Policy Letter 1

Conditions of urban resilience for Covid-19: Building back stronger

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The Covid-19 pandemic has hit Rotterdam hard. According to the RIVM, on April 28th 185 people had passed away, 1,860 had reported infections and there were 404 hospitalisations. Many companies have closed down and events have been cancelled. The streets are empty. Almost 40 percent of the citizens of Rotterdam feel threatened, a quarter of the freelancers and flex workers have reported a loss of income and half of them are scared to lose their jobs (Engbersen et al., 2020). In addition, the international economy has shrunk and companies are suffering major losses. The financial crisis of 2007-08 has shown us how long a recovery can take, as up to 10 years after the financial crisis the unemployment rate was still higher than before the crisis. On the other hand, there are rays of hope: since the Covid-19 outbreak solidarity and trust in institutions has increased significantly, and many new neighbourhood initiatives are taking place (Engbersen et al., 2020). There is trust in Rotterdam as a resilient city.

The central question of this policy letter is: Which conditions influence how fast and how Rotterdam will come back stronger out of the Covid-19 pandemic? We answer this question based on a literature review. There are three forms of urban resilience, namely: resistance, recovery and transformation. Each form leads to a specific question (Table 1). This policy letter offers a brief overview of the conditions for each of these sub-questions. It is based on a literature review and makes use of a study conducted by, and a chapter written by a PhD candidate working at the IHS (Esteban, 2017).

Table 1: forms of urban resilience

Form of resilience	Time period	Sub-questions
1. Resistance	Before the crisis	How can Rotterdam become less vulnerable to Covid-19
2. Recovery	During the crisis	How can Rotterdam climb its way out?
3. Transform	After the crisis	How can Rotterdam embrace new chances and possibilities?

Source: Elmqvist et al., 2019; Martin and Sunley, 2014.

The literature review identifies a plethora of conditions, which are closely associated and together form a complex system (Folke, 2006). However, it is impossible to maximize all these conditions considering the limited resources of cities. It is therefore important to set priorities on a city-, district- and sector level and to find systematic coherence between activities and actors which include, public, private and social, on different levels namely: street, neighbourhood/district, city and region.

Resistance

The literature lists a large amount of ways a city can prepare for a/repeated epidemic(s).

Table 2: Conditions enabling resistance to an epidemic

Condition	Sub-condition	Explanation
Predict	Medical	Being able to pick up signals from medical research quickly
	Socio-economic	Predicting the dept and duration of a crisis. Mapping vulnerable groups and sectors (Martin and Sunley, 2015)
Enlarge capacity	Organizational	Quadruple and refined structure(s)[1] that predicts, translates into action and monitors.
	Systematic	Formulate plans, ensure capacity, collect data and have networks available across multiple levels.
	Social	Map and pan vulnerable groups.
Build up reserves (The Rockefeller Foundation and ARUP, 2015)	Financial	Build reserves and have flexibility in the present to be able to endure a crisis at government, business and household levels Map bottlenecks.
	Organizational	Crisis teams with resources are available, Need for flexibility
	Medical	Available medical transfer capacity and flexibility for an outbreak
Increase independence	Modularity	Ensure that if a part of the economy or society collapses, then the rest can still continue. Eg.: Become less dependent on multiple suppliers of medicines (Martin and Sunley, 2015)
	Local commercial chains	International independence is unavoidable, but with local alternatives vulnerability is reduced.
Make use of diversity	Organisations	Diversity including: age and composition within organisations, various forms of organisation (eg. different kinds of residential care homes), networks and solutions all contribute to less vulnerability.
	Tendering	Tendering to multiple parties makes one less vulnerable
	Economy	A diverse economy is less vulnerable (Martin and Sunley, 2015)
	Social	A diverse and integrated society adapts more quickly (Sharifi and Yamagata, 2016)

[1] Collaboration between government, academics, industry and society on multiple levels.

Recovery

A lower urban vulnerability reduces the depth of a crisis and enables a city to climb out faster. This process can be accelerated through a number of ways.

Table 3: Conditions for recovering faster

Condition	Sub-condition	Explanation
Critical services	Keep basic functionalities	Make sure that critical services stay available (The Rockefeller Foundation and ARUP, 2015)
Flexibility	Labour markets	Flexibility in the labour markets ensure that the economy can switch quickly and employment remains possible (Martin and Sunley, 2015)
	Organizational forms	Flexibility in organisations and networks allow boards to respond quickly (Voss et al., 2006)
Organisational power	Crisis teams	Create teams with enough participatory power and capacity
	Knowledge amassment	Good data management system, and network data collection (The Rockefeller Foundation and ARUP, 2015)
	Monitoring	Constant learning, adjustment and improvement (Voss et al., 2006)
Networks	Quadruple collaboration	Public, academic, private and society at all layers
	Vertical collaboration	Tight collaboration between layers of government and joint ventures
Safety	Establishing rules	Clear rules give trust (The Rockefeller Foundation and ARUP, 2015)
	Uphold rules	Law enforcement with sufficient capacity
Safety nets	Mapping needs	Needs can quickly change during an epidemic and need to be constantly mapped
	Neighbourhood and resident initiatives	A crisis can bring people together. Map these initiatives and where relevant support and scale up (Olsson et al., 2004; UNV, 2018)
	Social safety nets	Focused and local support for weaker groups
	Economic safety nets	Focused support for companies that have been hit by the crisis

Transform

A crisis can lead to a reassessment of deeply rooted patterns. A sense of urgency in combination with increased solidarity and trust in institutions stimulate collective action, make the city more resilient and may accelerate hoped-for social and environmental transitions. In a process of 'creative destruction' companies will go bankrupt and new ones will pop up (Holling and Gurderson, 2002). This process is partially self-organised and requires transition management (Loorbach, 2010). The question is: how can city councils steer urban transformations during a crisis by stimulating bottom-up initiatives and opportunities?

Table 4: Conditions for transforming

Condition	Sub-condition	Explanation
Steering	Making policy	Targeting long term policy / smart, environment-friendly and social innovations
	Reflection	Constant monitoring, evaluation and adjustment (The Rockefeller Foundation and ARUP, 2015)
Innovations & opportunities	Well-trained people in the city	Good and diversely trained people make a city more innovative (OECD, 2016)
	Governing innovations	Triple helix and quadruple helix systems promote self-steering innovations
	Mapping innovations	Identify initiatives of the staff (UNV, 2018)
	Creativity	Reward and stimulate creativity inside government, joint ventures, society and the economy (Folke, et al., 2002; Lazzeretti and Cooke, 2017)
	Experimenting	Living labs can develop or test innovations in both bottom-up as top-down structures (Leminen, 2013)
	Frugal / social innovations	Small-scale innovations and/or innovations from the most vulnerable are sometimes invisible, but not less important (Knorringa et al., 2016)
	Support	Social work and business support can support tailor made innovations (Ernston et al., 2010)
	Scaling up	The scaling up of initiatives is hard. Criteria can help with selecting the initiatives to scale up (van Winden and van den Buusen, 2017)
The smart city	E-education	A smart city combines digital technology with smart governance and smart people (Albino et al., 2015). During the intelligent lock-down much experimentation has been carried out with this, and there are a lot of opportunities for continued growth.
	E-working	
	E-governance	
	E-social	
Environment transition	Transition management	Collaboratively making policy, supporting innovations and experimenting can accelerate environmental transitions (Loorbach, 2010)

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