TRANSITION MANAGEMENT FOR CITIES WORKING ON URBAN RESILIENCE

A. Guidance Manual: Steps, and Skills for applying transition management in cities that work on urban resilience

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1. Introduction

European cities face many persistent challenges in their planning practice to achieve sustainable, resilient and livable futures. The issues are complex, involve many different actors either because no single actor holds the knowledge nor the innovation required for moving to sustainable solutions in cities or because these issues require action to be mobilized and realized by a multiple actors or partnerships of actors therein. At the same time, to understand the heart of the problem requires multiple perspectives to come together and co-created knowledge on the possible sustainable solutions. In this context, cities need to advance and update their governance practice and to experiment with new methods and approaches. In Resilient Europe we responded to this quest by proposing transition management as the governance approach to design the participatory and co-creation journey of all the cities to making urban resilience.

As a governance approach from sustainability transitions' studies, Transition Management can offer a theoretical and process design basis for bringing together the multiple knowledge holders and stakeholders operating in and for the nexus to create an active knowledge co-production platform. Transition Management is a governance approach for enabling and triggering transformative action that empowers frontrunners and change agents from different sectors and organisations (Avelino 2009; Bos and Brown 2012; Ernst et al 2016; Foxon et al 2009; Loorbach and Rotmans 2010; Scuttari et al 2016). As an approach, transition management systematically drives the co-creation of visions, actions and strategic agendas in the form of transition pathways that can inform and mobilise action on the short-term, medium-term and long-term, connecting in this way actions of 'here and now' to desirable futures 'there and tomorrow' (Frantzeskaki et al 2012). With applications in low-carbon climate mitigation and adaptation in cities (Nevens et al 2013; Nevens and Roorda 2013; Poustie et al 2016) and in urban sustainability with the focus on climate adaptation (Wittmayer et al 2016) as indicative to how Transition Management can benefit traditional strategic planning.

Transition management proposes a cyclical governance process with multiple types of activities (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 outputs they deliver). 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, 2018).

The transition management cycle involves many different tools (such as envisioning, backcasting). All the transition management tools are participatory and with an explicit focus to stimulate and/or facilitate innovation (e.g. technological, governance, social innovations) (Saepke et al 2017; Soma et al 2018). To enable transitions, institutional flexibility and innovation in governance should, among other things, build on local knowledge including that of residents and experts. Incorporating citizen knowledge represents a significant step forward, since the citizens not only have to be involved in participatory planning, but also

are considered as holders of relevant knowledge useful for preventing and managing risks and understanding how to collaboratively strengthen resilience.

In Resilient Europe project, we introduced the transition management approach extending from the process guidelines we developed in two previous projects: the MUSIC project (Nevens et al 2013; Roorda et al 2014) and the Melbourne Urban Water Transition project (Ferguson et a 2013, 2014). As such, in this paper we will not repeat the process guidance steps in full detail as those already developed and published in earlier work, but instead, we will introduce what the outcomes of the process are and we will focus on the activities performed and skills required to realize them. In this way, we aim to engage with the audience of the journal in advancing and enriching planning practice with the practice side of transition management. Specifically, what we further developed with the Resilient Europe project is a step-by-step approach on which types of skills and governance capacities are required and acquired during an effective application of the transition management process at local level.

This report is accompanied by the Transition Management Toolbox in which we present the different tools that Resilient Europe cities used in every step in the process and contributed to acquiring the skills needed for realizing experiments and the overall experimental governance process with transition management. As such, these two reports are to be read together and we hope to inspire other cities of the larger URBACT network to take up transition management in their planning practice.

Specifically, we draw from the following interactions and facilitated discussions with the Resilient Europe network partner cities:

Table 1: Activities realized in Resilient Europe project to build skills for applying transition management.

Type of activity	Objective	Number of participants In the activity
Workshop – in person 01.12.2015 5 hours (Vejle Workshop)	- First workshop on problem definition and vision of urban resilience for the area of West End in Vejle	19 participants
Workshop – in person 17.12.2015 6 hours (Thessaloniki Workshop) Workshop – in person 18.12.2015 8 hours (Thessaloniki Workshop)	- Scoping on which neighborhood to locate and organize the urban living lab for urban resilience in Thessaloniki - Problem definition and vision of urban resilience that is city-wide	28 participants
Focus Group – in person 26-27.01.2016 8 hours (Katowice Workshop)	Scoping workshop with city team of Katowice to identify the location and objective of the urban living lab and first working group on problem definition for urban resilience	10 participants
Workshop – in person 03.02.2016 3 hours (Antwerp Workshop)	First workshop on the problem definition and vision of urban resilience for the Saint Andries neighborhood	14 participants
Workshop – in person 23.02.2016 4 hours (Glasgow Partner Meeting)	Common outline of transition management approach for the urban living labs of Resilient Europe Cities	17 participants
Webinar – on-line 22.06.2016 2 hours	Actor Mapping – Tool explanation and skill development	7 participants
Workshop – in-person 21.09.2016 2 hours (Katowice Partner Meeting)	Actor Mapping and Stakeholder Engagement – - Reflection session aiming to distill lessons learnt and improve actor mapping - Training about stakeholder engagement and identifying major obstacles and opportunities for involving urban change agents	44 city practitioners
Workshop – in-person 21.09.2016 2 hours (Katowice Partner Meeting)	Envisioning – Introduction to method, approaches, tools Session also included sharing lessons from cities about envisioning	44 city practitioners
Webinar – on-line Envisioning 06.12.2016 2 hours	Envisioning – Advancement on the method with the three approaches and introduction to facilitation skills	12 participants
Ioannina City Public Debate on Urban Resilience 27.03.2017 5 hours (Ioannina Public Debate – open-ULL)	Opening the dialogue on ways to engage with citizens to co-create solutions for urban resilience in the city of Ioannina	185 participants

Webinar on Transition Pathways 21.04.2017 2 hours	Defining and establishing a methodology for co-creating transition pathways	9 participants
Webinar Results Framework 04.07.2017 2 hours	Introducing and explaining how to apply the results framework for monitoring the transition experiments	8 participants

2. Transition Management in Urban Living Labs for Urban Resilience

2.1 Orienting Phase

2.1.1 Identifying the challenge or opportunity

In this step, a sustainability challenge is identified or recognized that requires new ways of searching for solutions, and new ways of engaging with stakeholders. In this step, the challenge or problem formulation is very important for the type of process, methods for problem analysis and engagement with relevant stakeholders. Another way to start the orienting phase is to identify or recognize an opportunity for a new orientation for city making either at neighborhood or city-wide level. An opportunity can for example consist of a new framework that can offer an alternative view or perspective to a problem that is recognizable as persisting interventions or a learning alliance or network with other cities to seek new tools, methods, approaches or even inspiration for city making.

Skills required: Systems thinking
For unveiling a challenge that feeds in and back from stresses and even shocks, one has to be able to understand the whole system and how it operates, what drives and sustains identifiable patterns of development. For this, it is important to recognize that the individual parts of the city as a system, e.g infrastructures, communities, economic flows, jobs and local markets are in continuous interaction and interdependence and that a change or shock in one, brings non-linear changes in the interdependent parts. As thus, a systemic understanding of the city as a complex system of 'parts' that are in continuous interaction is vital.

Skills required: Identifying and convening with multiple actors
Challenges and opportunities in cities always involve multiple actors. The duality of systems and actors and how they interact and shape each other is a well-known topic in sociology and someone may say, an urban planner's everyday task in a city office. For the approach we have taken in Resilient Europe, we needed to acquire skills on mapping and identifying actors that can represent and work collaboratively in linking all the aspects of urban resilience. That was a rather complex task at hand given that we also opted for bottom-up transformative actions for urban resilience. We co-developed a two-step approach with the cities of Resilient Europe: first applying a tool for mapping the actors and then develop skills on facilitating their dialogues in the urban living lab.

2.1.2 Envisioning

Envisioning is important for unlocking imagination, and creativity for the future we want in cities through narratives, images, artistic expressions. A vision is an expression of the desires of the future state of a city or a locality such as a neighborhood that clearly encapsulates and expresses desires and aspirations, articulates 'what we want' for the future and is valuable operational element that can guide the definition of objectives (that will later formulate the evaluation

framework for the action plan of the city). A vision is also valuable as a planning tool since it can be used for explaining the motivations of actions (why to do this), for selecting between actions proposed to include in the action plan and to further adapt on-going actions over time (do we achieve the vision). A vision however is not a static mark in the future but can also change over time when new deliberation and co-creation processes come in place to invigorate, enrich and adapt it. Visions are powerful communicative tools since they encapsulate a shared understanding of the 'future we want' of stakeholders/participants, and is a common, shared language of the motivations of actions in the action plan.

Skill required: Creativity and imaginary thinking

For co-creating visions, it is important to stimulate the imagination of people towards positive futures. In order to be able to stimulate creativity and imagination in a participatory setting, city officers need to either train for this skill or engage with external facilitators of this process. In the role of the facilitators and stimulators themselves, they need to be able to think imaginatively themselves, and to open-up to future ideas that may seem far reached for the present. To develop this skill, an advice is to read science fiction books, that are rich in future images, to watch movies that refer to future imaginaries and to attend pedagogical seminars on creative thinking.

Skills required: Connect visual ideas and narratives with places

Making visual ideas, conceptual ideas and narratives relevant for specific places is an important skill that city makers need to have not only in co-creating visions but also with problems. To enrich this skill of city officers we had two skill-building exercises: a discussion over vision co-creation in the Katowice partner meeting in 2015 and in a webinar for vision creation methods in 2016. The tools and approaches presented and later used by the Resilient Europe partner cities are presented in the toolbox report.

Skills required: Facilitation of group discussions

Facilitating discussions with the aim to be inclusive and instigate transformative thinking is essential for experimenting with transition management. Facilitating group discussions entails not only the practical issues of keeping time and ensuring that the agreed questions or issues are discussed but rather that during the discussion time all participants had the time and opportunity to express opinions, ideas and disagreements and a dialogue was realized. Facilitation skills are important to enable slow thinkers and silent participants to feel included and contribute to the discussion.

2.2 Agenda Setting

2.2.1 Formulating transition pathways

Pathways is a concept that has entered the discussions in climate adaptation strategy development only recently, the past five years. What we have seen from the adoption of the concept of pathways is a change in thinking from sectoral actions to cross-sectoral actions. As such, we found suitable the term in the RESILIENT EUROPE project.

Pathways are co-created with transition management methodology, incorporating transformative aspects of actions with the aim to achieve the urban resilience vision. Pathways generated in the cities of Resilient Europe project were all place specific and cross-sectoral, meaning proposing actions about education, infrastructure, governance, planning and social cohesion as well as climate change in combinations. This shows a successful application of the concept of pathways for strategic and operational scope of activities. We also defined what it is not a pathway to help in co-creating pathways for urban resiliene: a project, a single action or a program are not pathways.

What our attention is the diversity of pathways that refer to re-imagining public spaces and especially streetscapes. These pathways connected with experiments in the cities of Bristol, Vejle, Antwerp, Thessaloniki, and Potenza. Each of these cities reimagined streetscapes differently and in ways that can relate and foster urban resilience from the 'street' up to the city.

Skills required: Systems thinking for action

For thinking of actions to achieve urban resilience at local level, participants need to have a systems' thinking perspective. Systems' thinking can be supported by strong visuals of conceptual frameworks of urban resilience, like the three-entry point framework we developed with Resilient Europe, the Panarchy model of Stockholm Resilience Center researchers or even the planetary boundaries framework. These frameworks or any other conceptual framework developed to guide systems' thinking create an opportunity to think about solutions that are integrative, radically changing the system by targeting its feedback loops and other relations as well as systemic factors. In order to further enrich systems' thinking, having knowledge of different frameworks that are based on and built on systems' thinking is a first step. The knowledge of examples of systemic solutions and a full picture description may further stimulate systems thinking. City planners can trigger system thinking for action by getting inspired from existing solutions and discuss them from a systems' perspective. In Resilient Europe, we organized a solutions market in which every city brought different solutions that worked in previous recent projects to inspire peers to think systematically about solutions and pathways. More can be found at the Toolbox of transition management.

Skills required: Forging partnerships and mobilizing networks

Pathways are representations of collecting actions that are cross-sectoral and cross-locational. For pathways to be formulated and to be realized, it is important to mobilize actors and networks beyond the participating actors in the participatory process. A skill that is therefore required is

to mobilise networks and actors (the connectors and supporters from the actor mapping) that can bring about the transition pathways. Diplomatic skills are required so as to explain to different actors the benefits on getting involved in this stage of the process, to have an open narrative that can accommodate even at this stage new insights and to appeal to multiple actors and create ownership. Openess to collaborate and collaborative attitude with multiple actors are also crucial skills for enabling partnerships to be created. Last but not least, communication skills are important for forging partnerships with unusual suspects and foreseeing the common benefits to be drawn from a partnership that has as a mission to realise a transition pathway on the short and medium term.

It is important at this phase to maintain stakeholders' engagement. There are different ways to ensure that interest in the process is sustained. A way is to keep information flow continuous. Specifically, stakeholders may retain an interest in the process and believe in the vision for urban resilience in the neighborhood and for keeping them engaged, the city team that facilitates the urban living lab should continue informing them and keep their attention to the process and outcomes of it. At this phase, it may be important to engage new stakeholders, the connectors and supporters of the vision of urban resilience. The engagement methodology may need revision to allow for new actors to be included.

2.2.2 Experimenting

Setting experiments is a way to learn by doing small scale actions included in the transition pathways. In this way, city officers and cities get first-hand experience and learning from real life daring actions, investigate what the barriers are for transformative actions and the formulated pathways and what institutional arrangements benefit, burden and are required for the take-off of transition pathways.

An experiment is a daring but specific local action that targets to test an idea/technology and learn from the process and results for achieving urban resilience. A meeting, a city-marketing action such as a marketing or awareness campaign, a social media action (e.g. a facebook page or group), and a voluntary action from an NGO that is 'business as usual', are not experiments. Experiments are to test new ideas, new actions at small scale. An experiment is multi-actor meaning that it involves also local government as one of the actors. It is a simple but effective action to serve as a stepping stone for learning and to show a visible and tangible action that is accessible, invites discussions and debates that alter thinking and perceptions and can be celebrated and owned by the local community. Experiments can serve to strengthen commitment to the vision of urban resilience, moving the discussion beyond 'talk-shop' and into learning by doing.

In Resilient Europe, all cities set in place a number of experiments all relating to their proposed pathways for fostering urban resilience. From reviewing their experiences and lessons from the experiments, we draw the following lessons that can inspire other cities in experimenting as a way of urban governance:

First, the experiments allowed to test different ways of engaging with citizens in the deprived neighborhoods. The experiments allowed them to try direct ways to approach and communicate with the citizens. 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

Second, 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.

Third, 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 stretched, it bears a social meaning and community image and in this way, ameliorating the polarization of its importance and impact in urban communities' life.

Learning through experimentation was a new approach for most of the cities in Resilient Europe project. The cities that had a first-time experience in setting up experiments had a sense of pride for taking up this approach. Specifically, the cities of Katowice and Potenza reported that experimenting allowed them to try out new things outside the regular strict regulatory approaches of their cities. The city of Ioannina also mentioned that experimenting as an approach is rather new for them and it was embraced as a 'safe way' to try new things, to not feel pressure for success and rather learn from mistakes made to open-up to new ideas and new approaches for the future of city-making with urban resilience as a reference point. At the same time, experimentation allowed for new narratives for the cities to be co-created. The narrative of connected spaces and connected city landscapes was co-created in Saint Andries in Antwerp with the green corridor idea as a narrative- imaginative-green infrastructure element to kick-start urban resilience in this neighborhood.

Skills required: Openness and receptivity to learn

In order to valorize the experience with experiments, it is important to enter the process open to learn and open to question own assumptions. It is often the case that openness to learn from the new local experiment allows for more innovative thinking about conditions that may enable the realization of the transition pathway relating to the experiment. At the same time, receptivity to learn, especially laterally, allows for the tacit knowledge of city officers to be enriched and to be also put in action during and post experimentation.

Skills required: Theory-to-practice application skills

To design and realise an experiment, the cities first had to develop an understanding of 'what an experiment is' and what its purpose can be in their own city, as well as how it fits the urban agendas on climate resilience. From a theoretical and conceptual understanding of an experiment for urban resilience, planners had then to design and operate the experiment in an open and collaborative way that focused on learning from the process and the results. All cities recognized that during the application of the 'concept' of the experiment in practice, additional dimensions needed to be considered such as: (a) timing of the experiment next to other activities and engagement moments with citizens, (b) establishing collaboration with networks and citizen groups that were not in the direct scope of the experiment but play an important role in communicating and linking the experiment to broader agendas in the city and (c) finding the ways to 'depoliticize' the experiment from a 'city-driven' to 'citizen-owned' one such as the Biking Day experiment in Thessaloniki city that required a repositioning of the city team to allow schools and sports' association to own the experiment

2.2.3 Connecting experiments to urban agendas

Communicating

It is important to put effort and think strategically on how the results are communicated. To show the change in mindset that it happens when thinking of building urban resilience, from considering shocks and crises as opportunities. Other shifts of mindsets that were communicated during the Resilient Europe project include the understanding that changing social relations is the first step for thinking how to innovate and renovate infrastructures especially when concerning flood-prone neighborhoods.

Skills required: Choosing the right medium to communicate

We bring forward two modes of communicating the results for other cities to exemplify from. First, use social media in a friendly way to reach out to active provocateurs and active coalitions on the same topics that the city wants to work on. The cities of Potenza and Ioannina engaged with Facebook and Twitter communities on social media for attracting people to the urban living labs but also to communicate the results in an easy and citizen-friendly way. Especially the city of Potenza made available results from every urban living lab through social media immediately after every urban living lab workshop. This kept the communication immediate and alive, creating a live-stream model for communicating. The social media communication was an effective way due to the young demographic profile of the city of Potenza and the active engagement with social media of many citizens of the city, that is rather exceptional for small size cities. This experience shows that simplicity in communication is the first condition to satisfy, complicated issues of urban agendas need to be easily and simply communicated to the broader audience even to those participating in the urban living lab. Next to this, choosing of the medium to communicate requires a careful 'reading' and assessing of the receptivity and accessibility of the city. Some cities choose newspapers and local channels like in Thessaloniki, and Glasgow, whereas more social media ready cities like Potenza, Ioannina, and Vejle opted for Twitter and Facebook as mediums to share results.

Sharing the results

Sharing the results with a broad spectrum of actors created a positive momentum for the cities especially for those that engaged with younger populations. Specifically, the city of Katowice created a link between the urban living lab experiences and discussions with an education program from Erasmus Mundus that resulted in designing a monopoly game for Zaleze neighborhood to bring the views and aspirations of children into the strategic discussion for the urban regeneration with the lese of urban resilience.

2.3. Reflecting and Monitoring

It is important to have a continuous reflection and monitoring of the transition management process to harvest on the lessons learnt and in this way, change/transform the existing planning practice and mindsets about how to make urban resilience in cities (Frantzeskaki and Tefrati, 2016; Wittmayer et al 2016).

Skills required: Theory-to-practice application skills

City officers can choose from a variety of evaluation tools and methods (e.g. reflexive monitoring (Beers and van Mierlo, 2017), transitions monitoring (Luederitz et al 2017), results framework). In Resilient Europe, cities evaluated the results from the experiment with the results framework that is a framework proposed by the URBACT secretariat in using indicators relating to the vision of urban resilience (given the thematic focus of the experiments) to evaluate how far the experiment brought about outcomes to achieve the aspired vision. These required skills to apply theoretical knowledge of the results framework to practice of collecting and systematizing data to evaluate the real-life experience of the experiment. What cities found challenging in this application is the operationalization from vision statements to results indicators that can be measurable in real-life situations qualitatively or quantitatively. This required for many cities expert assessment and assistance.

Skills required: Data gathering and analysis skills

For monitoring and evaluating the process of transition management and the experiment that was realised, the skills that are required include a systematic gathering of data and mapping of lessons learnt and the ability to analyse critically the collected data. This is often a team work on evaluation and monitoring since there are multiple lessons learnt and outputs from participatory processes valuable for improving planning practice across different departments of the local government (Frantzeskaki and Tefrati, 2016). Analytical skills are further required for recognizing and identifying the lessons learnt from the experiment given that the evaluation is to be realized in a short period after its completion and recognition that the impacts can span over a longer period.

3. Conclusions

First, we conclude that transition management as a governance approach for instigating place-focused transformative actions in cities *requires a multitude of skills especially vocational and academic skills*. For all the phases of transition management, thematic expertise on transition management and how to operationalize it to fit the local conditions is a key requirement. Next to this we found that good oral and written communication skills are paramount throughout the transition management process, especially for capturing transformative ideas, sustainability solutions in the making and to consolidate results into a strategic action plan. Table 2 summarizes the skills required and acquired during the application of transition management in the 11 cities in Resilient Europe project. By inviting multiple actors, including local change agents and sustainability leaders it allows a collaborative approach to searching and weaving the knowledge and skills that are required. At the same time, in the Resilient Europe cities we experienced that applying transition management in cities allowed for skill building and capacity enriching also thematically, since city officers, practitioners and planners learnt about urban resilience and transition management in a learning-by-doing mode. That overall added to the experiential learning of the city planners of new concepts and methods. This implies that city planners willing to apply transition management as a governance approach to any sustainability issue need to consider the skills and capacities required for its application to design an effective process. However, at the same time, city planners can advocate in favor of the application of transition management as an approach that also builds governance capacity in the planning practice as a beneficial approach to consider complementary to other planning tools and frameworks.

Second, we found that *transition management can be applied as a modular process framework* and in Resilient Europe project its modularity proved beneficial for the cities to co-create and co-investigate what it is required for fostering urban resilience. The four phases of transition management include: orienting, activating, agenda setting and reflecting/monitoring. Modularity of transition management means that depending on the context and readiness of a city, a transition management process can be applied to fit the city conditions and circumstances, and more specifically, a transition management process can be kicked off from any of the phases proposed. In Resilient Europe project, we experienced with the cities of the network that they started the transition management process from different phases.

What all cities of Resilient Europe had in common is that they started the transition management process with a concise and systematic monitoring and evaluation applying the baseline analysis framework that was set up in 2015. In the baseline analysis, the current situation of every city was described considering demographic, economic, ecological, infrastructural and organizational/governance aspects and analysed to identify stresses and shocks across economic, ecological, infrastructural and governance aspects. This provided the evidence base for justifying the dual objective of Resilient Europe project: (a) a new perspective is needed to address urban challenges in the form of stresses and shocks that is systemic and considers long-term processes and goals simultaneously. This new perspective that cities adopted and experimented with is the concept of urban resilience, and (b) a place-based operationalization of transition management is required in examining and experimenting with what makes urban resilience in a city.

Table 2. The skills required and acquired during the application of transition management in 11 urban living labs across Europe in the Resilient Europe project.

SKILLS	Transition Management Phases		
	ORIENTING	AGENDA SETTING	REFLECTING & MONITORING
VOCATIONAL SKILLS			
Thematic Expertise On transition management On urban resilience On evaluation frameworks	. 	 . 	 .
Creativity	.		
Critical Thinking Identifying multiple actors	.		.
Theory-to-practice application skills Connect visual ideas and narratives with places Apply concept of experiment to place Apply evaluation framework to process	 . 	 .	 .
Collaboration and team work skills Convening multiple actors	.		
Diplomatic skills Facilitation of group discussions Forging partnerships and mobilizing networks	. 	 .	
ACADEMIC SKILLS			
Methodological and learning skills System thinking skills Openness and receptivity to learn from experiments	. 	 .	
Analytical skills Choosing the right medium to communicate Analyse results from experiment for policy learning		 .	 .
Oral and written communication skills Facilitation of group discussions Writing results from every phase and the strategic action plan	. .	. .	. .

Third, transition management as a process methodology to guide experimentation in the urban living lab setting required *a place-based operationalization of transition management* to identify a process and conditions to foster urban resilience. This place-focused approach was the combination of the urban living lab and transition management. Urban living lab is the concept of experimenting with place-based focus and transition management is the process methodology to guide experimentation. The place-based application of transition management allowed to examine the local politics as part of the context conditions when designing the process, deciding on tools and methods to facilitate and to engage with multiple stakeholders.

Overall, we content that transition management application in cities in the Resilient Europe project brought about positive outcomes in terms of developing new skills, embedding new knowledge about urban resilience and transition management in planning, and de-risking the concept of urban resilience for cities that introduce it to their strategic development and climate agendas. Considerations for future applications of transition management as well as for adaptation of transition management for strategic urban planning consider its conceptual collaboration with design thinking and risk management for extending the integrative view and the system's thinking required especially for co-creating climate and resilience agendas in cities.

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