mentors for younger generations (e.g. career and employment instructors) and jobs addressing community problems (e.g. "Village MacGyver").

It is more difficult to change attitudes towards older generations. To build a 50+ supportive culture various measures are used such as public campaigns, integrated marketing and 50+ group support programs.

Impact and vision for the future

Before the establishment of the 50+ Foundation, projects supporting the target population were mostly led by the civil society and were not universally accessible. With the process surrounding the 50+ policy in Seoul (creation of the Foundation, campuses, centres) the policy intervention is becoming more systematic, comprehensive and demand-driven. The city has also started to cooperate with a variety of stakeholders connected to the services. Together with the Seoul Metropolitan Government, the 50+ Foundation has become the leader of a new narrative connected to aging and the nature of work.

The initial interest in 50+ services was higher than expected. As of July 2018, 50+programmes have registered more than 20 000 people, the 50+generation has organised more than 300 communities, more than 1 800 people have participated in 19 different Boram Job streams and each campus provides more than 300 courses every year. According to 50+ consultants who were interviewed, services could be expanded: "First, it is difficult to advise those in imminent need, we can refer them to the network and inform them about possibilities, but there are not enough direct solutions. Second, family relations and mental health would need more support and especially services for mental health."

While service numbers are not large compared to the size of the target group, it will take years for the programme to be fully institutionalised. However, the initiative is already scaling up. Other local municipalities are benchmarking 50+ campuses and centres on the Seoul Metropolitan Government, and the national government has announced a cross-ministry plan to establish social infrastructure for the third act of life (3rd Act Life Planning for the New Mid-Lifers). Change in national leadership in May 2017 has meant a turning point for the initiative: it is now certain that 50+ policies will go beyond Seoul and will be in some configuration also implemented at the national level. As such, Seoul's 50+ policy and connected programmes are becoming a benchmark for other cities across the country. Success will depend on the ability of national ministries to operate across fragmented interventions in an effective manner.

However, no substantive research on the effectiveness of the programmes exists yet. In between 2016 and 2017 the city and Foundation concentrated on setting up 50+ infrastructure and piloting programmes. However, traditional satisfaction surveys for educational programmes and performance management systems for moderators and councillors already exist. The Foundation has also already published several 50+ Policy Trends Reports and organised multiple 50+ Forums. From 2018, part of the focus will shift to conducting research (e.g., development of performance evaluation indicators for the consulting system, campus programmes; evaluate the socio-economic effects of Boram jobs; establishment of 50+ researcher network etc.) on policy effectiveness of ongoing programmes. Furthermore, the Foundation plans to develop the Seoul 50+ information system to provide an integrated service to Seoul citizens and collect data and statistics on the success of its programmes.

City of Things: IoT Living Lab in Antwerp

Summary

City of Things is an Internet of Things (IoT) initiative in the city of Antwerp, Belgium, built as a partnership between the City of Antwerp, Flanders, IMEC and others. The initiative got its start from a series of IoT projects which the local technology hub, IMEC, wanted to test in a real-life setting. The clear technology push from outside also pressed the city to develop a more cohesive picture of its smart city interests. The project has developed together with the city into a more structured approach, tying together different data sources to test new technologies for better mobility, safety and quality of life in the city. It consists of a spread of smart devices and sensors distributed across the 'smart zone' in the city. The technology infrastructure development is connected with a living lab approach, where the city residents participate in both creating data and testing out new smart city solutions. The collected data from both users, sensors and other sources is used by researchers, developers and technology entrepreneurs to develop and test smart city solutions. Over time, the City of Things is supposed to develop into one of the biggest living labs for technology, networks and real-time big data experiments in existence today.

Context

For decades, cities have been attracting technology companies and start-ups to their environments for high-skilled labour and increased revenue. This has enabled local governments to provide better services to their constituents. Now cities themselves are becoming testbeds of new services and products that have the potential to improve the quality of life of people living in urban environments. This means that cities are becoming "smart." Smart governments in general are those that "use sophisticated information technologies to interconnect and integrate information, processes, institutions, and physical infrastructure to better serve citizens and communities" (Gil-Garcia 2012).

As such, smart city solutions are more often than not strongly technology-led, and in practice, the advancements are pushed by technology entrepreneurs and big IT companies. In addition, there is no commonly shared understanding of what a smart city is or what its effects should be. As a result, there is a level of uncertainty connected to smart cities in general: who will it benefit in the end; will the vendor's interest dominate over real community problems; is the potential value for the public large enough to justify investment; will cities be locked-in with certain providers if they enter into these partnerships? Thus, while research in smart cities is abundant, mass-scale has not been reached. Nevertheless, running controlled smart city experiments has become more and

more popular for academia and industry alike. However, controlled lab conditions are not enough to develop operational products and services as solutions need to work in real-life conditions. Therefore, real-life smart city testbeds have become the norm. In addition, the effectiveness of smart city testbeds has been previously limited due to small-scale (limited number of devices or locations etc.), bounded technology protocols (such as wireless protocols) and experiments only concentrating on users as data creators, not their needs or interests. There are not many cases where hard and soft ICT infrastructure come together in smart city developments.

The City of Things (CoT) initiative in Antwerp aims to go beyond the aforementioned limitations and become a realistic, city-wide Internet of Things (IoT) testbed that includes both hard infrastructural eco-system development and also living lab research. IoT denotes a process in which the physical world can be controlled from a distance by connecting physical things to the internet and accessing their sensor data remotely (Kopetz 2011). In essence, things "talk to each other" by using internet protocols. In theory, the CoT wants, "the whole city to talk to each other." The premise being that controlling complex processes at a distance, and with little cost, is becoming a reality and is core to future automatisation. For this, the City of Antwerp is considered big enough (512 000 inhabitants as of 1 January 2013) to allow scale for experimentation, but small enough to keep costs under control when city-wide solutions need to be tested.

The city leadership is very supportive of technological development and pushes for new technological solutions (especially in the field of blockchain), as it seeks to become the "international reference city for technology." According to one city official: "in terms of digital innovation four years ago there was almost nothing; we have a new mayor, with new interests and with that also the city's policies have changed a lot." The cities management team sees the need to keep up with technological development:

> "If you see what is happening in the digital world, then people do not need the government, they are not waiting for the government. If you don't do technologies like blockchain you will be left out. It is about redefining what government is doing."

Specifically, the attention in smart city technologies increased considerably when the biggest start-up incubator – @kbc – in Flanders opened its doors in 2013 in Antwerp (during the financial crisis KBC Bank was consolidating its activities and rooms became free in the Antwerp landmark building – the Boerentoren – and the bank started to collect ideas what to do with the space). While a private initiative, it started a large start-up community in the city leading to other similar initiatives (imec.iStart, StartupVillage, BlueHealth Innovation Center, etc.) supported by the city. The city government who came to power at the same time formed a small team within the public service administration called Antwerp Startup City (De Wever and Bulcke 2016). The group was put in charge of stimulating and nurturing entrepreneurial activity within the city, not particularly smart city solutions, yet, it spurred on more partnerships with local companies and technology developers.

> "The idea was that we would build an ecosystem and have as much collaboration as possible. It was a very broad idea, stated with different things, but over time we put more focus on areas such as e-health and the internet of things… Areas of potential Antwerp growth clusters." (City official)

With the change in the city leadership's interests, Antwerp had developed a strong focus on business innovation, attracting companies, entrepreneurial in nature. The business and innovation team of the city developed the focus and the latter are supported by the EU desk as part of the Strategic Coordination department, which supports the city's participation in European projects. The business and innovation team also had more of an ecosystem approach and have tried to be more collaborative.

> *"We don't lead with the policy that we are developing, we seize the opportunities that present themselves. This makes us very flexible. Nowadays you have to be as flexible as possible and act quickly." (Public official)*

Figure 4.12. Tracks of Antwerp's innovation ecosystem

Source: Muelenaer, G. (2017) Digital Innovation in Antwerp. Presentation to OECD.

As such, the city also has for a long time had a "no plan" plan or a self-governing approach to the smart city development – it defines strategic objectives, but allows private enterprises to propose solutions. Thus, the city plays more the role of a facilitator, matchmaker to private interest in smart city developments. Consequently, it was a ripe environment for IMEC, a Flanders-based R&D hub which over time became a close structural partner to the city and the instigator of IoT projects. IMEC was interested in testing IoT technologies in real-life context. While IMEC operated in all of Belgium (and also globally), they chose to develop its many IoT projects in Antwerp due to its strong industrial base and the city's willingness to engage with such projects. Observing synergies in different projects, it led to a more systemic experimentation programme under the label of "City of Things." As such, CoT has the ambition to become the reference IoT living lab and technology lab in Europe.

Building the City of Things

As described above, the CoT initiative is partially coincidental: it started through simultaneous, yet initially unconnected grants and projects that were connected to testing and developing IoT solutions in Antwerp. The City of Things programme itself "happened on the project level with a strategic bundling of project working packages. It was really bottom-up. There was no programme view in the beginning on applying for EU's H2020

funding" (representative from IMEC). By chance and logistical closeness, different developers in IMEC (Box 4.18) started to write project proposals for research funding in the field of IoT with the City of Antwerp or its harbour as its partner. When many of these turned out to be successful, it became clear to IMEC the projects were sometimes overlapping and synergies between the projects could be found. IMEC decided to bring them under the same umbrella and started to pursue a more strategic partnership with the city. "Branding the City of Things attracted interest from both the city and the regional government." This highlights both the central role of IMEC's technological capacity, but also its "strong salesmanship and marketing." In September 2016, CoT was noticed by the Flemish government: "you are making some investments there; we want you to become a showcase." From January 2017, the Flemish government has been giving specific structural funding to develop solutions that should be deployable more broadly.

Box 4.18. IMEC

IMEC is an international R&D and innovation hub originating from Flanders, Belgium. It employs 3 500 researchers in different international locations. The organisation is specialised in nano-electronics and digital technologies (including smart cities, mobility and health, logistics and manufacturing, and energy). Among these, IMEC develops IoT sensor network solutions, 5G and wireless IoT communications.

IMEC has a long history in Belgium and its long-term excellence gives the hub quite a lot of credibility. Its origins go back to 1982 when the Flemish Government set up a programme in the field of microelectronics in Flanders, which included a laboratory for advanced research in microelectronics (IMEC). IMEC was founded as a separate, non-profit organisation supervised by a Board of Directors including members from industry, Flemish universities and the Flemish Government.

Source: IMEC homepage (n.d.) https://www.imec-int.com/en/about-us

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The project earned political support in the highest levels of the city government, and the attendant financial resources have followed: "there is a commitment that the budget for the next six years will abide by the principle that with every euro IMEC puts into the project the city will match it" (city officer). This is very different from the government's stance just five years ago, when technology development was not on the city's agenda: "In 2013 we were not thinking about money for smart city."

Currently, the project is funded as follows: EU investment for EUR 2.15 million (through IMEC's three different projects: SELECT city, Syncronicity and AGILE – see Box 4.19); Flemish Government with EUR 40 million over the next 5 years; and the City of Antwerp, which will also finance the living lab component of the project. Antwerp has been cautious not to concentrate its efforts on the testbed: "If we put a clear focus on one sector we can focus on things, play internationally, maybe also on a subsector level." Nevertheless, the project compliments the city's strategic goals in smart mobility, security, sustainability, government and citizens.

Box 4.19. The role of EU funds in developing the CoT

European Union funding has played an instrumental role in the emergence of City of Things. Three projects have been especially important – SELECT for cities, SynchroniCity and AGILE with an EU investment of EUR 2.15 million. All three projects involve the partnership between Antwerp and IMEC.

- In SELECT For Cities (Horizon 2020), Antwerp is partnering with Helsinki and Copenhagen to build an IoT governance platform. SELECT For Cities concentrates on joint pre-commercial procurement for the development of cities as Internet of Everything (IoE) labs (procurement of digital solutions for urban challenges). City of Things will play a crucial part in the Living Lab validation phases of SELECT for Cities.

- In the SynchroniCity project (2017-2019) cities serve as reference zones for experimentation with new IoT-services. In the case of Antwerp, this applies to its initiative 'Mobility as a service').

- In AGILE, the city uses existing IoT research for specific value delivery for the city: e.g., by providing security with Danish drones flying in the Port of Antwerp. The project is carried out in partnership with organisations from Germany, Spain, UK, Denmark, Greece, Austria, and France.

Source: OECD interviews; https://ec.europa.eu/digital-single-market/en/news/digital-single-market-practice-antwerp-city-things

City of Things as a service layer

City of Things is designed as a service layer on top of existing and emerging start-up incubation and acceleration initiatives in Antwerp such as Start-up Village, iMinds iStart, Start-it KBC, and FI-WARE. At the core of City of Things is the merging of collective intelligence and peer production on the one hand, and Big Data and sensor infrastructures on the other. The goal is to support bottom-up mobile service innovation processes in urban environments. It is a multi-technology testbed that allows for the testing of novel smart city experiments (e.g. evaluation of network protocols, data gathering mechanisms) leading to large-scale deployment (Latre et al. 2016). What distinguishes it from other IoT testbeds is the fact that it allows a wide range of wireless technologies. "You don't need APIs for every city. You need maximum interoperability wherever you operate, be that Barcelona, Copenhagen, etc." City of Things allows smart city sensor producers to evaluate their products' performance in real-life settings; data analysts and researchers to exploit real-life datasets and network experimenters to test their research, products and services in more realistic settings.

From the city's perspective, CoT needs the sensors to serve multiple purposes. Different types of sensors have been installed including traffic monitoring sensors (to measure congestion in the main bottlenecks of the city), parking sensors (parking occupancy), GPS and accelerometers in smart parking signs (to disallow parking in certain areas temporarily), and mobile air quality sensors (deployed mostly in vehicles from the Belgian Postal Company).

Box 4.20. Main technical characteristics of City of Things

The City of Things is managed by a partnership between IMEC, the City of Antwerp and Mobile Vikings. The City of Things testbed has four strategic focuses:

1. City-wide deployment: it covers the full city centre and the harbour.
2. Cross-technology: supporting several radio technologies, including Bluetooth LE, IEEE 802.15.4, WiFi, LoRa and Sigfox.
3. Multi-purpose: experiments can cover any number of devices, supporting small and large scale experiments.
4. Multi-level openness to maximise experimentation.

The network configuration of the City of Things testbed also uses two completely separate network technologies for each purpose: service provision and protocol experimentation. In the devices deployed in the City of Things testbed, two different technologies are deployed: one supporting LoRaWAN, for the service provision, and another one that depends on each device. Therefore, the network configuration of the City of Things testbed can be divided into two groups, depending on the underlying technologies (Santana et al. 2018):

1. Multi-technology gateways: these devices form the core of the City of Things' capacity for protocol experimentation as they support a wide range of different wireless technologies, which have been distributed throughout the city and connected to the city's fibre optic network.
2. LoRaWAN technology. The main goal of the network is to ensure the data sensor provision with full-city coverage, keeping the network isolated from the protocol experimentation infrastructure.

As such, the City of Things projects tries to go beyond previously bounded data operability experiments by increasing the area of deployment (harbour and inner city); by supporting all major wireless technologies; by allowing variety of experiments and differentiation of areas and scales deployed in them; by ensuring openness of the system – open data to experiments from information city collects through its sensors; by allowing researchers to build their own network protocols on top of the existing nodes and by using a living lab approach to engage with users and citizens.

Source: OECD interviews; Santana et al. 2018 University of Antwerp.
https://www.uantwerpen.be/en/rg/mosaic/city-of-things/

In addition, CoT combines technology tests with the living lab approach, so, that it can become a real-life, large scale testbed. In 2016, IMEC merged with iMinds, a digital research centre. iMinds manages the creation and development of City of Things' urban living lab. As such, IMEC itself is a two-sided enterprise consisting of hard tech developers (IMEC) and softer service, living lab solutions (iMinds). The initial participation in EU projects (Synchronicity, Citadel), just as well as iStart emerged between the city and iMinds. Hence, the focus, in the beginning, was on the 'softer services' of what merged into IMEC. The merger has not yet been integrated fully, which also became apparent in the City of Things case. While the engineering side, developing the technology testbed infrastructure, had a very clear idea where their processes were going, the living lab methodology was not put in place from the onset and had to be puzzled out during the development of the project with the city.

"Since the merger of IMEC and i-Minds also for us the technology came together with the softer side, impact on users. We were looking for good causes to demonstrate the power of the merger. Showcase how hardware, software and user-perspectives can work in a unified format in real life." (Representative of IMEC)

IMEC interest is to push for state-of-the-art smart cities technologies, but it is not entirely clear if all of those solutions will interest all Antwerp residents. The hardware level of the initiative is quite well conceptualised (making smart devises secure, hack-proof); on the data level, issues surrounding data ownership and data privacy are still up in the air. In the meantime, the city and IMEC put in place a 'data charter' agreement. It was a process that took more time than initially envisaged and presented new (legal) challenges to the city. However, no pilot case was launched before this agreement was finalised. The intention is to ensure data remains anonymous, which—alternatively—could be accomplished by clustering data into user groups instead of individuals. In any case, there are some trade-offs between data accuracy (its effectiveness) and privacy that need to be made; yet, the city has vowed to uphold the minimal legal requirements in the pilots in which it is involved. Due to privacy concerns, the city has been very careful in communicating about the project outwardly to citizens. The city tried to conceptualise the project in more detail, especially in terms of the living lab component, before involving citizens. Nevertheless, each of the pilot cases launched in the smart zone is the result of a participatory process with the community.

The city as a 'beta' for experimentation

"The city is actually very much open to experimentation, very welcoming to opening their doors to us." (Private sector partner)

As described above, the city and its harbour will be equipped with numerous gateways supporting different wireless IoT protocols to connect thousands of wireless sensors that will measure traffic flows, noise, energy consumption and air pollution. As all of the city cannot be covered yet by sensors, a test area – the 'smart zone' (Box 4.21) – was selected for the first phase of the longer-term project. The interconnectedness of the systems in the particular area should allow them to test a variety of solutions and their effects across different fields: "Measuring and putting together a lot of data in the smart zone, we can look for correlations between different things we are investigating, such as logistics, cultural life, housing, weather," (city official). In practice, the Smart ZoneCoT testbed supports three level of experimentation, including: communication-level, where network researcher can deploy novel network protocols in a real urban scenario; data-level, providing open-data about the measurements gathered by the sensors; and user-level, engaging the citizens to provide feedback about Smart City applications (see Santana et al. 2018). With the variety of uses the city sees the possibility to also update its working methods and start to become more citizen-centric: *"We want to connect two ways of working: bottom up approach, working with citizens and also a top down approach. Usually the way we collect data, the way we optimise services decided more from the top." (City official)*

Box 4.21. The 'Smart Zone'

In one area of the city – 'Smart Zone' – a network of wireless gateways and smart sensors across buildings, streets and other city objects will be installed. The sensors should make it possible to monitor traffic and pedestrian flows, energy consumption, air quality among other parameters. Smart applications built on the information should be made accessible for citizens through smart devices such as (smartphones, tablets). By concentrating the data collection in one part of the city, data can be made interoperable.

The smart zone was selected together with the city with a specific criterion in mind – "We gave our wish list, what the area should cover" (IMEC representative). One city official explained: "We had a brainstorming. Need a common space that is large enough. One street won't work, it is not large enough. After discussion we agreed that we need a neighbourhood." In the end a central zone (Figure 4.13) in the city from the Royal Museum of Fine Arts until the Groenplaats covering several streets (Volkstraat, Nationalestraat, Kloosterstraat, Graaf van Egmontstraat and the streets in between, in particular Sint Andries) was selected for the zone. The area sees a lot of traffic, is a mixture of commercial and living quarters and is socio-economically diverse allowing to test various hypotheses.

Figure 4.13. Map of the Smart Zone

Source: OECD interviews; Smart City Strategy. Presentation to the OECD (2017).

It was essential to get a commitment from the City Government. Firstly, some city regulations and procedures, which were connected to the smart zone, needed to be streamlined.

> *"Many city civil servants want to experiment, but it is difficult the way the city is structured. Many problems cross departments. The smart zone helps to go beyond that. The mayor put his weight behind it which makes internal collaboration possible in a geographical bundling of services." (City official)*

Secondly, the living lab approach required a lot of communication with the local residents, companies and civic actors. Amid a political environment, this is not always risk free. It was a plus that another city innovation lab orientated towards sustainability, Stadslab, had already had some interaction in the neighbourhood. An extensive communication plan with actor analysis was drawn up. The pre-study, the Smart City Meter (Figure 4.14) showed the awareness of smart city solutions was not high, while concerns connected to key issues like privacy were very important to people. While 63% of citizens were willing to share their data in return for smart city services, not all people actually knew what a smart city was (78% of the people had heard of the concept, only 55% knew what it was). At the same time, privacy concerns were high: 88% of the people were concerned about their privacy. As one stakeholder described: "It is one of the main pitfalls: doing a lot of smart solutions, but not communicating about them. It won't work if people don't adopt the solutions." Consequently, the plan is to make the Smart Zone very interactive. Citizens will have the possibility to give their opinions.

Figure 4.14. Have you heard about the term?
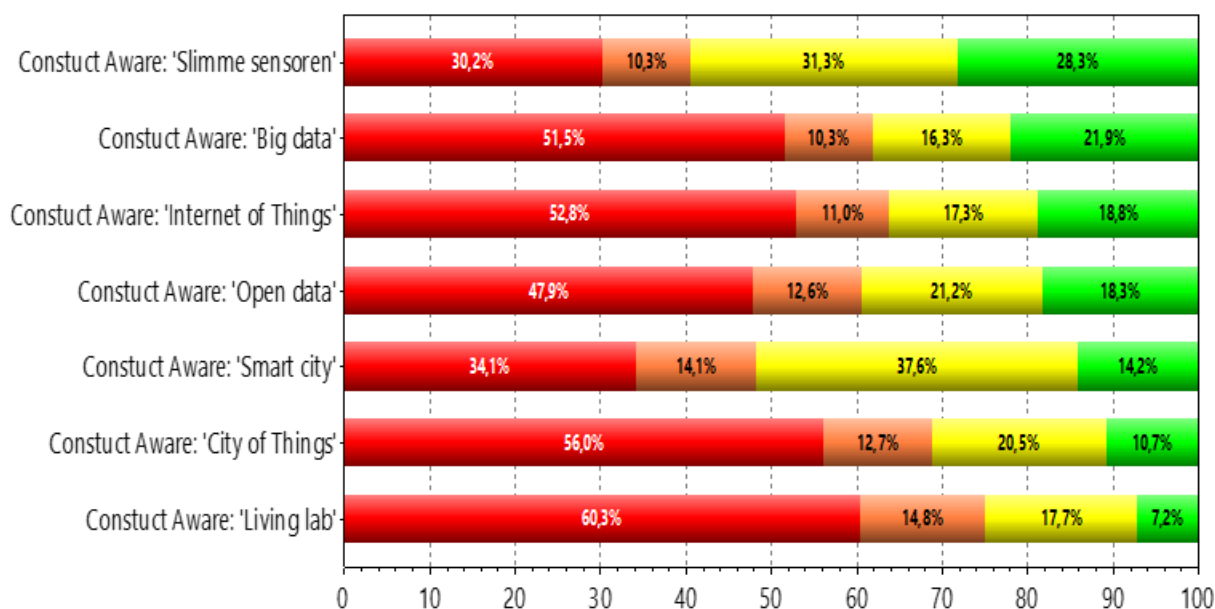
Source: CoT consultation plan.

To communicate the results of the initiative better, the city expects some clear examples from the smart zone; at least four will have to have concrete end results. Based on a user-driven methodology, a list of 10-12 use-cases was developed (in areas such as smart retail, smart parking and logistics, smart traffic lights and lightning, social cohesion, smart energy consumption, smart waste, air quality, smart cameras) and through a living lab method the

list will we be reduced to three to five that will be tested in practice. The final goal should be implementation, which is a novel experience for IMEC as well: "City of Things is an experiment for us with the city to actually implement things." In the latter phase, there are still many unresolved operational issues connected to the project. The stakeholders expect to confront issues related to scalability, interoperability of solutions as different private sector service providers (normally competing with each other) were involved. Furthermore, what will happen with the day-to-day maintenance, with whatever databases are created? This is a typical issue for cities as described by a representative from Digipolis, the city's IT unit: "we don't only need beautiful dashboards from vendors, but sensors and actual data; not only easy discussions. Yet, it is a difficult to separate the dashboard from the data ownership."

Emerging smart city governance model

> *"A lot has changed, nobody is waiting for government – we cannot take one year on a policy note anymore." (City official)*

Invariably, there are a variety of ways cities can and have chosen to govern smart city solutions from a self-governance model where the city has left the governance of smart city networks to private companies, to models where the city government takes the role of a highly centralised lead organisation (Bolivar 2015). Consequently, city government can be the "owner" and lead the smart projects; "coalition partner" with other key stakeholders; "manager" who standardises and supervises projects or "contractor" who assigns the development of the smart city completely to private developers (Anthopoulos 2017: 216). Step by step, Antwerp has moved from a contractor to coalition to a co-manager role in recent years. Yet, the approach in the city to the concept is still fairly fragmented.

Due to the origins of the CoT initiative (funding playing the role of the key catalyst), the European Union desk was initially in charge of coordination. When the flagship project, the City of Things, became more formalised into a unified programme the Business and Innovation Team took over the technical implementation. They are challenged by balancing their role as stewards and their everyday tasks and involvement from ad hoc opportunities. The complexities presented by smart city developments (technology, legal aspects) are challenging the expertise of a city. The operational resources are low and they have very few people in office. Thus, developing the ecosystem was initially more important than the concrete developments it inspired. As one of the desk employees described: "we ourselves do not have an agenda. IMEC has a clear vision of what they want to do. Not only for Flanders, but also for the city." Thus, the city followed suit– at least in the beginning:

> *"With IoT we have a twin strategy. Get things outside in. Traditionally you start with a government problem in the city, but smart city solutions don't work like that. Your problems are not the problems of the citizens. When you figure those out, then you solve a problem." (Public Official)*

When things became more concrete in the smart zone developments the city took a clear citizen-centric and problem-oriented approach.

Figure 4.15. Governance structure of the 'smart zone'
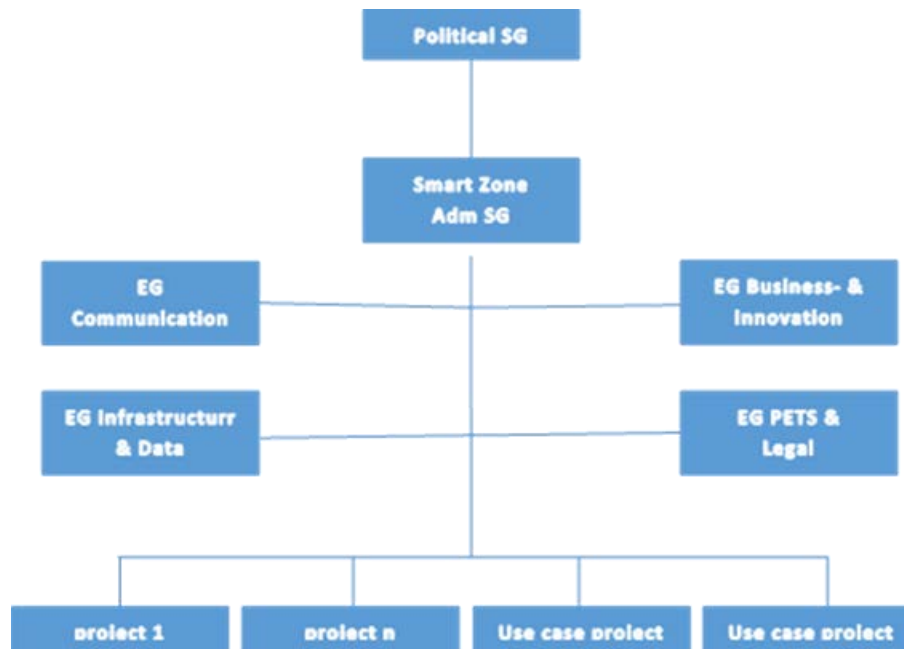
True to their position, IMEC sees the emergence of the smart city as an evolutionary process that comes itself from the quadruple helix (Government, University, Enterprise and Society). As such "smart cities are not the goals, they are the means. Goals are defined by the quadruple helix itself. How do you become the smart city? You don't, it is a process." However, should the city leave its role in the quadruple helix unattended when its outside technology partners are clearly in an advanced position?

Next to the latter two partners there is the main IT partner of the city, Digipolis which has been quite successful with the entrepreneurial focus of the city by spurring on start-ups in the region by using pre-commercial procurement and other ways. Digipolis is a governmental, but strictly non-commercial ICT organisation founded in 2003 to drive ICT solutions for the City of Antwerp, its Public Center of Social Welfare, the local police, and other subsidiaries. Digipolis manages the complete IT-platform of the city of Antwerp and tried to standardise practices, and make the city portal user-centric within a city while still leaving room for agile development. However, some perceive the actions quite top down and prescriptive, which is the polar opposite of the approach taken to smart solutions: "Digital strategy is very top down. Not everybody is able to go along with that strategy nor do all situations fit."

In parallel, the city has tried to clarify its position on the smart city, define itself a smart city strategy and appointed a coordinator for the project. The role was filled as part of a leadership programme exercise: "I joined the process to climb the ladder. Needed to make a case optimisation, show which things we have and how to improve the process. I chose the smart city concept to analyse." It soon became clear that smart city projects were disconnected and dispersed in many silos and fairly little learning was happening across departments:

> *"Smart city was within a silo and mistakes were repeated over and over again. For example data ownership, and vendor lock-in. Experiences were not shared. I made*

a strong plea to develop a smart city coordinator and a holistic approach to smart city and to develop a smart city vision for Antwerp."

After the coordinator role was established, they worked on defining the smart city strategy for the city and coordinating the different stakeholders involved. In essence, the existing situation and actions were put into a more coherent format. This is not unusual regarding smart city strategies, as practice (and outside funding) has preceded strategic discussions in cities themselves. Thus, not only in Antwerp, smart cities have been created when pre-existing initiatives are converted into coordinated, strategic and branded narratives (Coletta et al. 2017). In Antwerp's case, their narrative and follow-up actions would be successful if the city would work across all six categories and each initiative would further define different smart city functionalities.

Figure 4.16. Antwerp smart city building blocks

Source: Antwerp Smart City Strategy.

Subsequently, the city's political leadership identified five priorities for the smart city strategy (Figure 4.17). They were deemed to be limited in scope, but this was due to limited resources – the city's leadership did not address open innovation, or the fact that working models can evolve over time; meaning city departments still have the right to pursue their varying interests. As a result, the coordinators' role became to facilitate conversations in the start-up phase of the City of Things project: "All of my daily work is to make communication smoother between IMEC, Digipolis and the political level." Currently, the success of the city's smart city strategy and its role as a coordinator of projects depends on a single individual's efforts.

Figure 4.17. Five priority areas for the smart city
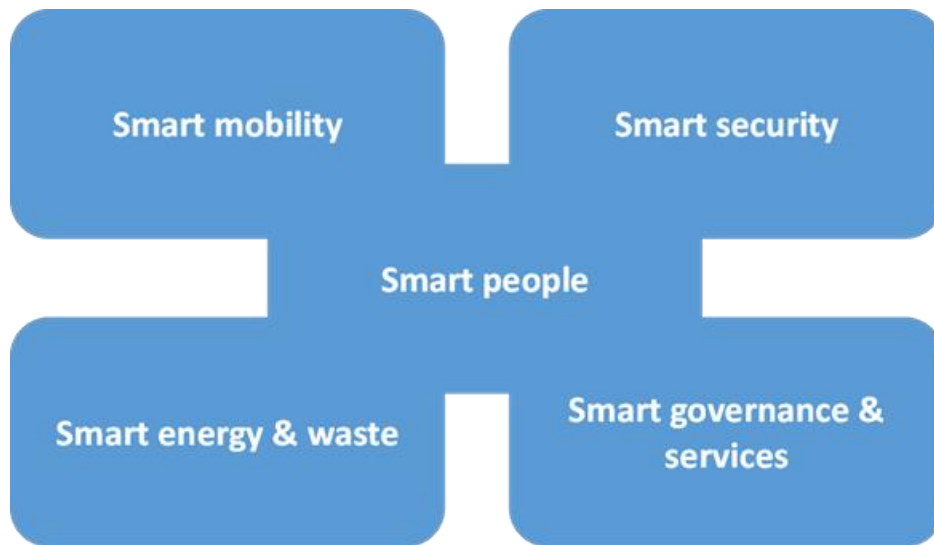
Source: Smart City Strategy. Presentation to the OECD.

Simultaneously, there are many challenging issues connected to smart city projects and the City of Things. There is the question of reliance on EU funding and its impact on the strategic action of the city. Fortunately, the city has been able to diversify the funding for the Smart Zone programme to ensure its sustainability. Nevertheless, the question remains: should Antwerp follow ad hoc opportunities when they arise or follow strategic priorities? In some cases, outside vendors have taken the lead in partnering with the city (as was the case with City of Things); in other occasions (such as the Urban Innovative Actions project, Circular South), the city was and still is in the lead from the beginning, involving IMEC as the partner, among others. As such, in the beginning there were questions about the city's data strategy that the city later solved by creating the data charter.

Impact and challenges on the way

"*Smart city is kind of everywhere and nowhere. In Antwerp it was a recent development, one person coordinates it inside the city. There is not enough coordination between different initiatives and IoT with the City of Things is part of it." (City official)*

In the shadow of the City of Things – technology-led smart city development – a deeper case of smart city evolution emerges. The impact, potential and concerns surrounding the CoT initiative echo broader issues within the city. The City of Antwerp has enthusiastically embraced technology development. In the various stages of project development, the city has been left wondering, at times, just how in control they were. As one city official explained: "Now as the focus on impact is becoming more important; it is not just about getting more funding." The city has to start to explain to its constituents the choices it has made, deal with difficult public value trade-offs such as privacy and effectiveness. It must try to avoid lock-in while building long-term strategic partnerships. All of this is more difficult, when many of the choices have been left to outside partners catering to "outside interest first and then inside" and when the city itself does not control the narrative anymore. Consequently, the city officials are fearful of 'digital capture': "The main problem is that currently there is no feedback loop from IMEC and living lab in place to

the city itself." However, at the same time the city's open and collaborative innovation model has produced some potentially fundamentally transformative initiatives, including the City of Things. Clearly, flexibility comes with both great potential for change and great potential cost. What is clear is that as the pilots develop, the city has to address more difficult debates on value trade-offs connected to these new developments.

Since the beginning of City of Things (and the time of the conducted interviews in 2017), the city of Antwerp started to formalise its smart city processes. The coordination of smart city and the smart zone was reorganised and brought under a new team 'Funding, Innovation and Technology' (FIT) within the Strategic Coordination unit. The singular role of the Smart City Coordinator was re-evaluated and the strategic coordination shifted to the team leader of the FIT team. The operational follow-up is in the hands of a smart zone project manager. The EU desk is also part of the FIT-team to ensure better coordination. The various aspects of smart cities business (business and innovation team), data (data team), and technical integration (Digipolis) offer much more clear ownership. The organisational reshuffle contributed to this, adding a project manager for the smart zone while centralising the strategic smart city coordination at the 'Manager Innovation' person), who is in charge of leading the department 'Funding, Innovation and Technology'. The city also devised a strategy on open data and is now working on a strategy on shared data and setting up a data broker network. Antwerp is learning by doing and laying out its forthcoming smart city plan. There is a clear path laid down for the participatory process, the selection of the use-cases, etc. as part of the smart zone project.

Would the City of Things, an experimental test-bed with possible global significance, have come about if Antwerp planned for it? Probably not. Does the city have to be even more adaptive and responsive to outside influences in developing its smart policies? Assuredly yes.

Circular Economy – Knowledge Action Programme on Water Governance in Amsterdam

Summary

In the field of water management, new distributed, off-the-grid, emerging circular solutions are challenging public authorities, utilities and stakeholders at large to adapt to evolving contexts. The whole water governance system needs to prepare for alternative futures, in an efficient and inclusive manner. As such, beyond being providers of water services, water companies are also promoters of new sustainability models, and facilitators of innovations in water resource management. The Knowledge Action Programme (KAP), promoted by AGV/Waternet in Amsterdam, the Netherlands, aims to support the transition towards a more sustainable and resilient city by integrating knowledge development into co-creation projects in a multi-stakeholder fashion. The programme stimulates dialogue between policy and science in order to modernise water governance.

Context

In a country where more than half the territory is below sea level, developing technical and non-technical capacities for water management is key for national security. As a matter of fact, the Netherlands is acknowledged as a global reference for water management in terms of ensuring protection from floods and freshwater supply (OECD, 2014). Traditionally, water management has been highly decentralised across provinces and municipalities, as well as regional water authorities (RWAs), functional administrative elected bodies with
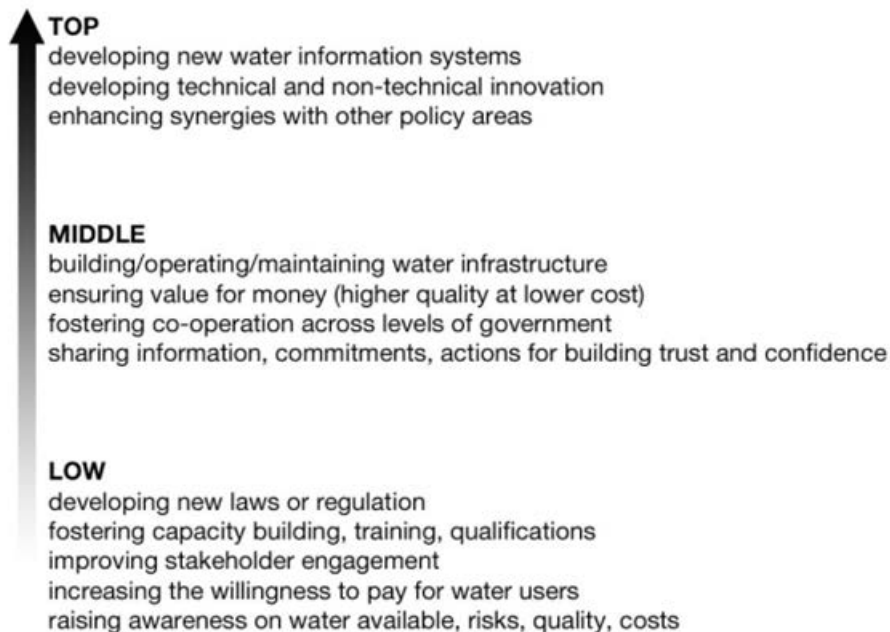
taxation powers. The RWAs are responsible for defining regional plans and drawing up regulations, amongst others. Changes in the water governance system of the last 50 years consisted in the consolidation of RWAs (from 2 650 to 24) and public drinking water companies (from more than 200 to 10); the modernisation of the National Water Authority in 2006; and the creation of the Ministry of Infrastructure and the Environment in 2010 (OECD, 2014).

The water governance system in the city of Amsterdam is unique compared to the rest of the country. It is characterised by a model of integrated water management, whereby since 2006 the water utility Waternet has been performing on behalf of the municipality of Amsterdam and the Regional Public Water Authority Amstel, Gooi en Vecht (AGV). Waternet is the executive arm of the municipality (that keeps the canals clean, dredges waterways, and maintains bridges) and of the AGV (that implements plans for maintenance and improvements of dykes, cleans wastewater and ensures the surface water level is correct). In practice, Waternet holds responsibilities for drinking water, sewage, wastewater treatment, surface and groundwater quantity and quality, and for closing the whole water management cycle. According to Waternet (2017, interview) this integrated system allowed authorities to lower rate by 20%, thanks to cost cutting.

Environmental sustainability and citizen engagement are among the core values guiding Waternet's activities. In 10 years' time, Waternet plans to achieve a more efficient water system, improved customer satisfaction and environmental sustainability also through a circular economy approach that would make the most of wastewater reuse. Forward-looking strategies consist in developing knowledge and information, technical and non-technical innovation and enhancing synergies with other policy areas, such as waste, energy and urban planning.

Figure 4.18. Forward looking strategies in urban water governance

Priorities in the city of Amsterdam

TOP
developing new water information systems
developing technical and non-technical innovation
enhancing synergies with other policy areas

MIDDLE
building/operating/maintaining water infrastructure
ensuring value for money (higher quality at lower cost)
fostering co-operation across levels of government
sharing information, commitments, actions for building trust and confidence

LOW
developing new laws or regulation
fostering capacity building, training, qualifications
improving stakeholder engagement
increasing the willingness to pay for water users
raising awareness on water available, risks, quality, costs

Source: Amsterdam City profile, as a result of the OECD Survey on "Water Governance in cities" (2016), http://www.oecd.org/cfe/regional-policy/water-governance-in-cities-amsterdam.pdf

Towards a new model of governance

In recent years, the role of the key water actors in Amsterdam has evolved, due to technological changes and political decisions. In addition to its role as a water services provider, Waternet became the promoter and facilitator of a series of initiatives and pilot projects to cope with the risk of "too much water", while fostering innovation and engaging stakeholders. A prominent example is the "Amsterdam Rainproof" project, which is a successful multi-stakeholders platform whereby technical solutions for making Amsterdam rainproof by 2050 are accompanied by awareness raising, information sharing and stakeholder engagement (Box 4.22). According to Waternet "in 20 years people will not pay for the wastewater, but they should get money from it" (Waternet senior management). The management of the innovation programme in Waternet is carried out by a steering committee, and decisions are taken collectively.

After the low voter turnout in 2015, the AGV started working towards enhancing proximity and trust with citizens. The elections represented an occasion for questioning its modus operandi and looking at ways to be more innovative. Citizens see the AGV mainly as an old fashioned institution and in some cases are scarcely aware of its activities.[11] The challenge consists in re-articulating the AGV's public role, without re-shaping completely an institution, which was created in the 13th century.

> *"Water management is the oldest way of governance in the Netherlands. It is not a good start when one needs to reinvent ourselves. /.../ There needs to be a new story, not just the oldest democracy story. /.../ Because we are the oldest democracy, but maybe we can be the first modern democracy as well." (Waternet employee)*

Following the conclusions of the OECD (2014) report "Water Governance in the Netherlands: fit for future?" on the need to increase awareness, water awareness was one of the core objectives in the AGV mandate for 2015-2019 and part of the new communication strategy. Moreover, the AGV's board argues that it is important to make sure public resources are used to mobilise private resources.

Box 4.22. Amsterdam Rainproof

Amsterdam Rainproof is a platform raising awareness on rainwater management and seeking practical solutions for rainwater storage in smart urban spaces. It is a network gathering citizens, public servants and entrepreneurs, under the motto "Every drop counts". The "aim is to make Amsterdam a rainproof city by 2050, limiting the damage following a cloudburst and increasing the beneficial use of rainwater for greening and rainwater harvesting".

Started by an initiative of Waternet in 2014, in three years' time 100+ partners have joined the platform and numerous projects have been implemented, such as: water retardant green strips at the Zuidas, rainproof parking spaces at the De Mirandabad pool, underground water storage at Mahlerplein and the climate-proof street.

This project has its own identity, distinguished from Waternet. It also has its own logo. Yet, it has been instrumental in teaching Waternet to work across traditional boundaries and empower communities:

"Rainproof is not about a plan, it is about working together in the city. How what you do impacts the change needed. /.../ It is about redefining roles. For example, community

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managers play a totally different role; they think about responses to initiatives. It is not about government trying to get others to do what they want. It is about connecting initiatives that work for systems change." (Project coordinator)

Rainproof has been an excellent example for subsequent programmes in Waternet. It also stimulated circular economy thinking, on wastewater cycles and water in the circular economy.

Sources: OECD interviews and https://amsterdamsmartcity.com/projects/amsterdam-rainproof; https://urbanland.uli.org/industry-sectors/infrastructure-transit/every-drop-counts-making-amsterdam-rainproof/; https://www.netherlandsandyou.nl/latest-news/news/2017/06/13/preparing-before-the-flood-making-cities-rainproof-is-crucial; https://www.waternet.nl/contentassets/1b27dec45fd3426c899bc068d0ffa0d8/annual-report-2017-waternet-innovation.pdf

The future of water governance in Amsterdam is also shaped by two major factors: a strong commitment from the City of Amsterdam towards a sustainable agenda and bottom-up initiatives, through which citizens play a more active role in the management of public services.

The water sector has a fundamental role to play in making Amsterdam cleaner, smarter, greener and more circular. The Sustainability Agenda, adopted in 2015, aims to increase the use of renewable energy, reduce air emissions, increase waste separation and implement the tenets of the circular economy by 2020. The city has committed to the circular economy as an important pillar of its sustainability policy (March 2015).[12] Several projects are taking place underneath the umbrella of Amsterdam Smart city, to make Amsterdam carbon and gas free by 2030, amongst other goals. The use and re-use of water, combined with other sectors, such as energy and waste can contribute to this agenda. However, it is not only a technical matter: what is important is the environment to put them in place, which should adapt to emerging needs.

> *"Our biggest challenge for our future vision is to actually overcome our nature as a technical authority or technocratic mandate. We have a lot to say, but little to ask. If we don't think about innovation as a social process then meetings will actually get in the way." (Waternet employee)*

In Amsterdam, more than 90 pilots were launched in support of bottom-up initiatives, consisting of city labs, pilots and experimentations, through which citizens, professionals, communities showed their willingness to take concrete actions under the "owning the city" slogan. Collective action, in general, is an institutional challenge to traditional public sector organisations.

> *"Not only are city hackers disruptive to the existing system, but they start to connect citizen to citizen, and you see the solutions emerging from the streets. This is a new playing field the government has to adapt to. We are waiting for when the slap comes. When do the citizens go too far? It is also a bit dangerous. In the public domain, government should also protect the citizen." (City maker)*

The challenges of some of these initiatives consist in their continuity and in their inclusion in a wide picture for the city. Lack of continuity can arise amid decreasing interest from citizens themselves:

> *"In the late 2000s, it became fashionable to be part of maker-spaces. Active citizens said they wanted to be a living lab, with a local manifesto, but after the signatures*

were signed a lot of the enthusiasm seemed to fade. The box was ticked and also the economy improved, normal business took over." (Civic activist)

Collective action in general is an institutional challenge to traditional public sector organisations: "When a lot of niche projects emerge, how do they fit into the wider regime?" (Waternet employee) These solutions can react with a lot of other systems so how democratic can a (new) system be?

On the other hand, it is legitimate to ask "When a lot of niche projects emerge, how do they fit into the wider regime?" (Waternet employee). For example, the decentralised sanitation system in Buiksloterham (Box 4.23) raised a number of questions, in terms of use of public resources, scaling up the practice and on the role of institutions. "We need to talk about who participates. There is always an idea that citizen involvement is good, but we should acknowledge that they also represent their individual interests." (Political representative). At the same time there is a "risk of a small elite using tax revenues for their vision… it is not acceptable or understandable to the larger city" (Waternet employee). Moreover, the more people invest in decentralised systems, the more the cost of central systems will rise for those who remain connected to the central system and do not have the option to switch, while there are also high investments and other hidden costs to take into account. As one of the stakeholders involved stated: "*The value of this debate is fundamental so we won't drift off.*"

> *"Some people would like to develop the distributed circular economy solutions themselves. Others would say they are not interested in that. How do you manage that as a water authority? How do you manage these hybrid situations?" (Waternet employee)*

Box 4.23. Decentralised sanitation system in Buiksloterham

The city of Amsterdam is growing by 10 000 inhabitants per year. From 2000 to 2014, the city's population increased by 1% annually on average, about twice that of the national average. This has raised the need to build 70 000 new homes by 2040 (OECD, 2017). The economic crisis of 2008 on the one hand delayed or stopped the realisation of some projects; on the other, it generated bottom-up solutions, as in the case of Buiksloterham, Amsterdam North.

In Buiksloterham, the municipality started a project for transforming the industrial site of De Ceuvel into a residential one. Being a former shipyard, the area was heavily polluted.

In 2010, given financial constraints to implement this project, the city of Amsterdam, owner of the land, set up a tender for a ten-year lease of the De Ceuvel land, claiming as one of the criterion the compatibility with the sustainable urbanism concept. Meanwhile, individuals were given the opportunity to buy for a convenient price a small number of houses in a non-polluted area of Buiksloterham. This differed from the usual model involving housing corporations or developers. Buyers built houses using environmental-friendly and sustainable practices. In 2012, a team of architects won the tender developing an innovative concept to re-shape De Ceuvel, which officially opened in 2014. In 2017, it was named most sustainable initiative of The Netherlands.

In 2015, citizens, de Alliantie (the cooperation) and AGV/Waternet, in addition to Municipality of Amsterdam, several real-estate developers and organisations signed a "Manifesto for a Circular Buiksloterham". To implement it, a living lab for circular and

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> urban development was created. It is the precursor of De Ceuvel as a Cleantech Playground, a platform for people for innovation and creativity.
>
> De Ceuvel is a unique space where 17 old houseboats have been transformed into offices and creative spaces. Each boat is equipped with a dry toilet, which saves water and produces compost. The quality of the compost has been analysed to make sure the fertiliser can be used without incurring health risks.
>
> Sources:https://www.waternet.nl/globalassets/annual-report-innovation-2015-online.pdf; http://citiscope.org/story/2016/how-amsterdam-turned-polluted-industrial-site-its-most-interesting-neighborhood; http://deceuvel.nl/en/about/general-information/; https://amsterdamsmartcity.com/projects/the-ceuvel; http://www.smart-magazine.com/fr/de-ceuvel-projet-urbain-amsterdam/; OECD (2017), The Governance of Land Use in the Netherlands. The Case of Amsterdam, OECD Publishing, Paris.

Initiating and implementing a process of systems change: the KAP

The concept

Amid a changing context, where roles and responsibilities of public authorities, utility and stakeholders are shifting, the whole water governance system needs to keep up with these changes. Improving urban water governance, while embracing a multi-stakeholder and multi-sector perspective is one of the goals of the Knowledge Action Programme (KAP), promoted by the AGV/Waternet. The programme aims to stimulate a dialogue between policy and science in order to modernise water governance. KAP takes a systemic approach vis-a-vis the highly localised and temporary experience of experiments and pilots.

The KAP supports the transition to a more sustainable and resilient city by building and improving knowledge and transforming such knowledge into concrete actions and projects. The KAP has shown that knowledge can feed the co-creation processes that lead to innovation in the city, improving the quality of the solutions generated. A healthy knowledge-action system supports the socio-metabolism of the city, helping to make it more sustainable, circular and resilient. At the same time, this approach places new demands on the researchers, policy makers, and other stakeholders, such as: how can the top down and the bottom up approach be combined in the provision of water services? What are the enabling conditions to spur innovation? How can tasks be carried out that are connected to different institutions at the same time? How can we develop a research agenda towards water governance change?

The KAP overcomes the silo approach of the pilots. Indeed, the "Amsterdam Rainproof" Programme and other similar projects have prepared the Waternet for experimentation and collaboration with stakeholders (such as the Living lab governance system). Already in 2010-2014, a programme called 'Leefbare toekomstbestendige WATERgraafsmeer' ('Liveable future-oriented water governance') and 'CleanTech Playground' experimented new forms of community roles and paved the way for the KAP – "because we had been kind of doing it already." However, demonstration projects, pilots, tests going on in the field of water management, do not impact sufficiently at the systems level. "Co-creation doesn't find its place there," said one of the interviewed stakeholders at Waternet. Change can only occur by learning from past use of technology across numerous initiatives and by investigating and discussing the (potential) consequences in terms of water governance. Pilots might succeed at their own scale, but they lack the qualities needed to deal with institutional lock-in (Andrew Segrave, KWR). "Only integrated pilots can be successful, otherwise they are organised to let them fail" (adviser to Waternet). "We had pilots for 15

years. But it doesn't change the system. Not enough. We need to change the system. We need to start a platform for a common legitimacy" (employee of Waternet). As such, pilots were drivers for further investigating governance dimensions related to them and creating the conditions for a timely response by the institutions.

The KAP stimulated a debate on the future of water management beyond technical aspects. Nowadays, while technologies are developing faster – sensors, digitalisation, IoT solutions, roles and regulations struggle to keep pace. It is not only a technological question, but a socio-technical one: "the old regulations and institutions are not accustomed to new possibilities; they are blocking scaling" (water entrepreneur). "When you talk about innovation and resilience there is a tendency to focus on technology and finance but not on governance" (AGV representative).

> "*Technology is not so complicated that government agencies can keep saying "we know best". It is how we are going to use technology that is important. And the agreements on the policy level that follow. Waternet can agree to cooperate on the project with housing cooperation to minimise risks, but it doesn't mean the rest will follow." (Citizen)*

From the initial idea to action

The KAP programme was initiated in 2015, after a project proposal was drafted by Maarten Claassen (Waternet) and Andrew Segrave (KWR) and submitted to Wiegert Dulfer (AGV). The idea was to create active knowledge on water governance that was scientifically sound and broadly supported by stakeholders. The idea was to create a platform for science-policy exchanges: *"to help local governments and stakeholders have a more strategic view and enable scientists to help the city in understanding the challenges"* (Advisor at Waternet) and produce "knowledge where it is used" (UvA representative). For this to happen, they needed to go beyond desk research and isolated academic research. The creation of collective knowledge, in fact, differs from information shared through scientific publications: *"knowledge stands in the head of individuals and not on paper."*

The programme took shape based on synergies between Waternet, Universities, and think tanks as well as the political support of the AGV. They mirrored the types of knowledge to be developed amongst scientists, practitioners and politicians: strategic knowledge for the academic sector; institutional learning for the utilities and related to policy innovation for the local government. Yet the programme was not an easy sell: *"We needed to convince the organisation that we needed to put the money in this scientific knowledge-action program because it was not used to it. We justified it with the idea of keeping the scientific quality in the probe to new models."* A KAP stakeholder described: *"The top of the Waternet is quite old school. When push comes to shove they revert back to traditional resources, proven methods. I don't really see how to change that… How do you get the top level moving?"* Some of AGV's political leaders stepped in: *"I have been a willing victim, Maarten had the visio; a lot of this is his idea. It was his idea to develop a research agenda that changes the governance of the circular economy, not just a specific paper on a specific problem."*

The collaboration between the utility and universities developed during a conference organised by Amsterdam Water Science (AWS, including Vrije University and University of Amsterdam)[13] in 2016. This was also a fertile momentum for getting the support from AGV, which sought to investigate its role in relation to water chain solutions at different scales, based on new techniques and greater stakeholder involvement. The AGV meant to

restart a dialogue on endemic and emerging issues (such as climate change, water quality), as a way to keep the dialogue going between the elections and promote innovative thinking. At the same time, KWR was working together with Dutch and Belgian water companies on programming a new collective research agenda on Water in the Circular Economy (BTO WiCE) and with the strategic division of the AGV in Amsterdam on setting up a more adaptive system for planning and learning. The ideas developed in these initiatives came together in the KAP.

The "zero phase" of the KAP was a pilot project called "Living lab governance system". It was funded by Waternet and AWS and was undertaken upon request of the AGV. It had three objectives:

1. to prepare a research agenda "Innovating water governance in the Amsterdam Metropolitan Region", validated and supported by relevant stakeholders, as well as peer-reviewed by experts;

2. to develop a first outline of a "knowledge action system" to support water innovation in the Circular Economy in Amsterdam;

3. to position water governance expertise of the AWS in the local knowledge arena, and enable student participation in this arena.[14]

The work was carried out by AWS, KWR and Kennisland. It concluded in 2016 with the publication of a report, containing 23 in-depth interviews with institutional representatives, scientists, and innovators to identify problems and define solutions. The Waternet, together with innovative Amsterdam institutions and organisations including Metabolic, Buiksloterham Circular, and Pakhuis de Zwijger provided relevant inputs.

"To approach change the problem has to be productively discovered. Through KAP the system started to understand itself. How business has been done in water has been changing, how different infrastructures are emerging and the discursive change that comes with it - something that the water industry has to adapt to." (Academic lead in KAP)

The zero phase concluded with the identification of four Work Packages (WPs) and corresponding programmes for the years to come:

1. Post-hoc review of governance strategies in various cases throughout the Netherlands;

2. Action research on systemic changes in co-creation processes,

3. A priori analysis of alternatives for the division of risks and responsibilities in new governance systems, including citizen involvement, business cases, and the legislative context;

4. Learning and adjusting to strengthen the knowledge-action system and facilitate the reflexive and responsive approach.

A fifth WP was devoted to the overall coordination. Leaders of the WPs were chosen according to the expertise of the various institutions involved. However, they belonged to the "scientist" category, in order to ensure the rigour of the academic research and quality of WP content.

The spiral image (Figure 4.19) underlines the approach for identifying issues and solutions in an inclusive manner, designed for an urban setting to overcome silos and work together. It is based on: 1) defining and analysing views, roles, relationships and positions of the current knowledge action system through network analysis, document analysis,

observations and interviews; 2) identifying obstacles; 3) evaluating ways forward; 4) testing them in a fictional decision-making process (simulation) and sharing findings at workshops. The KAP focuses on three strategies: strategies for responding to changes; governance of new technologies in the water system; and new ways of sharing responsibilities and risk.

Figure 4.19. Spiral approach to identity issues and solutions
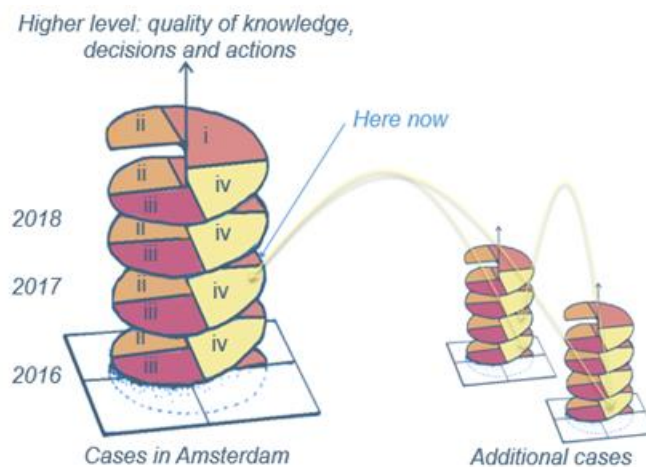
Source: Segrave, A (2018). Kennisactieprogramma Water: Jaarverslag 2017 en jaarplan 2018.

Following the zero phase, AGV financed a new programme called "Innovating Water Governance". Until the end of 2018, KWR, UvA, VU and AMS implemented a research agenda, on the basis of the four identified WPs. Within this programme, which aims to build a knowledge-action network, the WP4 organised two public meetings. The first meeting was held in April 2017. It aimed to gather stakeholders to let them get to know each other and share ideas on the implementation of the knowledge-action programme. Issues at stake were water awareness, public private collaboration, decentralised vs. centralised system (Box 4.24), silos/ broad collaboration. The second meeting was held in June 2017, combined with a public event at Pakhuis de Zwijger in Amsterdam. It was more structured than the first one. It saw the participation of about 50 people, including elected board members of AGV and city makers. Still, a KAP stakeholder from the energy sector stated that "There need to be real questions about what is the public value. For example, rolling out smart meters in energy we found resistance and concerns about privacy and control. We didn't have good means to communicate with normal people."

Box 4.24. The debate over decentralised systems within KAP

Technological innovation and bottom–up initiatives concerning decentralised sanitation in Buiksloterham brought about relevant water governance challenges: Is this knowledge useful in other places? Who is responsible for this? Are these developments compatible with the existing legislation? What does this imply for decision makers from a system perspective? If people are not going to use the system anymore, what is going to happen to the infrastructure that has been built to serve a large population over a long lifetime? What if people do not want to be represented anymore? What if people want to manage water independently? Specifically for Waternet, challenges concern the use of biogas from the waste and sanitation process and possible competition emerging from other (rather small) sanitation companies.

The role of KAP is to promote a discussion on sensitive themes, such as decentralised systems, with the scientific support of experts that act as 'reflexive participants' in the co-creation processes and as 'honest brokers' of policy options. Researchers show how alternative technologies and/or governance systems may change the distribution of risks, costs, and responsibilities across public organisations, private companies, and individuals.

Different stakeholders had different reactions:

- Promoters of circular development reacted to this initiative with enthusiasm, seeing it as a good opportunity to gather new ideas, new business models;
- The municipality was open to the idea but reluctant in scaling up the model. Pilots on sanitation should be limited in number and scale. Only when results and impacts are clearly understood could decisions be made.
- Stakeholders, such as housing corporations, property owners wondered about the consequences in case of failure of the system.

The challenge of decentralised sanitation is not so much about implementing it or not, but how to frame a debate on possible structural changes: what would happen to the level of these systems if individuals chose to decentralise? How democratic should the system be? What about the debate between individualism vs the public interest? Decentralised technologies can be analysed from the perspective of their distributive functions, the multi-level perspective of transition regimes, which works with niche innovation and the way they fit into wider regimes and from an institutional and regulatory perspective. All these aspects have been taken into account in the KAP, which will provide different scenarios together with an analysis of what transition paths these features require. The expected result is to have a long-term strategic debate in an open way.

Source: interviews

Impacts and vision for the future

The programme is currently running, so it is premature to draw conclusions on results and impacts. This initiative should make the Amsterdam knowledge infrastructure stronger. It will enhance collaboration to maintain this infrastructure for the future and support social innovation and adaptation of governance systems. However, from an organisational point of view the successful implementation of KAP could be threatened by:

- Limited budget available to implement the project;
- Lack of continuity of partners involved in all the phases (including future ones);

- Acceptance by the AGV management of the reflexive and responsive approach, which requires gradual learning and adjustment;
- Availability of scientists in co-creation processes vis-à-vis priorities set by their home institutions (such as peer-reviewed publications)
- Possible overlaps of some themes across WPs.

For the governance system to maximise its benefits from the KAP, it should:

Learn from the bottom-up approach, while making the most of the top-down one. While the local government is very much committed to its mission to preserve the collective interests and not individual ones, "The government should trust citizens in the triangular relationship" (city maker). City makers believe Amsterdam is moving towards a cooperative society (we hack the city! We own the city!): there is a concrete opportunity for innovation, whereby top down and bottom up meets in the middle.

The goal is to move beyond the usual suspects when debating the future of water governance. There are several stimuli to open dialogues with stakeholders who tend to be less involved in water governance matters. OECD (2016) shows that in the city of Amsterdam intense interactions occur amongst the main players (utility, local government and academia), but also with others, including civil society (Figure 4.20). Typically, the WP2 is at the front of the system change analysis focusing on how the relationship between water and society is going to change. However, challenges remain, including: different expectations of people and business on water management; cultural barriers and markets within which to operate.

Figure 4.20. Frequency of interaction amongst stakeholders
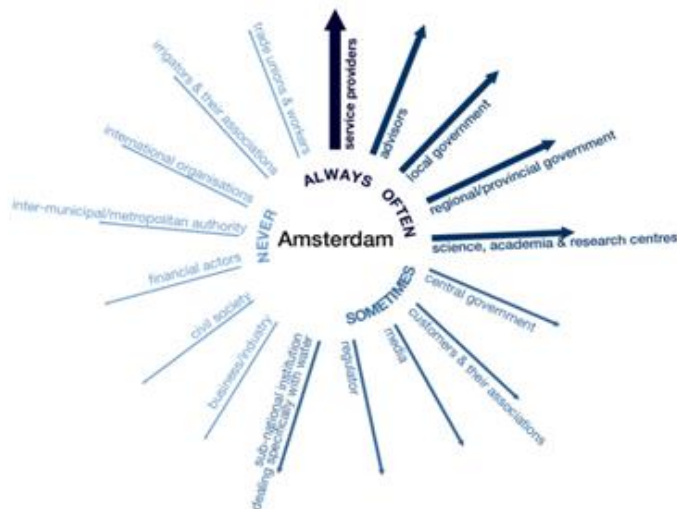
Source: Amsterdam City profile, as a result of the OECD Survey on "Water Governance in cities" (2016), http://www.oecd.org/cfe/regional-policy/water-governance-in-cities-amsterdam.pdf

Practice what you preach. Undoubtedly, Waternet and the AGV showed their willingness to learn from innovation and question themselves to keep up with such developments. However, there are challenges in learning from these processes in a context in which the utility is very much still a technical organisation, whose staff is predominantly made up of engineers. Therefore, it is still unclear to what extent this 'learn and innovate' mind-set has been internalised within the company, although it has been incorporated into governance matters. On the other hand, the AGV is a political body in which several interests are

represented. Two main problems arise: one is related to the risk of putting forward personal agendas, which might hinder policy continuity. The other problem is that the next election will take place in 2019, and the programme could be over by then. The AGV would be successful if it could get more people to go to the polls. The other is related to the resistance to social innovation. However, in the case of the decentralised systems discussed above, people's resistance has resulted from a careful consideration of the risks. According to many, experiments cannot be scaled up without imperilling public health. It is estimated that in the future decentralised systems could be used by 2% of the city population. At the moment there are 500 000 connections (Interviews, 2017).

Explore future synergies across water and energy. "To analyse urban metabolism, not to look at different streams, but try to connect all these streams together." (KAP participant). During the interviews carried out for these case studies, several of those interviewed highlighted that the energy sector made possible transformation through decentralisation of technology and that in the future the water sector may follow this path. "We are at the beginning of the circular transition. It's about reinventing the thinking. It's where the energy sector was 10 years ago" (CTO Amsterdam). Energy and water share the same values: clean, affordable, available. "Integration with energy, resources recovery, etc. is needed: only this interaction can make system change" (representative from UvA)."

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Notes

[1] See www.masslbp.com/work-panels.

[2] https://www.newdemocracy.com.au/

[3] See:
https://static1.squarespace.com/static/55af0533e4b04fd6bca65bc8/t/5aafb4b66d2a7312c182b69d/1521464506233/Lotto_Paper_v1.1.2.pdf

[4] See www.masslbp.com/the-references-panel-playbook.

[5] Results of the Independently Facilitated Public Consultations Regarding the Addition of Supervised Injection Services in Toronto. 2016.

https://static1.squarespace.com/static/55af0533e4b04fd6bca65bc8/t/58790669ff7c50cc9e27de99/1484326513874/SIS+Final+Report.pdf

[6] The city previously relied heavily on advisory bodies that were mandated for longer periods of time. "Three mayors ago there were 175 different advisory bodies which now have been reduced by half and then on even further cut down" (city official). Over time they became isolated and internally oriented.

[7] Hustler is a term used to describe self-starters determined to succeed in the world troygh entrepreneurial means.

[8] http://english.chosun.com/site/data/html_dir/2017/09/04/2017090401307.html

[9] An encore career is work in the second half of life that combines continued income, greater personal meaning, and social impact. These jobs are paid positions often in public interest fields, such as education, the environment, health, the government sector, social services, and other non-profits. The phrase "encore career" was made popular by Marc Freedman, in his book "Encore: Finding Work That Matters in the Second Half of Life."

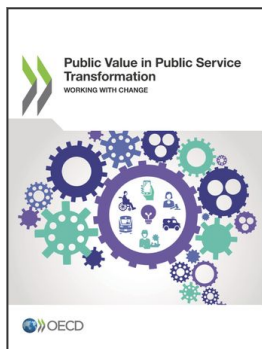[10] "Boram" literally means "purposeful, meaningful" in Korean.

[11] More in general, the role and existence of RWAs was also questioned at national level, following a proposal in Parliament to merge them with the (12) provinces into 5 "national areas" by 2025, which was not eventually taken over (OECD, 2014).

[12] 25% of Waternet customers are interested in the circular economy (Waternet interview 2017).

[13] http://www.amsterdam-water-science.nl/

[14] http://www.amsterdam-water-science.nl/research/aws-pilot-projects/results-living-lab-governance-system/results-governance.html