



European Union
European Regional Development Fund

*Making resilient cities
through experimentation in
urban living labs*

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Preface

This is the final report of Resilient Europe and it aims to provide a synthesis and overview of the work realized on the grounds of 11 cities in Europe from collaboratively learning on how to apply the thinking and 'doing' of urban resilience. This report cannot capture all the learning, the innovations and the collaborative atmosphere that the project generated over the period of 5 years from the preparation of the proposal to its conclusion. It needs to be read together with the thematic expertise reports that report the deeper knowledge co-produced across the three dimensions of urban resilience as we identify here: social cohesion (*people's resilience*), regenerating infrastructure with nature-based solutions (*place resilience*) and sustainable mobility for improving accessibility (*place resilience*). The guidebook on transition management that is a separate report also showcases a process methodology and the required and inquired skills and competences needed for improving *institutional resilience*.

This report is set to provide a synthesis of the work of Resilient Europe cities with the aim to distill lessons and messages from and for cities who (want to) work on urban resilience. It is not to re-iterate what Resilient Europe cities included in their Integrated Action Plans nor to repeat what it is written in the Thematic Expert reports of the project. We will refer to the thematic reports as pointers for urban planners and practitioners to deepen and widen their knowledge in each of the dimensions of urban resilience as developed and delivered in these thematic reports. The embedded learning and experience with 'making resilient cities through experimentation' can be only traced and evinced in the 11 cities of the network, no report can ever capture the richness and breadth of their living experience.

With this in mind, I would like to thank all the cities of Resilient Europe for the great collaboration we had during the preparation of the project proposal and during all the years of the project, making the experience as a Lead Expert a very positive and learning one. I hope that the innovative spirit of the cities of Resilient Europe lives longer than the project and inspires other cities to pursue their governance learning journeys towards urban resilience in the future.



Thessaloniki, Greece
(Source: Thessaloniki Arts and Culture Photos Facebook group)

1. Introduction

Cities are the spaces where sustainability and resilience are going to be realized. The amounting research on cities focus exactly on these premises and potential that cities have shown in placing novel experiments and daring committed local governments and urban planners the last years. These provide the drivers for testing and scaling sustainable systemic solutions. In the search of these solutions, being inspired by new ideas and informed by new research improves the search pathways of cities and results in evidence-based planning and policy making.

Such trigger for thinking comes from research is urban resilience. Resilience is a concept well developed and researched over the past three decades with applications in numerous fields including urban planning. However, the criticisms for the application of urban resilience in cities can be summarized as orienting planning to conservative and mostly adaptive tools. Recent research realized in cooperation with urban planners and urban innovators contrasts this, placing urban resilience as a concept and 'thinking approach' that can also stimulate transformative solutions and innovations in cities.

Resilient Europe project belongs to this community of practice, that introduces, understands and experiments with the concept of urban resilience with the motivation and aim to advance urban practice and introduce transformative solutions to improve the present and the future of cities. What cities of the Resilient Europe project have learnt and can bring forward to other cities include:

- The lens of urban resilience – places, people, partnerships – can provide guidance on how to enter a discussion and exploration of what measures, tools, plans, experiments and strategies can foster urban resilience by and for local governments;
- Experimenting in urban living labs can unpack the social, economic and spatial drivers and barriers for transformation that are essential to be known for working in public spaces for urban resilience;
- Experimenting in urban living labs creates institutional space to connect with social innovation pioneers/initiatives in the cities in an open and 'organic' way and instrumentalises emerging urban solutions like sharing economy, circular city and urban agriculture for strengthening urban resilience;
- Starting to work for urban resilience in the most vulnerable place of a city (a deprived neighborhood) makes the effort in engaging and introducing the new concept even more worth it, and creates an institutional space to reshape social programs, to create new partnerships with communities and empower local communities to act and to voice their needs and expectations from the local government;
- Applying transition management as the governance approach for experimenting in urban living labs requires a suite of skills and competences that can be inquired via targeted learning seminars (the webinars realized throughout the project) and via collaborative learning situations (the group work and thematic learning workshops realized during the partner meetings). Targeted learning and peer-to-peer learning go hand-in-hand for advancing urban planning with transition management.

What cities of the Resilient Europe project can advice other cities for working on urban resilience, meaning moving from introducing and understanding the concept and its relevance for urban planning to informing and formulating actions plans and strategies to foster and realize urban resilience:

- Collaborate with citizens for urban resilience: Fostering urban resilience is a continuous process and creates opportunities for cities to engage anew with citizens rethinking and discovering how to transform together deteriorated areas to become more resilient. Given that deprived areas are areas in continuous flow of people, ideas, and challenges, places where citizens arrive and are in need to connect and to survive, new forms of engagement, dialogue and collaboration are needed to (re)think how to transform the relations between people, between citizens and the city government and between the citizens and the place itself.
- Design for and with citizens for climate resilience in place: Steering public interest to constructive causes is a way to better include citizen ideas in the ways of retrofitting or renewing urban infrastructure for climate adaptation. Appropriate design and open consultations with citizens can contribute to safer, socially robust and climate proof areas in cities.
- Dare to be different for urban resilience: Experimenting in different areas, in challenging places that past local programs have failed or left 'unfinished' / unaccomplished, is challenging but creates a sense of purpose for redesigning programs, (re)making partnerships with community and engaging with social innovation initiatives anew. Making things differently can provide new insights and new solutions without needing to dismantle existing institutional structures and processes but rather complement them.

Resilient Europe offered an opportunity and learning process for cities to advance their urban planning practice with the concept of urban resilience, with the tools for Integrated Action Planning of URBACT and with Transition Management. It provided the space for cities to ask questions, to receive tailored knowledge and tools for their policy and planning needs at the moment, and to create greater awareness for climate change and the amplified social problems existing at local level. At the same time, through the active engagement and open governance innovation process that was set up, Resilient Europe cities fostered synergies with other cities of the project, and were allowed to reflect about their own understanding, thinking and practice for realizing urban resilience.

Through Resilient Europe project, the city of Rotterdam and all the cities of the project became living examples of how to experiment with civil society and residents learn for and make urban resilience happen one neighborhood at a time. We content that the conceptual framework and the approach that bridges urban living lab experimentation, transition management for facilitated and organized co-creation and integrated action planning for delivering of outputs can be replicated in other cities in Europe that want a new lens for urban regeneration. We also argue that the approach provides an operational tool for the cities that want to work integratively – considering social, environmental, infrastructural, economic and technological aspects – in planning for urban resilience. At a more global level, we believe that the approach of Resilient

Europe can be seen as one European-wide pilot project of localizing and operationalizing the lens of urban resilience through experimentation and governance innovation with transition management.



Photo 1: A day of transition in Thessaloniki: cycling in the city as part of the urban mobility living lab for urban resilience. (Photo Credits: Thessaloniki Resilient Europe team, 2017).

2. Understanding what makes urban resilience

Cities are homes to the future. With more than 60% of world population living in cities, the focus is on how to make them more sustainable in terms of consumption, living conditions and socio-environmental footprint. Europe is in general in a good position for developing the new tools needed for realising a positive transition to resilient and sustainable urban areas. Compared to most other continents, the living standards are good, the decision-making processes are fairly open, and the level of knowledge is high. European demographics, though, i.e. ageing populations, represent a challenge to innovative transitions. However, these may be turned into opportunities, since an ageing population due to gender differences in life expectancy results in increased participation of women in decision-making. This growing segment of the population may likely be more willing to invest in green innovations that increase quality of life in return. However, with no '100 new million-big cities in 20 years' projects, which is the major focus for investment and driver of urban development in Asia, the Middle East and South America, Europe has to focus on projects of retrofitting, regeneration and redevelopment of existing cities. Thus, Europe needs new innovative income/jobs generating models and governance approaches. We position that urban resilience as a new concept and guidance principle can elucidate ways to restore, create and advance Europe's cities for the future we want. As thus, new ways of thinking of resilience of cities are required also including the on-going emerging and facilitated/planned processes that contribute to this aspiration.

2.1 The conceptual framework

In Resilient Europe we conceptualise urban resilience as the capacity of urban systems, communities, individuals, organisations and businesses to recover maintain their function and thrive in the aftermath of a shock or a stress, regardless its impact, frequency or magnitude. Urban resilience is not a new concept, it has been debated and discussed over the past decades across scientific disciplines including urban planning. With its origins in ecology (Folke 2002; Gunderson and Holling 2002) the concept has diffused across types of systems also including the city. Following the diffusion of the concept and its uptake over the past years is not an easy task, with the amount of cross-citations to the original founding thinkers of resilience like Carl Folke counting to 122,272 (google scholar profile, visited 21.02.2019). There are however overarching characteristics to what we understand and conceptualise as 'system's resilience' that are recognized across the multiple fields and applications: (a) the attribution of capacity to a system to absorb, recover, restore and thrive in the aftermath of a impactful event and (b) the reference to a system-wide property rather than to its parts and (c) the implication of social, ecological, technological, economic and institutional dimensions to building resilience at system level.

Resilience has been defined as the amount of disturbance a (urban) system can absorb and still remain within the same state or domain of attraction, and the degree to which the system can build and increase its capacity for learning and adaptation (Folke et al 2004). When a human or ecological system loses its resilience, it becomes increasingly vulnerable to disturbances that previously could be absorbed. Although resilience has been explored in many complex social-ecological systems (Folke et al 2004) it has only recently been applied in the context of cities

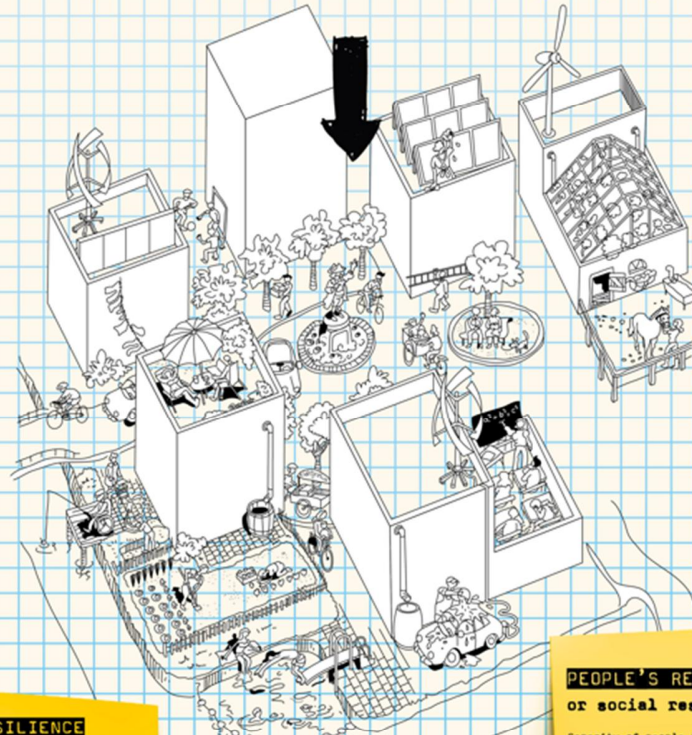
(Ernstson et al 2010). "Resilience thinking has developed effective heuristics concerning change, i.e., adaptation, transformation, panarchy, but less focus has been given to the notion of stability, or theorizing the stable characteristics of a resilient system." (Rotarangi and Stephenson, 2014)

Resilience is the "capacity of a community or society to adapt when exposed to a hazard. (...) A resilient society can withstand shocks and rebuild itself when necessary. Resilience in social systems has the added human capacity to anticipate and plan for the future" (Presad et al 2009, p.32) (also supported by Mumby et al 2014). In the similar approach, is the definition of resilience as "the ability of systems and components thereof, to react in such a way to external or internal disturbances that – after a period of recovery – the essential characteristics (abiotic and biotic characteristics, as well as functional relationships) are retained." (Knaapen et al 1999) (also supported by Rimmelzwaal and Vroon, 2000; van Bohemen 2012; van Bueren et al 2012). It is only recent, that resilience has been enriched with cultural understandings. Cultural resilience "has emerged to refer to this continuity of a co-constituted set of long-term relationships between the cultural identity of a people and the set of social-ecological relationships within which this identity was founded." (Rotarangi and Stephenson, 2014).

Positive or in the context of Europe, desirable transition is the process through which a city understands vulnerabilities, adapts urban planning accordingly and foster collaboration at multiple scales. This happens so as to fully integrate public and private sectors and citizens in the process of transformation to sustainability. The city strives to reconnect with vital social and ecological systems beyond its jurisdictional boundaries, thus fostering a state of high adaptive and transformative capacity building urban resilience. A negative or undesirable transition is the process through which a city fails to adapt to and anticipate urban crises and undergoes forced transformation at an unacceptable socio-economic and ecological cost, resulting in urban erosion or urban collapse, i.e. cities transformed into an undesirable state as a result of inaction to address the challenges and system pressures and where citizens lack sense of place. Responses to improve urban resilience are not always in tune to the adaptive and reflexive approaches that are required to address the interconnected systems and components thereof that contribute to urban resilience. Such an incremental response is urban optimisation. Optimization refers to the process of improving the existing city structures and responses, "more of the same". Examples of optimization of an existing system include the heightening of dikes for flood control infrastructure, expanding of road capacity by adding an extra traffic line, installing air-conditioning to cool buildings using fossil fuel generated electricity, etc. This may lead to a high risk of an urban lock-in i.e. where the urban system is unable to transform itself due to sunk costs, investments in existing infrastructures, dominating practices, routines and "thick" institutionalization. To address the transition to urban resilience a framework for understanding 'what makes up urban resilience' and a process approach on 'how to get there from present states' are required to be linked. The following sections progress into the understanding of urban resilience and 'what makes up' urban resilience and conclude with the way to achieve it in the scope of the Resilient Europe project.

URBAN RESILIENCE

'urban resilience is the capacity of urban systems, communities, individuals, organisations and businesses to recover /maintain their function and thrive in the aftermath of a shock or a stress, regardless its impact, frequency or magnitude'



PLACE'S RESILIENCE or territorial resilience

Urban ecosystems have the capacity to provide multiple ecosystem services including buffering climate shocks and regulating stresses.
 Urban infrastructures: robust and adaptive

- Robust infrastructures means that infrastructures maintain function over time regardless the stresses and shocks experienced.
- Adaptive infrastructures means that they are providing services that relate to social demands of today and social needs of future generations.

INSTITUTIONAL RESILIENCE

Institutional arrangements for supporting urban resilience need to promote and enable interconnectedness, redundancy and flexibility.

...Ways to engage with community and to facilitate:

- Partnership building
- Inter-departmental collaboration
- Inter-sectoral connections

PEOPLE'S RESILIENCE or social resilience

Capacity of people to self-organise and mobilise their skills and abilities in order to

- source new opportunities and
- create new forms of innovation
- act with solidarity in the aftermath of a disturbance

OBJECTIVES

Urbact resilient europe network will work together to learn and share experiences with the aim to foster urban resilience

Improve the understanding of urban resilience and to put this topic on the EU agenda

Get experience in how to implement integrated action plans for resilience by experimenting in the Urban Living Labs

Improve institutional resilience by cooperating with and across city's departments, increased collaborative capacity, forging new cross overs and synergies, while making better use of resources and assets



Photo 2: Infographic that captures the conceptual framework of urban resilience developed and applied in Resilient Europe project.

“Cities are all context, made up not simply of buildings but of assemblies of forms and the spaces and relationships between them, and between this built environment and us.”
Wade Graham, Dream Cities, Harper Collins, 2016.

The (positive) transition to the urban resilience represents the focus of studies and analyses and cities to work towards resilience in cities that includes mainly four urban domains: 1) *Urban landscape, urban ecosystems also referring to supply and enjoyment of ecosystem services*, 2) *Infrastructures including structures and services*, 3) *People, the communities and their capacities to recover, thrive and innovate and* 4) *Institutions and governance including but not limited to adaptive governance, collaborative decision-making and behavioural change*.

For escaping these stresses that manifest undesirable and often persisting situations, cities need to mobilise their capacities to overcome them and create fundamentally different conditions, reflexes and ultimately situations. This requires capacities to transform from current stressful situations that challenge and deteriorate urban resilience to new states of higher resilience. Such urban renewal processes of transformation call upon the establishment and strengthening of inherent/internal dimensions of urban resilience like people-capital (individuals and communities), technological-capital (infrastructure), natural-capital (urban ecosystems, ecoscapes of the cities) and governance-capital (institutions, partnerships, rules and laws).

People Resilience

People's resilience or social resilience is conceptualized as the capacity of people to self-organise and mobilise their skills and abilities to source new opportunities and to create new forms of innovation as well as their capacity to act with solidarity in the aftermath of a disturbance. First, for people to be resilient, community ties and sense of community are very critical. Ojeda (2005, p.50-53) identified key elements of social resilience to be "collective self-esteem, that is an attitude of pride in the place where the community lives. Cultural identity leading to the group's adoption of customs, values, idiomatic expressions, dances, songs, etc as defining elements, social humor, that is the ability to see the comedy in one's own tragedy, and collective honesty, that is the decent and transparent exercise of public functions." Adger (2000) identifies community resilience as the ability of communities to absorb shocks with and within their social infrastructures, adhering to the notion that social ties and community identities (Mira and Dumitru, 2014). Second, social resilience is also the capacity of people to act with solidarity in the aftermath of a shock that in turn will result in a social cohesive society. Citizens "should believe that in order to build a vibrant community, they would have to develop a "sense of community", preserve their cultural integrity and consider how to best meet the needs of a local workforce" (Flint, 2013, p.105).

Note: The thematic report on social cohesion can provide more insights on this dimension.

Places' Resilience

How cities look, their landscape context has an important effect on how they can recover and thrive from stresses and disturbances. Place includes urban ecosystems (green and blue infrastructures) and infrastructure systems (such as energy, mobility, housing).

Urban Ecosystems

Cities are rich on biodiversity and have remnants of ecosystems or well-manicured urban ecosystem elements in place. Urban ecosystems contribute to quality of urban environment and provide multiple ecosystem services and as such contribute to wellbeing and quality of life in a city (Muller and Werner, 2010, p.22-23). Despite the recognized benefits of urban ecosystems to citizens and to urban communities, it remains that each urban community has to self-recognise and put importance of ecosystem services in its own meaning and frame of reference.

Elmqvist, Frantzeskaki et al (2016) also address that individual cities cannot be considered “sustainable” nor “resilient” without accounting for their dependence on ecosystems and resources from other regions around the world (Folke et al. 1997, Seto et al. 2012). Urban planning therefore will need to increasingly work at urban and periurban but also regional scales while considering responsibility for the global connectivity and resource imprint of cities that influence the ability of cities to improve resilience and enable sustainability transitions (McPhearson et al., 2015).

Despite the writings and case studies on urban resilience that have a spatial focus and an urban ecology background, there is a criticism that looking at place-explicit constitutions of urban resilience will be detrimental to it since urban resilience requires a holistic and systemic view. Urban inhabitants both influence and rely on resources and ecosystem services, from food, water and construction materials to waste assimilation, secured from locations around the world. The current focus on single scales when examining urban resilience is counter-productive, this includes focusing on the scale of single cities without considering the effects globally, just as it does focusing on building resilience in a particular neighborhood, without considering effects on other neighborhoods within a city.

Urban resilience is a systemic property and as such needs to be examined as an interconnected concept, however understanding the way different dimensions of urban resilience and how they relate to each other in making a complex adaptive systemic configuration is also pertinent for urban action and urban planning overall. To become meaningful, urban resilience has to address scale issues appropriately. As McPhearson et al (2015) address “understanding and addressing resilience through and of urban ES may enable urban planning and governance to become adaptive and reflexive not only to external drivers (e.g. climate change extremes and vulnerabilities) but also to internal drivers. (...) For example, enabling citizens to take up initiatives for restoring green infrastructure in urban neighborhoods can act in synergy with city plans to add permeable surfaces, and in this way increase stormwater absorption/retention in urban spaces.”

Infrastructures

Infrastructures are the hardware of our cities. They ensure that basic services are provided and that there is a level of service-amenities to all urban citizens. With an significant percentage of European population living in cities, future investments in infrastructures aim to improve their environmental performance as well as ensuring the creation of new businesses via the coupling

of infrasystems and creating service-based economies (e.g circular economy, sharing economy). This is also a window of opportunity for rethinking how retrofitting of infrastructures can further contribute to urban resilience. There are two quality characteristics that relate with how infrastructures can ensure delivering on urban resilience in the future: robustness and adaptability.

Robust infrastructures means that infrastructures maintain function over time regardless the stresses and shocks experienced. Robustness-orienting strategies focus on ‘climate-proofing to a range of possible futures’ (Van Bree and van der Sluijs, 2014, p.31). This overall means that an infrastructure system continues performing in an array of changing variables and conditions and satisfies the originally identified needs that the infrasystem was constructed to provide.

Adaptive infrastructures means that they are providing services that relate to social demands of today and social needs of future generations – respond to an array of social needs over time. Investment in infrastructures in cities is important to consider urban sustainability since infrastructures remain for multiple generations and determine how future generations will be serviced and structured over everyday practice. Resilient infrastructures also landmark cities that can withstand shocks and stresses and are places to invest in, attracting economic/business as well as people capitals. As stated by Rees (1997) “cities are the engines of economic growth, the centres of social discourse and the living repositories of human cultural achievement, but also nodes of pure consumption and entropic black holes of industrial society”.

Note: The thematic reports ‘Nature-based solutions for urban regeneration’ and ‘Sustainable mobility’ deepen this dimension of urban resilience.

Institutions for urban resilience

For building urban resilience, proactive leadership is paramount (Prasad et al 2009, p.9-11). It is important to anticipate shocks and understand the long-standing vulnerabilities experienced due to urban stresses. In this front, political leadership may face resistance to new measures and institutional arrangements, since long experienced stresses may not be perceived as ‘urgent matters’ to take into consideration for investing public resources and may also understood as manifestations of systemic conditions rather than as ‘resolvable issues’. For political action to be backed up, proposed actions require a multi-actor partnership from public, private and civil actors.

Institutional arrangements for supporting urban resilience need to promote and enable interconnectedness, redundancy and flexibility. A way to achieve this is by forging partnerships between different social actors: public, private and civil society actors. As Flint (2013, p. 208) addresses “collaborative partnerships are a powerful way to improve communities. That is, to improve a community, we must all work together to solve problems. Even neighborhood-level change requires relationships and partnerships with entities beyond the neighborhood to optimize funding and access needed expertise and skills.” This goes beyond social synergies. Enabling collaboration between these different actors creates the conditions for resource and

governance synergies (Frantzeskaki et al, 2014) that further ensure resourcefulness of social institutions. For the substantial investments in infrastructures required to more resilient cities, partnerships between different public, private and civic actors are of paramount importance (Newman et al 2009). Next to this, we also look at partnerships to revitalize urban economies. In his work on local economies, Shuman (2015, p.158) addresses that “partnerships also provide another way to think about economies of scale. (...) Partnerships offer local businesses the possibility to achieve almost any economy of scale, not through endless growth, but through carefully constructed collaborations.”

Accountability, Trust and Transparency

For dealing with stresses and shocks effectively, intersectoral collaboration is essential. This however does not come easy in most of the city organisations. Ad hoc teams across departments that work together on the topic of urban resilience need to consider principles of good governance like trust and transparency in order to establish collaboration and source resources for common projects and seek policy/planning co-benefits.

As Prasad et al 2009 (p.69) also “as a concept, intersectoral cooperation goes against the grain of most government systems. Councilors and officers, usually representing specific disciplinary areas and professional groups, may want to defend their sector’s interests and compete with each other over limited budgets. (...) Singapore, Makati City and Tokyo are among cities that provide examples of ownership by line departments with the capacity and authority to ensure proper coordination between the various agencies. Programs report to and are monitored by high level institutional mechanisms”.

With the view on how different innovations or innovative actions from bottom-up initiatives maintain or enrich urban resilience, it appears to be a paradoxical finding. While bottom up initiatives are creating social capital and are the ‘pulse of urban innovation’, at the same time often focus solely on maximizing efficiency, minimize energy, and reduce redundancy and material use. Yet, redundancy is one of the hallmarks of a resilient system. Sustainability goals and resilience goals, if not examined carefully can therefore be completely at odds with each other. As Elmqvist, Frantzeskaki et al (2016) address in their recent work on urban resilience, this trade-off is a result of sustainability discussions failing to apply a cross-scale and more holistic systems approach needed to stay on a sustainability trajectory despite disturbances and the failure to recognize the cost of efficiency in designed and/or optimized systems (Frantzeskaki and Loorbach 2010). For example, additional but alternative institutional arrangements may seem redundant since they need to operate in harmony with existing institutions while satisfying same objectives. However, such designed intentional redundancies provide the necessary enabling institutional context for adaptation and transformation trajectories towards sustainable outcomes.

Plurality and redundancy of institutional arrangements implies that planners should search for solutions to achieve sustainability through a co-creation process in parallel to streamlined planning processes so that multiple solutions can be experimented with across the city, i.e.

through collaborative and polycentric governance. Further, by applying resilience thinking and resilience principles (sensu Biggs et al 2015), sustainability may be considerably strengthened through interlinking and analyzing numerous sustainability initiatives at multiple scales, initiatives that otherwise would just have aimed for increased efficiency and optimization often within narrow sectors. Also, clear, sustainability oriented goals will help reduce the implications of high and low specific as well as general resilience.

In efforts to unpack the multiple meanings that both sustainability and resilience can incorporate for an urban context, a knowledge co-creation process may be essential (Pereira et al 2015). We propose that a deliberation process for knowledge co-creation can enable locally informed and globally related meanings and understandings of both urban resilience and urban sustainability. Such a process could be particularly important for exploring designed redundancy and diversity in the urban development. Empowerment of citizens to co-design, co-create and co-produce urban places is essential so as to have a shared responsibility and accountability of the present and the future of urban resilience. As Newmann and Jennings (2008, p.159) address "empowerment and participation go hand in hand. City governments need to develop strategies for empowering people through transformation of structures and processes to enable people to participate in decision making".

Planners must also engage with a large nested hierarchy of spatial scales to take increased responsibility for motivating and implementing solutions that take into account their profound connections with, and impacts on, urban regions, other cities and the rest of the planet. Collaboration across a global system of cities could and should provide a new component of a framework to manage resource chains for sustainability through resilience. In this way, planners and policy makers can create a more inclusive process to determine which potential pathways will offer the desirable sustainability and/or resilience outcomes (Redman 2014).

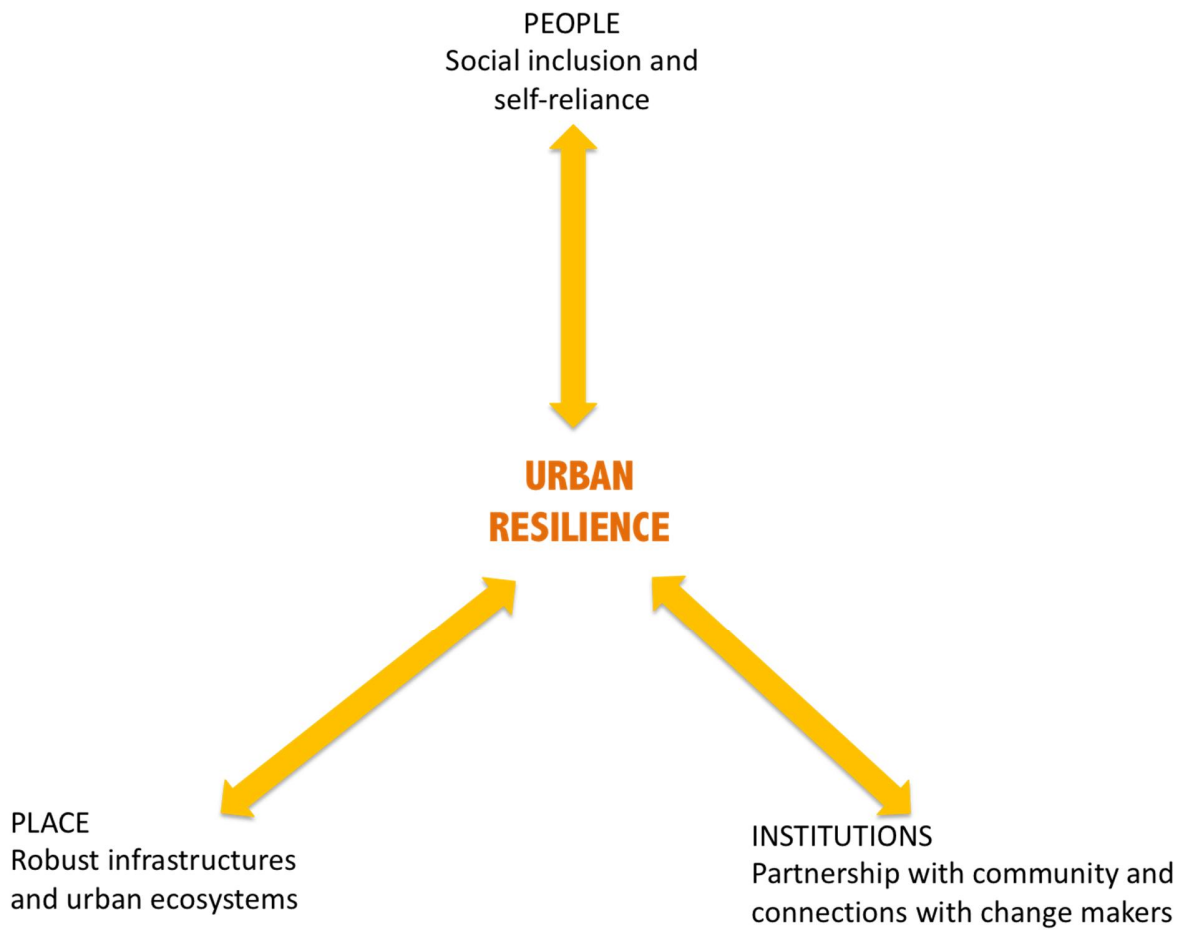


Figure 1: The urban resilience conceptual framework as developed and introduced in Resilient Europe project.

2.2 Application of the conceptual framework

How the conceptual framework was applied and how it helped the cities of Resilient Europe to work with urban resilience is described in the following paragraphs.

Where? In deprived neighbourhoods or areas of eroded resilience

All cities in Resilient Europe applied the concept of urban resilience to understand the pressures and stresses in their city but also as a 'design' concept to intervene in a deprived neighbourhood chosen together with the expert of the project and selected citizens during the first workshop in every city.

The cities of Resilient Europe worked in areas in their cities that have been assessed and marked as places of deteriorating resilience that are deprived neighborhoods. Deprived neighborhoods are those places with unrepaired or outdated infrastructure, abandoned or low quality public spaces, detached or even alienated civil society and with evidence on broken relationships between citizens/locals and between locals and their place (absent or even negative sense of place, place detachment). In these areas, social policy programs or urban regeneration strategies have left their mark by sporadic interventions and partial implementation of social capacity building programs. Many cities have seen also numerous efforts on public consultation and social programs fail in such neighborhoods for unspecified or undetermined reasons. These places are soft spots in the cities, places that require new ways of thinking, approaching and relating with the citizens. Already marking them as 'problematic' or 'challenging' stigmatizes them and even burdens to see them as possible transformation places for their communities to thrive.

In Resilient Europe project the cities choose exactly these places to work with, as the toughest case studies so as to learn by doing for urban resilience. The cities and their focus neighborhoods are: Sint Anries in Antwerp, Belgium, Lawrence Hill and Easton in Bristol, United Kingdom, Zaleze in Katowice, Poland, Senge Park in Malmo, Sweden, West End in Vejle, Denmark, Pamvotis waterfront district in Ioannina, Greece, City center district in Potenza, Italy, Dolno Ezerovo in Burgas, Bulgaria, Toumba in Thessaloniki, Greece, Ruchill and Possil Park in Glasgow, United Kingdom and Afrikaanderwijk in Rotterdam, The Netherlands.

How? Choosing an entry point of urban resilience to make it spatially and socially relevant

Every city decided to have an entry point to urban resilience either 'resilient people', or 'resilient places' or 'resilient institutions'. In this way, every city connected a priority urban challenge with the concept of urban resilience while making it relevant to citizens and urban change agents. In the following picture, we show which entry point every city chose to discover and design with and for urban resilience.

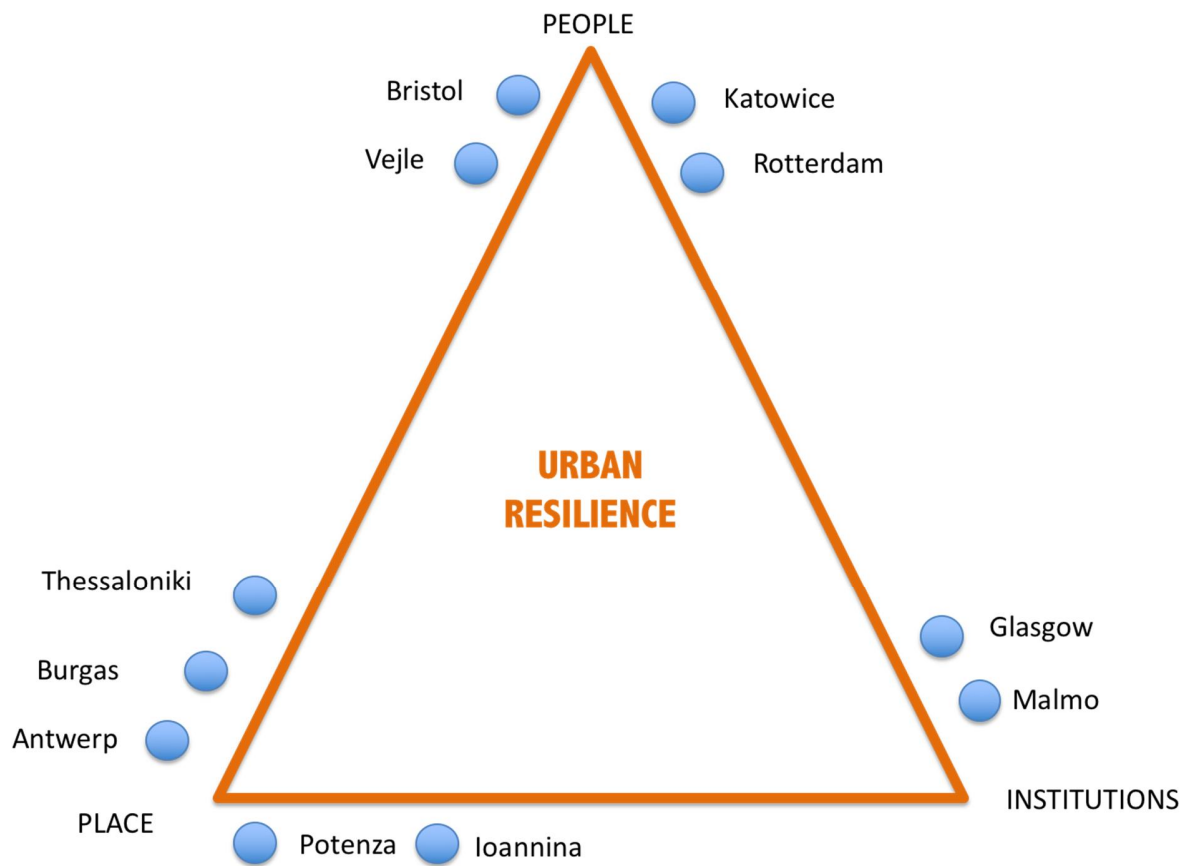


Figure 2: The cities of Resilient Europe project positioned along the entry point of choice for designing and working with the urban resilience conceptual framework in the deprived neighborhood of choice

2.3 The approach: real-life place-specific experimentation in urban living labs

A place-explicit experimental intervention for urban resilience – in the form of an urban living lab- is chosen to unpack what can foster urban resilience in cities. Place-explicit real-life experimentation can promote collaboration between different social actors (public, private, civil society) and between different sectoral departments within the city. With space as a boundary object amongst different actors, collaboration can be enhanced and forged and in this way, new social relations and partnerships can be established. As Nassaeur (2013) also addressed “designing landscapes together across diverse participants is not only a means of engagement, it is a means of mutual learning and rectification of differences, at least within the frame of the selected landscape” (p.89; cf. Albert et al 2012; Bohnet 2010).

Through the engagement of ‘practitioners’ and stakeholders from civic society, interests and needs of citizens and communities are brought to equal grounds with the considerations and aspirations of policy actors in order to achieve solutions and desirable outcomes. In fact the equal participation allows an ‘increase (in) the accountability of science by increasing or operationalizing the “responsibilization’ of all actors involved - be they scientific, political, industrial, or lay” (Polk, 2015). The inclusion, collaboration and, thus, the co-production of knowledge among multiple social actors are thus interconnected with the creation of a mutual responsibility and a shared aim among the multiple actors involved in the experimentation process.

What makes urban living labs different from other interventions aimed at (governance) innovation in an urban context is that they are aimed at dealing with sustainability challenges with questioning current ways of organizing and connecting (challenging the status quo) and at the same time aim to uncover hidden dimensions of sustainability threats (e.g. issues of justice, accessibility, equity, exposure to vulnerabilities) as well as conflicts of interests, needs and aspirations. Urban living labs involve multiple actors that in a facilitated way test *new ways of dealing* with contemporary sustainability threats and challenges, innovate with *new ways of organizing* and critically examine the fitness of new technological configurations to specific contexts.

Urban living labs are experimental intervention in contemporary urban (governance) dynamics that is place-bound (‘it happens in a specific place in the city’), it is on-going (‘it happens here and now’) and involves testing of new ideas, practices and/or approaches to current threats with the aim to inform and inspire future action for urban resilience across scales. Urban living labs have an experimental function. An urban living lab is a form of experiment that can exert or be employed to exercise different forms of power depending on context conditions and momentum of the intervention. In addition to this, an urban living lab is purposefully fostering learning through an open and engaged experimentation. What makes ULL distinct is the place-explicit (urban) focus and the fact that they experiment with future solutions and/or approaches while addressing a current sustainability problem.

Building from writings on pilot studies, transition management and strategic niche management that also provide empirical grounds for experimental interventions, we argue that urban living labs are distinct in multiple ways. More specifically, a ULL is different from most pilot projects in three ways: (i) urban living labs are not relating to testing or evidence gathering of a policy program, (ii) urban living labs have an open-ended learning and innovating objective (outcomes are uncertain, high-risk but high-potential for impact) and (iii) urban living labs have an explicit spatial focus on dealing with a present sustainability threats and challenges by examining in a co-creating way.

Through the urban living labs, we explored new types of social relationships between citizens, businesses, experts and planners. The metaphors of resilience were explored through continuous professional development with urban practitioners, which is of critical importance when assessing the conceptual frameworks practitioners have for approaching wicked problems in complex urban systems and how resilience can complement and change such frameworks. The relevance of the methods of analysis and synthesis resilience offers was progressed by critically testing and then refining operational handbooks for resilience developed for application in natural resource systems for urban systems (especially Walker and Salt, 2006).



Photo 2: Banner of the Urban Living Lab from Ioannina City.

Transition Management

Transition management is a cyclical governance process at various levels (Loorbach, 2007). The core idea is that four different types of governance activities can be distinguished when observing actor behaviour in the context of societal transitions: strategic, tactical, operational and reflexive. The activities exhibit specific characteristics (in terms of the type of actors involved, the type of process they are associated with and the type of product they deliver) which makes it possible to (experimentally and exploratively) develop specific systemic instruments that have the potential to govern societal transitions. The transition instruments relate to specific phases of the transition management cycle. The transition management cycle consists of the following phases: (a) Problem structuring, establishing and organizing the transition arena and envisioning; (b) Developing a transition agenda, a vision of sustainability development and transition pathways; (c) Establishing and carrying out transition experiments and mobilizing the resulting transition networks; and (d) Monitoring, evaluating and learning from the transition experiments and, based on these, making adjustments in the vision, agenda and coalitions (Loorbach, 2010; Loorbach et al 2015; Frantzeskaki et al 2012).

All the transition management tools are participatory and with an explicit focus to stimulate and/or facilitate innovation (of different types, e.g. technological innovations, governance innovations, etc). To enable transitions, institutional flexibility and innovation in governance should, among other things, build on local knowledge including that of residents and experts, where technological and institutional systems are viewed as ingredients for reducing environmental risk regimes. There is a substantial agreement among scholars in the transition management field that involving social actors and the creation of a “sustainable network of practitioners providing the link between the relevant parties - politicians, administrators, researchers, educators and citizens” is essential in institutional and governance innovation. Incorporating citizen knowledge in new and strengthened institutions represents a significant step forward, since the citizens not only have to be involved, but also are considered as holder of a relevant knowledge useful for preventing and managing risks and reducing vulnerabilities.

Note: The thematic report ‘Guidebook of transition management’ provides more detailed insights and guidance on applying transition management with examples from the Resilient Europe cities.



Photo 3: Urban Living Lab Thessaloniki in Toumba neighbourhood (Photo credit: Niki Frantzeskaki, March 2017).

2.4 Learning from experimenting in urban living labs and their spurred transition experiments

Experiments for Resilient People:

The transition experiments in the Resilient Europe project cities fostered social inclusion and improved the conditions of self-reliance of citizens in the following ways:

First, actors engaged in and actively brought ideas and solutions to discuss in the setting of the transition experiment put in place collaborative actions for dealing with core vulnerabilities. For example, in Bristol the transition experiment was a participatory platform to showcase and socially rank solutions named Bristol's Festival of Solutions. Every citizen, social innovation network/ initiative and SME in the neighborhood participated with solutions at hand that then waived in a common proposed alternative for the regeneration of their place.

Second, transition experiments created a new narrative of the place, that connected the community understandings and visions while lifting the social stigma of the area. This transformation of the narrative established a new image of the place, and enabled a new sense of community in the neighborhood to be enacted. For example, in Vejle city in Denmark, the new narrative of place included the position of people in the place, 'stewards and pioneers of place' that catalyzed a view of connection between the community and its public spaces.

Third, transition experiments were served as 'portals' to planning processes and decision making for citizens and small enterprises that for long have been outliers or even marginalized in cities with limited tradition in participatory planning. For example in Ioannina, Greece, the Urban Platform experiment as a digital participation tool was created to allow citizens who cannot be in person in the urban living lab workshops to get informed about the discussions and pending questions and to voice their interest, ideas and proposals. Given that Resilient Europe was the project that empowered the city officers to set up and organize a participatory process for urban regeneration of the lake Pamvotis waterfront, the experiment of the Urban Platform also shows the commitment of the city and citizens to continue the dialogue and engagement virtually.

Experiments for Resilient Places:

The transition experiments in the Resilient Europe project cities worked on improving robustness and adaptability of infrastructures in the following ways:

First, transition experiments with nature-based solutions foremost allowed citizens to bring their creativity and knowledge of place and nature as equals to planners and co-design interventions in the deprived neighborhoods. Experiments were the welcoming and open institutional spaces that enabled and facilitated the co-creation of solutions (Frantzeskaki 2019). For example in Antwerp, the community, social innovation initiative and youth group together with the city officers co-designed interventions for flood reduction and climate mitigation through restoring of green spaces along the main streets and urban public spaces in Sint Andries neighbourhood. In Burgas, in Dolno Ezerovo neighborhood the city officers and urban planners had the opportunity to open a dialogue with the citizens/residents of the area about the outdated drainage canal and together co-created an action plan for the renaturing of the public space that

will also allow a natural connection with the lake front. The transition experiment in Dolno Ezerovo included the active removal of sealed soil and planting of trees in the public square that was celebrated by citizens and city alike.

Second, experiments allowed the trialing of using existing infrastructure in new ways especially for urban mobility and the introduction of cycling in cities. For example, in Thessaloniki city, in Greece the transition experiment was to co-design with citizens and interest groups (cyclists, sports clubs, family groups) cycling pathways in Toumba neighborhood with the aim to connect most visited places rather than improve incoming accessibility of the area. This allowed the city officers to understand the social flows in the area, the ways citizens re-appropriate vacant places and use alternatively existing spaces like pedestrian sidewalks, parks and parking lots.



Photo 4: View of Afrikanerwijk neighborhood in Rotterdam, The Netherlands (Photo credits: Niki Frantzeskaki, February 2018).

Experiments for Resilient Institutions:

The transition experiments in the Resilient Europe project cities worked on improving the relations between the city and the community and in this way strengthening institutional resilience in the following ways:

First, the community (meaning citizens, civil society organisations and SMEs of the neighborhoods the experiments took place in) was on the lead in all the transition experiments and the city was on a facilitative and enabling role. This shift of roles is seen as a first step in active empowerment of the citizens and progression towards stewardship of places. For example, in Vejle in Denmark and in Potenza in Italy, citizens established community councils to self-organise how to restore and re-appropriate vacant urban place into green space for all. This resulted in new collaborative relations between the citizens and urban planners and the organization of a continuous exchange and dialogue in place of city-led consultation and information sessions about projects and decisions.

Second, the experiments allowed for new ways of engagement and co-creation to take place in cities with long tradition in participatory governance like Rotterdam in the Netherlands. In Rotterdam, the city used the opportunity map tool as a canvas to map activated citizens as well as spaces and infrastructures that can be repurposed or re-utilised to serve social and economic visions of the area. The opportunity map also was a 'tool' to attract un-engaged citizens to dialogue with urban planners and to trigger thinking about the unseized potential of places and of people in the neighborhood, steering the discussion clear from the stigmatization and the problem-narrative that had been blocking solution-thinking in previous processes/projects.



Photo 5: Discussion about Rotterdam's transition experiment with Resilient Europe team during the closing and final partner meeting in Rotterdam, The Netherlands, February 2018 (Photo credits: Niki Frantzeskaki).



Photo 6: Discussion about Ioannina's transition experiment with Resilient Europe team during the partner meeting in Ioannina city, Greece, March 2017 (Photo credits: Niki Frantzeskaki).



Photo 7: Discussion about Antwerp's transition experiment with Resilient Europe team during the partner meeting in Antwerp city in October 2017 (Photo credits: Vassilis Floudas).

From a synthesis point of view, there are some key observations relevant for urban planning and especially for urban regeneration about the benefits of experimentation as a governance mode for urban resilience:

First, the experiments allowed testing of different ways of engaging with citizens in the deprived neighborhoods. The experiments allowed urban planners to try direct ways to approach and communicate with the citizens and to move away from conventional consultations or information sharing approaches. For example, Katowice engaged citizens of the Zaleze neighborhood through a food festival, making the issues of social stigmatization and local unemployment directly linked to local talents about food and sweets and showing how to overcome and lift social stigmatization.

Second, experiments for urban resilience required open public spaces as spaces of opportunity and creativity. Public spaces are vital for community building and for social urban resilience. When placed as the location for experimentation and the 'subject' of the discussions in experimentation processes, public spaces can trigger creative thinking and sense of belonging. In Resilient Europe project, all cities focused on different types of public spaces for relating to the local communities' challenges for being resilient: public squares in Sint Andries, Antwerp, city center and its squares in Potenza, and urban parks in Vejle, Malmo, Burgas, and Glasgow. Reimagining these public spaces, their use, and connectivity in the neighborhood allowed new imaginaries, new narratives and understandings as well as new connections between people and their place to be created.

"Public spaces are places publicly owned or of public use, accessible and enjoyable, by all for free and without a profit motive. Public spaces are a key element of individual and social well-being, the places of a community's collective life, expressions of the diversity of their common natural and cultural richness and a foundation of their identity." Garau et al 2015 The Charter of Public Space

"Public spaces should be seen as opportunities where citizens can improve their access to the natural environment thereby improving well-being. Parks and green spaces improve air quality and offer relaxation and leisure for the communities. Public spaces can also further well-being and health concepts." (UCLG, 2016, p.21).

Third, experimentation is a creative but intense way/process to co-create actions and pathways as well as for activating local communities and mobilising strategic networks for urban resilience. In the majority of the cities, experimenting in urban living labs was a joint initiative of local government (specifically the city team working in Resilient Europe) and a civil society initiative, and throughout the process opened up to a larger group of diverse urban actors: citizens, local

businesses, civil society groups, scientists and consultants and local professionals (e.g. architects, merchants, consultants). Next to activating local communities through multi-actor engagement and remaining open to include new actors at any time of the experiment, it was through the experimentation process that strategic networks were approached and consulted.

Fourth, the experiments showed not only unexplored possibilities in steering local action for urban resilience but also the mobilization of social networks that surface social skills, local knowledge and craftsmanship in responding to urban resilience challenges such as deteriorating social cohesion and un-prioritised local employment opportunities. Experiments in this way, created an opportunity space for opening up and connecting with social innovation in place. By engaging with multiple stakeholders and remaining open to engage with more and new urban actors throughout the process, the urban living lab setting allowed city officers to connect in an 'organic' way and instrumentalise emerging urban solutions like sharing economy, circular city and urban agriculture for strengthening urban resilience in the deprived neighborhoods. Specifically, the city of Malmo in Sweden created a collaboration with sharing economy initiative in the neighborhood of Senge park as an active link to the social network and interest community. The cities of Katowice, and Glasgow connected with social innovation initiatives of sustainable local food and urban agriculture initiative to re-establish and initiate new partnerships with citizens in the neighborhoods of the urban living lab. The city of Vejle in Denmark co-established a community council with urban pioneers in the neighborhood of West End as a new institution to galvanize new partnership with community to strengthen participation, stewardship and activation of citizens in the area.

Fifth, the experiments were humanized by bringing forward the 'people of the experiment' more prominently rather than the systemic elements only that the experiment was set to trial or investigate. Humanizing the experiments showed that these experiments were not technocratic fixes to an urban problem but rather socio-technical or socio-ecological interventions that respond to social needs and consider social complexity. Humanizing the transition experiments does not mean to personalize them nor that specific communities only receive the benefits of the experiment. Rather it means that the uniqueness of the experiment is brought to the foreground, it bears a social meaning and community image and in this way, ameliorating the political coloring of its impact.

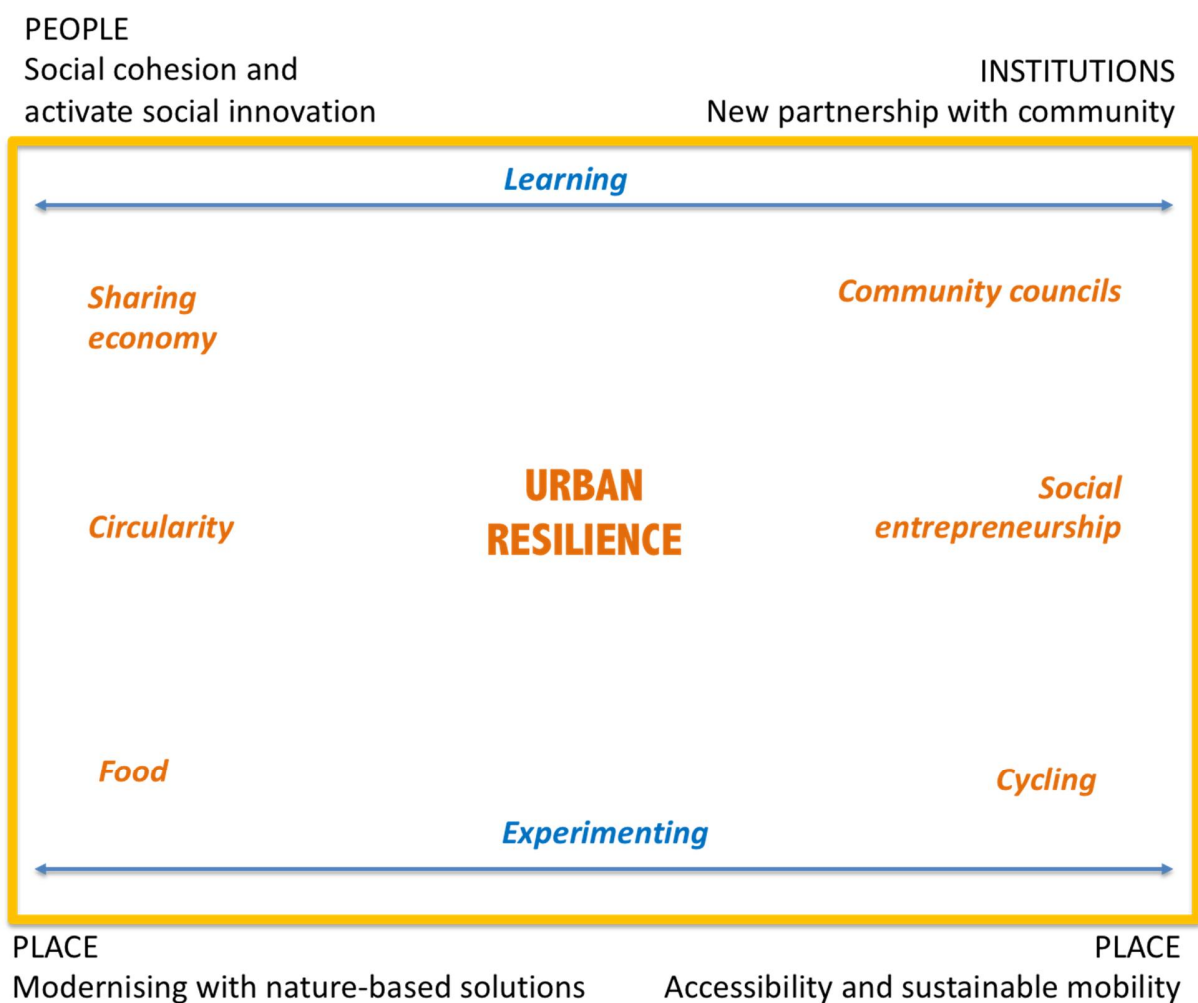


Figure 3: A presentation of the concepts that were related to urban resilience through learning and experimenting in urban living labs in the Resilient Europe project.

Table 1. Overview of transition experiments and their contributions to urban resilience in the 11 cities of Resilient Europe project.

City and Location of the Experiment	Transition Experiment	Transition Experiment's Contribution to			Relation to Urban Policy and Planning	Other outcomes
		Infrastructures' and Ecosystems' Resilience (Nature-Based Solutions)	People's Resilience (Social Inclusion)	Institutional Resilience (New Partnerships, New Engagements with Community)		
Lawrence Hill and Easton (32,500 ca) Bristol, UK	Festival of Solutions March.2017 (110 people participated)	- Identified that stewardship of green spaces as a low-hanging fruit action to improve places	- Worked in partnership with community to identify solutions to local unemployment	- Community consultation and shift of roles to put community on the lead of local projects	- Experiment for Bristol's Urban Resilience Strategy with Rockefeller program - Mayor's One City Plan (target 2050)	- Set in place new partnerships
Zaleze, (9,927 ca) Katowice, Poland	Pear Festival October.2017 (15 people engaged)		- City initiated the experiment and created an opportunity for community to self-organise	- Started from consultation and shifted to giving space to community to self-organise and be mobilised	- Local revitalisation program of the city	- Recognition that a sense of community exists in the Zaleze district
Sint Andries (## residents) Antwerp, Belgium	Green Corridor June-September 2017 (60 people engaged)	- Combine walkability and flood protection with designing a green corridor along the neighbourhood	- creating a new form of engagement with citizens and a sense of community for thinking and acting	- community support and openness to city's inputs that moved beyond traditional consultation	- Climate Adaptation Plan 2015-2020 - Strategic Urban Development Plan	- Strengthen collaboration of city and Activation of community to take up small local actions and to co-design with city
Sege Park, (## residents) Malmo, Sweden	The leisure bank (around 80 people engaged) October 2017	- first sharing economy place for sharing leisure equipment	- bringing together the community by creating a sharing space	- city is initiator and facilitator of the sharing economy experiment	- Malmo Environment Programme	

Table 1 (continued). Overview of transition experiments and their contributions to urban resilience in the 11 cities of Resilient Europe project.

City and Location of the Experiment	Transition Experiment	Transition Experiment's Contribution to			Relation to Urban Policy and Planning	Other outcomes
		Infrastructures' and Ecosystems' Resilience (Nature-Based Solutions)	People's Resilience (Social Inclusion)	Institutional Resilience (New Partnerships, New Engagements with Community)		
West End (## residents) Vejle, Denmark	Cross over young talent festival (around 150 people engaged) September.2017		- position community initiatives as initiators of local projects	- trialing new ways to engage with citizens	- Vejle resilience strategy	- unveiling that 'loneliness' needs to be tackled for social cohesion to be strengthened
Waterfront district (2,000 residents) Ioannina, Greece	Participatory budget mechanism (## people engaged) October. 2017	- allow new ideas from communities and practitioners to come forward for urban regeneration	- opens up planning processes to all voices and needs, does not take expert opinion only into consideration and creates a platform for social interests in public investments	- experimented with new forms of engaging with citizens in urban planning, established an open tool for project competition and procurement		- transparency in dealing and distributing public funds for urban projects that is rather innovative for a Greek city in periods of national austerity
City center district (## residents) Potenza, Italy	- Adopt a monument (Guevara tower) - Self-employment and sustainable jobs - Consultative committee for sustainable mobility	- increase accessibility of city center - rethink use of infrastructures in city (abandon spaces)	- sensitize citizens on own responsibility and perceptions of livability conditions of the city	- city enabled the bottom-up organization of citizens in realizing the experiments - ways to organize a lean process for solution searching and co-creating for social inclusion of marginalized groups (i.e. immigrants)	- Strategic Document of Urban Development 2014-2020	- City looks and engages with citizens in a more sensitive way, not thinking of citizens as passive receivers that need consultation but as change makers

Table 1 (continued). Overview of transition experiments and their contributions to urban resilience in the 11 cities of Resilient Europe project.

City and Location of the Experiment	Transition Experiment	Transition Experiment's Contribution to			Relation to Urban Policy and Planning	Other outcomes
		Infrastructures' and Ecosystems' Resilience (Nature-Based Solutions)	People's Resilience (Social Inclusion)	Institutional Resilience (New Partnerships, New Engagements with Community)		
Dolno Ezerovo, (5,600 residents) Burgas, Bulgaria	Removing of impermeable surfaces in an outdated flood protection system and plant aquatic trees with community (May.2017).	- Renaturing a creek area that connects with Valza lake in Dolno Ezerovo district to improve water retention during flood events	- Rethink and worked with multiple new actors in co-creating action for the district, including the citizens	- Promoted an action-centered approach to engage and activate citizens of the district for transforming their infrastructures	- Burgas Master Plan - Integrated plan for urban regeneration and development of Burgas - Municipal Development Plan 2014-2020 - Investment Program 2015-2020	- Showed readiness of community to contribute to improving their area and willingness to collaborate with the city
Toumpa, (# Residents) Thessaloniki, Greece	Introducing Cycling (series of events and engagement activities May 2017- September.2017) (139 people engaged) (220 people on survey)	- Introducing cycling as an urban practice	- Redesigned cycling routes and cycling practices with citizens and citizen associations also targeting children and youth	- Moved from consultation to co-design and collaboration with citizens and citizen associations such as sports and youth associations and schools	- Operational Plan of the Municipality	- Strengthened relations with sports associations and cycling initiatives from citizens by taking action with the experiment, moving beyond the dialogue to common action

Table 1 (continued). Overview of transition experiments and their contributions to urban resilience in the 11 cities of Resilient Europe project.

City and Location of the Experiment	Transition Experiment	Transition Experiment's Contribution to			Relation to Urban Policy and Planning	Other outcomes
		Infrastructures' and Ecosystems' Resilience (Nature-Based Solutions)	People's Resilience (Social Inclusion)	Institutional Resilience (New Partnerships, New Engagements with Community)		
Ruchill and Possil Park (# Residents) Glasgow, UK	Strengthen civil society food initiatives (series of events and engagement activities)	- Connecting existing civil society initiatives and single small business initiatives to a food resilience idea	- Connect and strengthen organizational infrastructures of the city and community around the food possibilities	- Galvanising existing partnerships and move away from consultation to co-creation with the community	- The Resilient Glasgow Strategy - The City Development Plan and supplementary guidance - The Community Plan	- Started from knowledge and experience with the community and capitalized this knowledge to move to co-creation and respond with 'action' to social needs – using food as a catalyst to social capital
Afrikaanderwijk (# residents) Rotterdam, The Netherlands	Afrikaanderwijk Market goes circular (# people engaged)		- Collaborative work between different citizens of the area in creating local jobs for waste collection and treatment - Activation of local community in new ways of collaborating with each other and rethinking material flows in their area	- City learns to collaborate with citizens and shifts role to facilitator rather than 'regulator'	- Rotterdam's Resilience Strategy	

2.5 The Integrated Action Plans

The action plans functioned as committed delivery outputs for the whole approach. Their strategic importance lies in the fact that they were communicating the core messages, lessons learnt and strategic actions co-created in the urban living lab. As such they were simultaneously tactical outcomes, showing what can and needs to be done at 'street-level', neighborhood level actions and strategic outcomes, communicating how the broader resilience visions at city level can transcend to neighborhood level, and gets further operationalized into place-based actions and outcomes.

The template for the action plan was co-developed between the experts of Resilient Europe project and the city officers/planners engaged in the project, consulting their strategic level operators in cities on how to further link them to the Resilient Strategies in place for those cities that are part of the 100 Resilient Cities network. The action plans incorporated lessons learnt throughout the project and was in continuous revision and adaptation the last year through the webinars and the two partner meetings of the project team (in March 2017 and in October 2017).

During the last months of the project, the Resilient Europe cities discussed and shared their views on how to use the Integrated Action Plans in the future. Amongst the common proposals are the following uses and applications:

- As learning outcomes of the Resilient Europe project to showcase how a co-creation process in urban living labs can co-design integrative action for sustainability;
- As strategic outcomes relating them to urban priorities and under implementation urban agendas such as Climate Agendas and Urban Resilience Strategies;
- As tactical outcomes to inform follow up actions in the deprived neighborhoods and to negotiate budget and project allocations to the actions included in the Integrated Action Plans.

Note: The 11 Integrated Action Plans of the Resilient Europe cities can be found in the URBACT website and show the journey of every city in co-developing actions in the urban living lab.

3. Future directions

Working for urban resilience is a continuous effort for cities. Resilient Europe project showcases how thinking about resilience and working for resilience with transformative actions in places come together and produce new collaborations between cities and citizens, new solutions, and policy learning. Catalytic to this pathway for urban resilience has been the peer-to-peer learning and collaboration that was facilitated and organized by the network program of URBACT and the guidance received by the program officers of URBACT throughout the project.

Many directions can be drawn for the future of urban resilience actions, many of them already included in the 11 Integrated Action Plans that the cities of Resilient Europe delivered. As a Lead Expert of the network I can selectively propose three future pathways to further our knowledge and our planning for resilient cities:

- A. *Cities have to broaden the scope of actions for urban resilience by strengthening social innovation.* This can be done by providing 'open dialogue spaces', setting social innovation festivals or competitions to allow for funding schemes to be re-designed and for collaborations between social innovators to be facilitated. Local governments should not opt for implementing nor for adapting Urban Resilience Strategies and Integrated Action Plans for Urban Resilience alone, but rather seek and forge collaborations and partnerships with multiple actors over time.
- B. *Cities and urban change agents in general have to rethink how existing spaces and places can be used for experiments and to inspire transformative action for urban resilience.* Here urban planners and urban change agents in general have to take two aspects into account: First, all experiments require open public spaces as spaces to meet, to act, to organize and often as places to transform. Second, existing spaces are often linked to past visions and plans for the city and are often the places that contest the future and the past. This sparks discussions, dialogues and often action for re-appropriation, regeneration and re-utilisation that fits the present and the future for urban resilience by urban innovators.
- C. *Cities have to remain open and willing to learn from other cities and with other cities and urban change makers so as to progress urban planning to urban resilience.* With the positive experience of city networks, cities can further valorize environments that allow them to learn-by-doing but also learn from other cities and with other cities in a collaborative and interactive way. Receptivity to new ideas, new approaches and new solutions that can progress urban planning for urban resilience is critical for the cities that want to foster and achieve urban resilience in their future. Last but not least, inclusion in URBACT networks and future projects can be one but rather important future action for ensuring continuous learning and building of governance capacity for working for the cities of the future.



*Looking at the resilient city of the future
(Image credits: Graphic artist from Resilient Europe Final Conference, Rotterdam, February
2018; Photo credits: Niki Frantzeskaki, February 2018).*

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