



Urban planning for resilience

Policy Lab for Slovenia
24 October 2023, Online




The Policy Lab is about to start...Bear with us!

Urban planning for resilience

Policy Lab for Slovenia
24 October 2023, Online

Planning for Resilience? Introductory Keynote

Prof. Lorenzo Chelleri

 Urban Resilience Research Network

We all know what it means.

Do we know how to implement and measure it?

The emergence of Urban Resilience as a **political discourse and goal**

We got introduced to a linear – **Risk focused and always positive** perspective of Resilience

The emergence of Urban Resilience as a **political discourse and goal**

Not Resilient



Resilient



The emergence of Urban Resilience as a **political discourse and goal**

Not Resilient



Resilient



The emergence of Urban Resilience as a political discourse and goal

Not Resilient



Resilient



The emergence of Urban Resilience as a **political discourse and goal**

Not Resilient



Resilient



Crisis is the new normal for cities in the 21st century

The emergence of Urban Resilience as a **political discourse and goal**

Not Resilient



Resilient



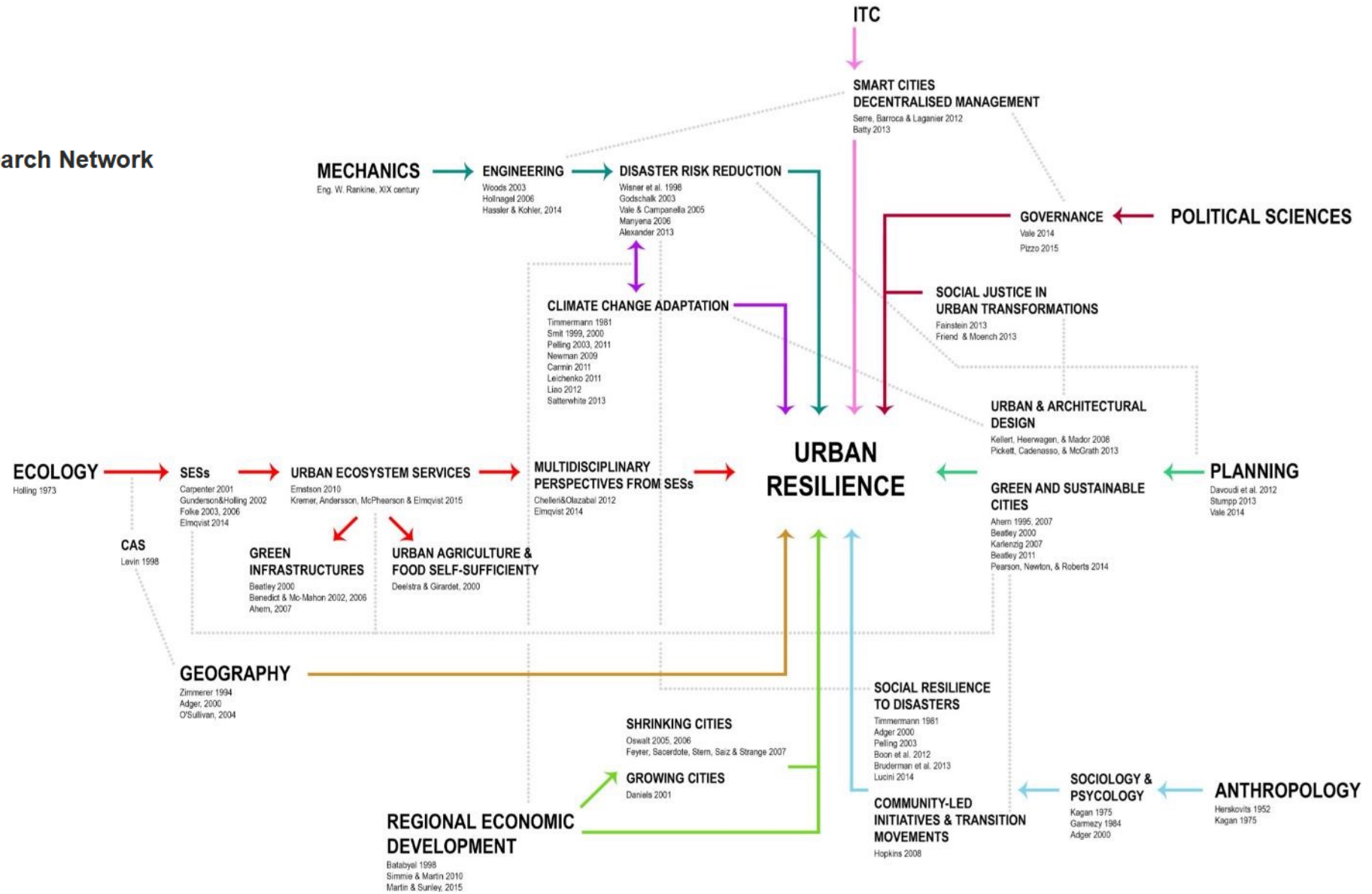
Crisis is the new normal for cities in the 21st century
Resilience allows you to cope with crises

“Urban Resilience is the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience” *Rockefeller Foundation 100 RC, 2013*

Many definitions

Even more applications

The emergence of **Urban Resilience in Research**: from Resilience to Urban Resilience





Review

Defining urban resilience: A review

Sara Meerow, Joshua P. Newell, Melissa Stults

Show more

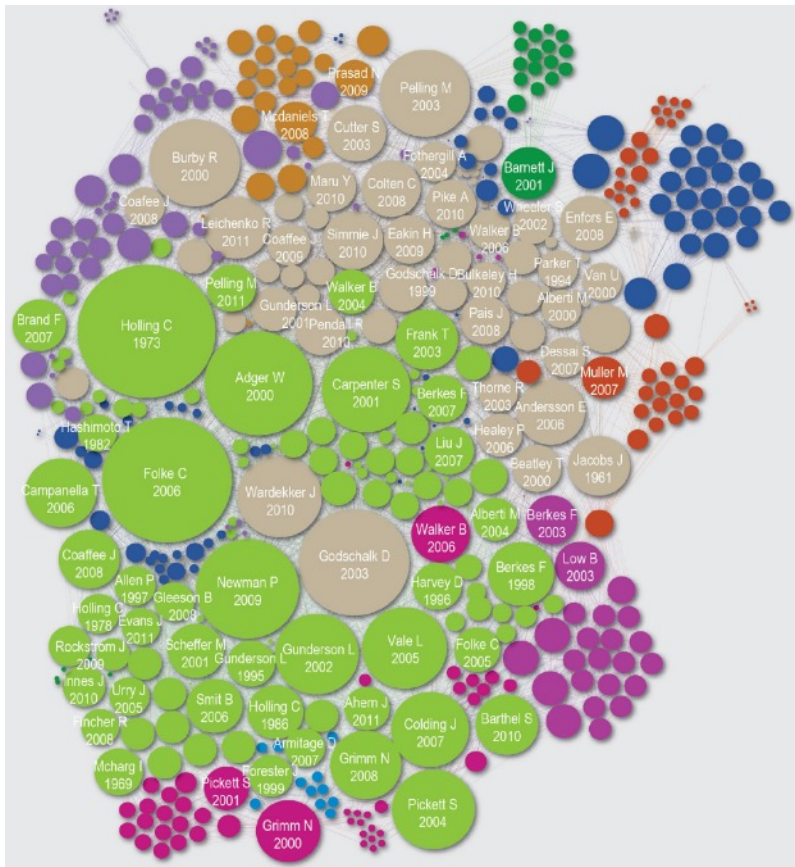
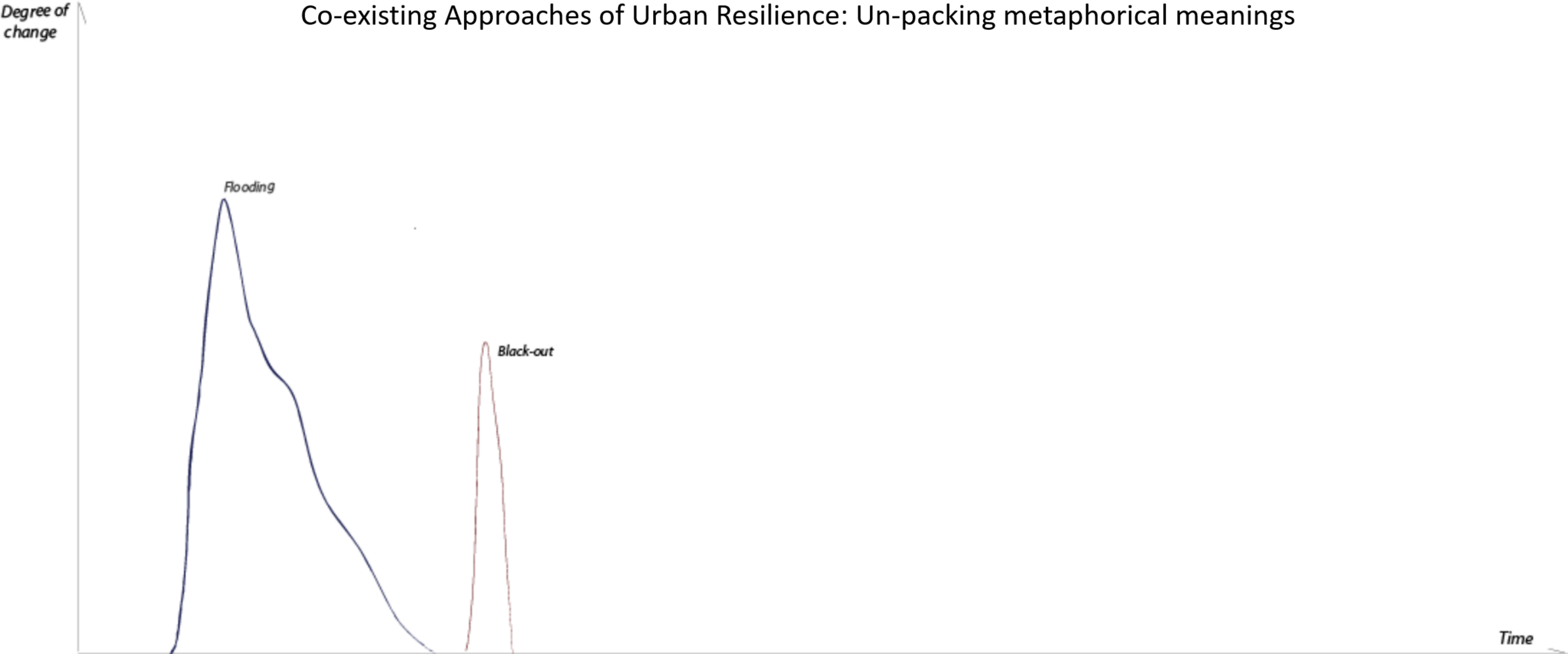


Table 1
Definitions of urban resilience.

Author (year)	Subject area	Citation count	Definition
1 Alberti et al. (2003)	Agricultural and biological sciences; environmental science	212	"... the degree to which cities tolerate alteration before reorganizing around a new set of structures and processes" (p. 1170).
2 Godschalk (2003)	Engineering	113	"... a sustainable network of physical systems and human communities" (p. 137).
3 Pickett et al. (2004)	Agricultural and biological sciences; environmental science	101	"... the ability of a system to adjust in the face of changing conditions" (p. 373).
4 Ernstson et al. (2010)	Environmental science; social sciences	46	"To sustain a certain dynamic regime, urban governance also needs to build transformative capacity to face uncertainty and change" (p. 533).
5 Campanella (2006)	Social sciences	44	"... the capacity of a city to rebound from destruction" (p. 141).
6 Wardekker et al. (2010)	Business management and accounting; psychology	30	"... a system that can tolerate disturbances (events and trends) through characteristics or measures that limit their impacts, by reducing or counteracting the damage and disruption, and allow the system to respond, recover, and adapt quickly to such disturbances" (p. 988).
7 Ahern (2011)	Environmental science	24	"... the capacity of systems to reorganize and recover from change and disturbance without changing to other states ... systems that are "safe to fail" (p. 341).
8 Leichenko (2011)	Environmental science; social sciences	20	"... the ability ... to withstand a wide array of shocks and stresses" (p. 164).
9 Tyler and Moench (2012)	Environmental science; social sciences	11	"... encourages practitioners to consider innovation and change to aid recovery from stresses and shocks that may or may not be predictable" (p. 312).
10 Liao (2012)	Environmental science	6	"... the capacity of the city to tolerate flooding and to reorganize should physical damage and socioeconomic disruption occur, so as to prevent deaths and injuries and maintain current socioeconomic identity" (p. 5).
11 Brown et al. (2012)	Environmental science; social sciences	5	"... the capacity ... to dynamically and effectively respond to shifting climate circumstances while continuing to function at an acceptable level. This definition includes the ability to resist or withstand impacts, as well as the ability to recover and re-organize in order to establish the necessary functionality to prevent catastrophic failure at a minimum and the ability to thrive at best" (p. 534).
12 Lamond and Proverbs (2009)	Engineering	5	"... encompasses the idea that towns and cities should be able to recover quickly from major and minor disasters" (p. 63).
13 Lhomme et al. (2013)	Earth and planetary sciences	4	"... the ability of a city to absorb disturbance and recover its functions after a disturbance" (p. 222).
14 Wamsler et al. (2013)	Business management and accounting; energy; engineering; environmental science	3	"A disaster resilient city can be understood as a city that has managed ... to: (a) reduce or avoid current and future hazards; (b) reduce current and future susceptibility to hazards; (c) establish functioning mechanisms and structures for disaster response; and (d) establish functioning mechanisms and structures for disaster recovery" (p. 71).
15 Chelleri (2012)	Earth and planetary sciences; social sciences	2	"... should be framed within the resilience (system persistence), transition (system incremental change) and transformation (system reconfiguration) views" (p. 287).
16 Hamilton (2009)	Engineering; social sciences	2	"ability to recover and continue to provide their main functions of living, commerce, industry, government and social gathering in the face of calamities and other hazards" (p. 109)
17 Bruggmann (2012)	Environmental science; social sciences	1	"the ability of an urban asset, location and/or system to provide predictable performance – benefits and utility and associated rents and other cash flows – under a wide range of circumstances" (p. 217).
18 Coaffee (2013)	Social sciences	1	"... the capacity to withstand and rebound from disruptive challenges ..." (p. 323).
19 Desouza and Flanery (2013)	Business management and accounting; social	1	"ability to absorb, adapt and respond to changes in urban systems" (p. 89).

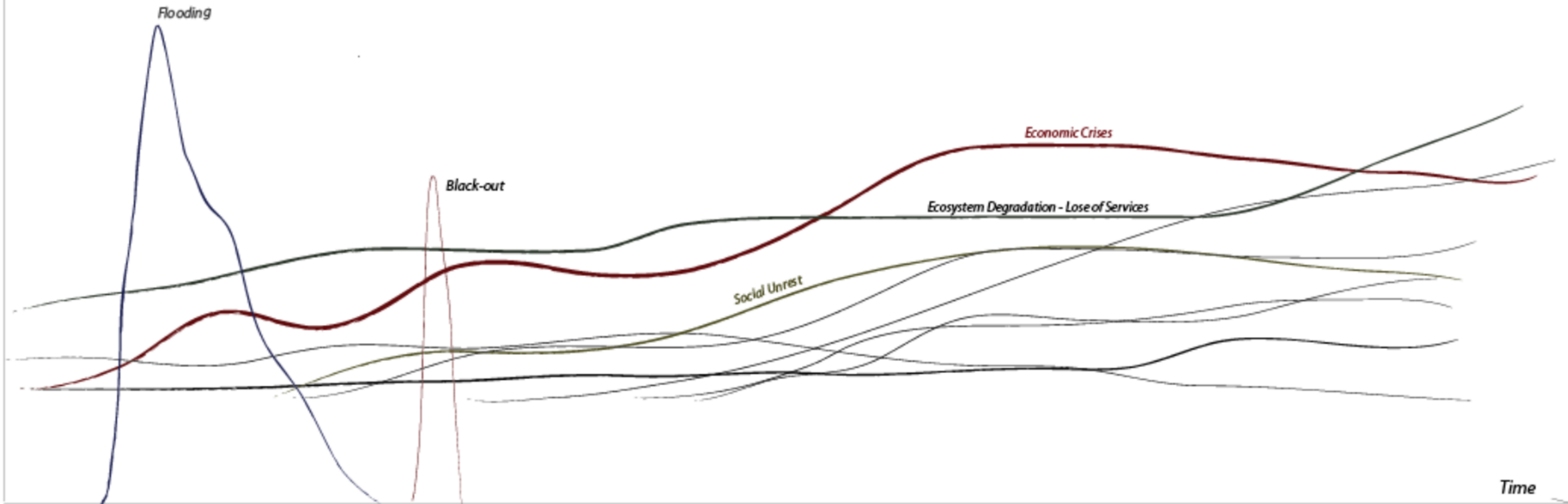
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Co-existing Approaches of Urban Resilience: Un-packing metaphorical meanings



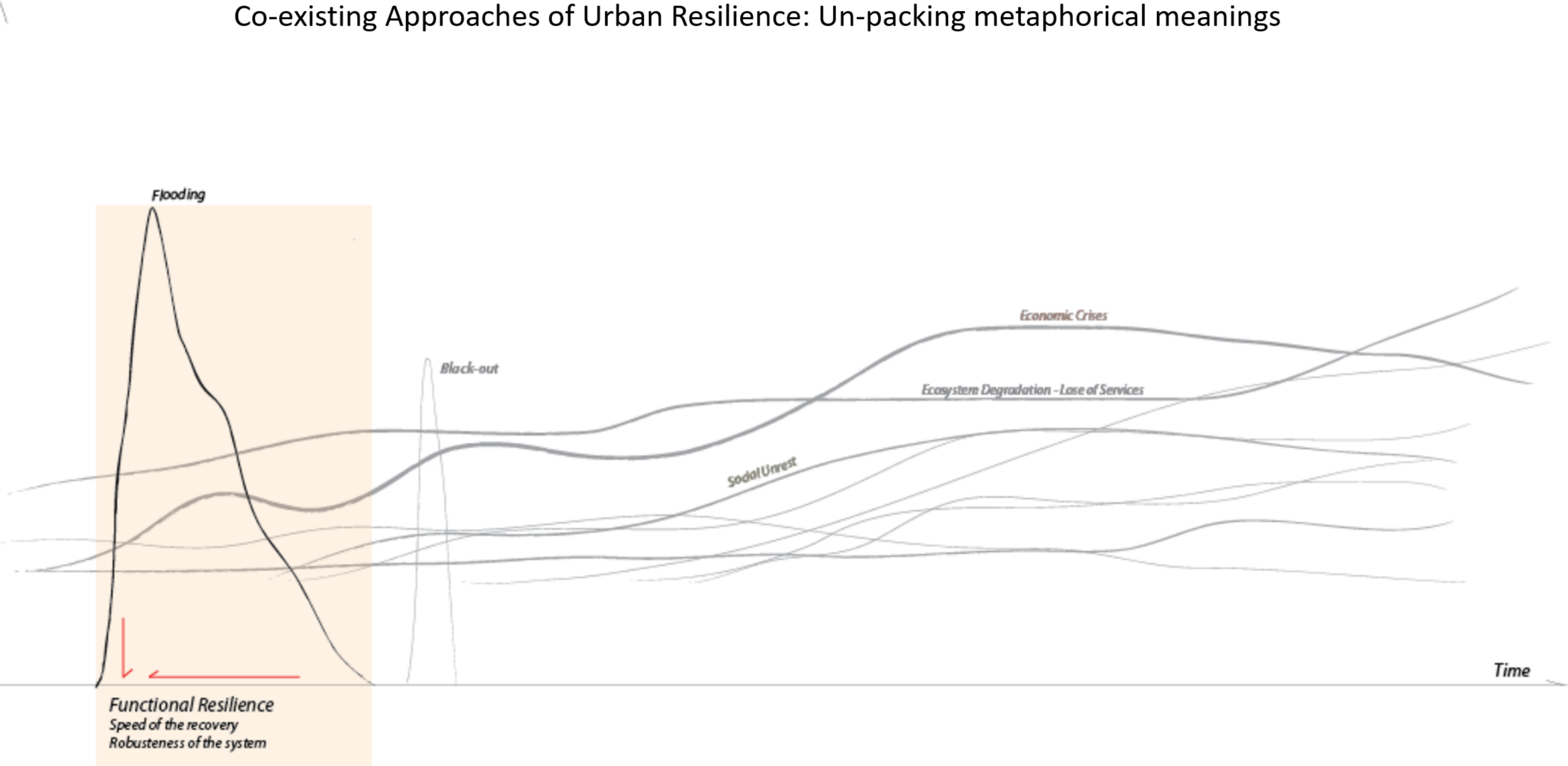
Co-existing Approaches of Urban Resilience: Un-packing metaphorical meanings

Degree of change



Co-existing Approaches of Urban Resilience: Un-packing metaphorical meanings

Degree of change



Co-existing Approaches of Urban Resilience: Un-packing metaphorical meanings

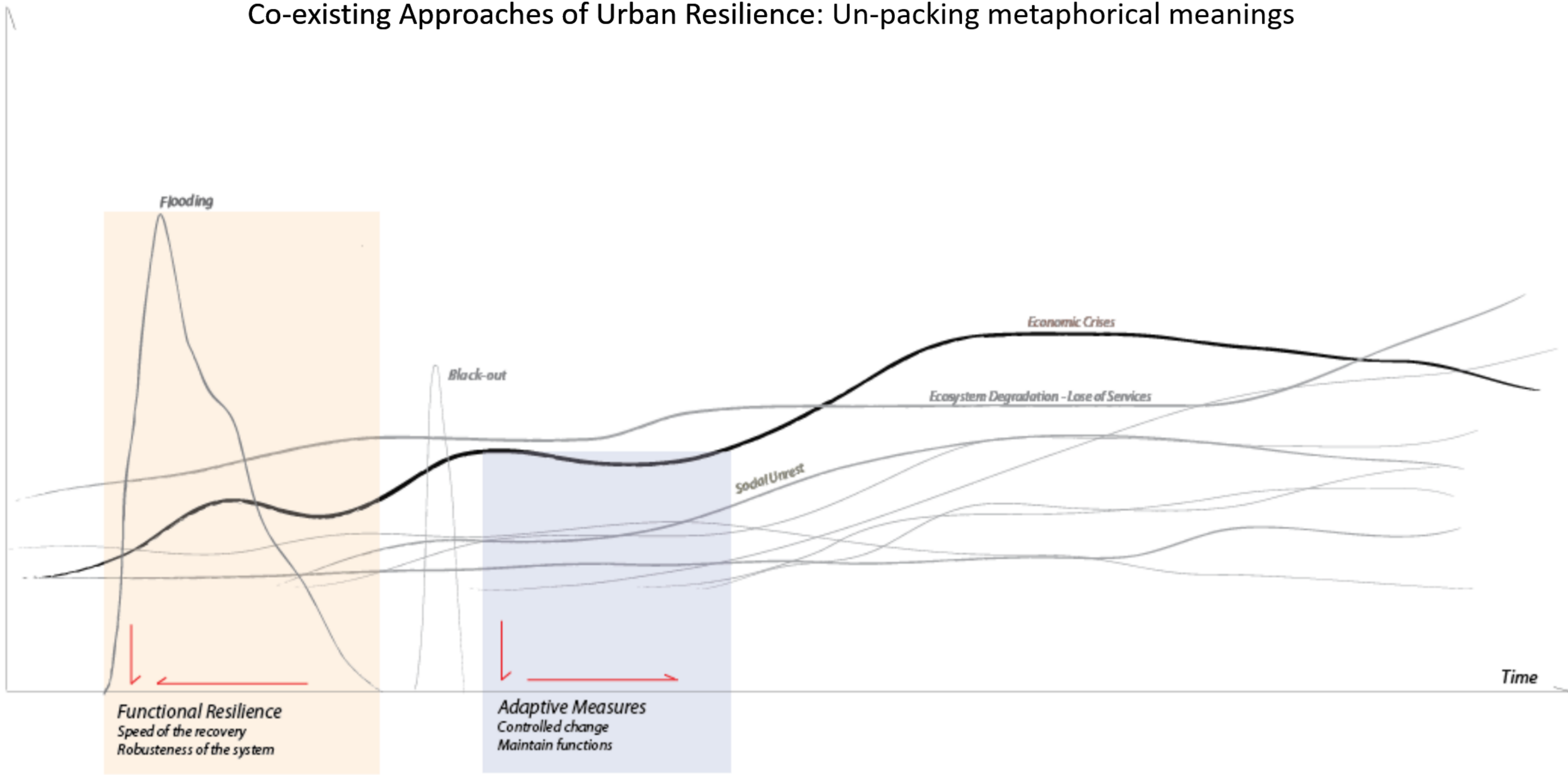
Degree of change



Time

Co-existing Approaches of Urban Resilience: Un-packing metaphorical meanings

Degree of change



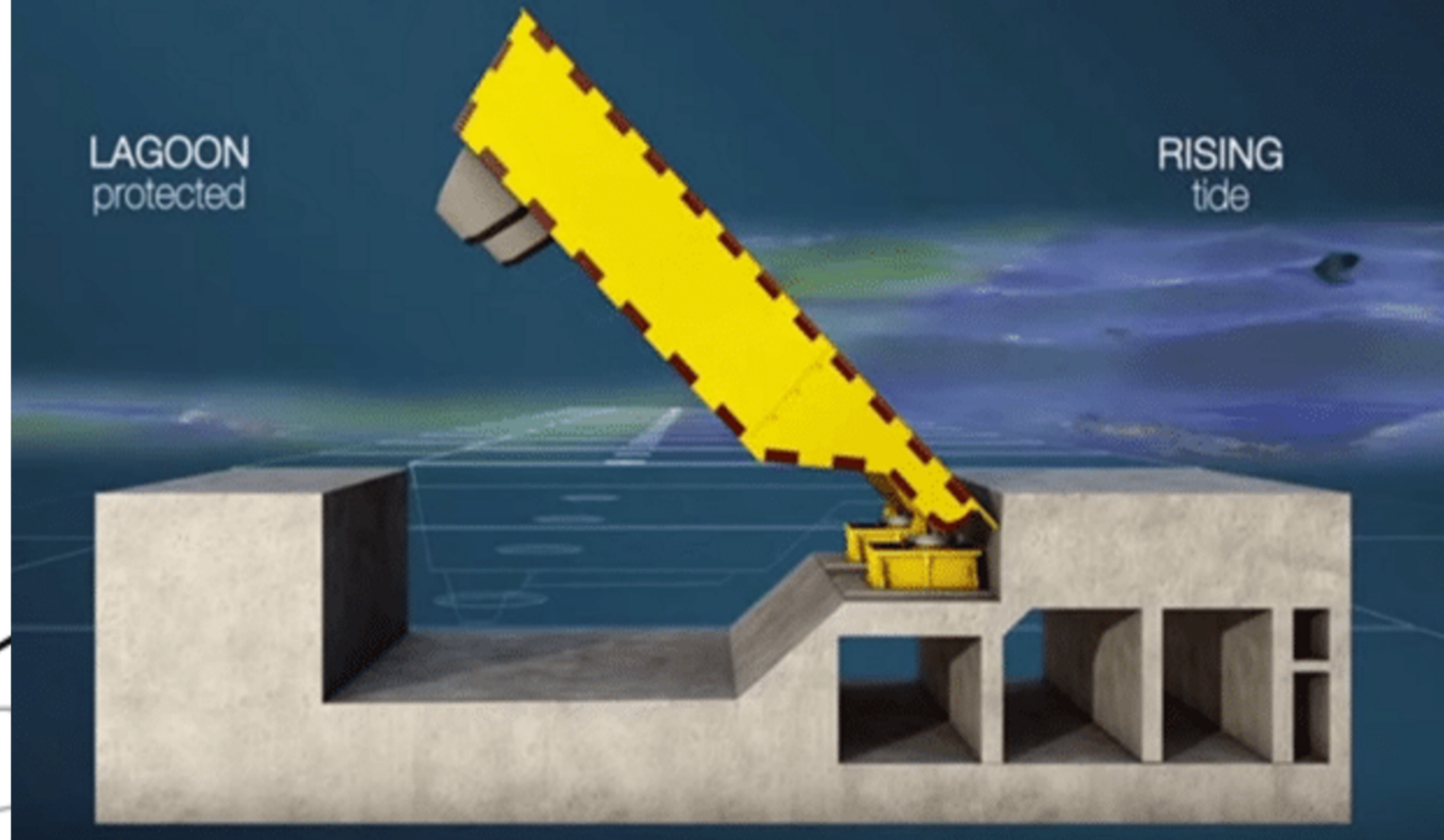
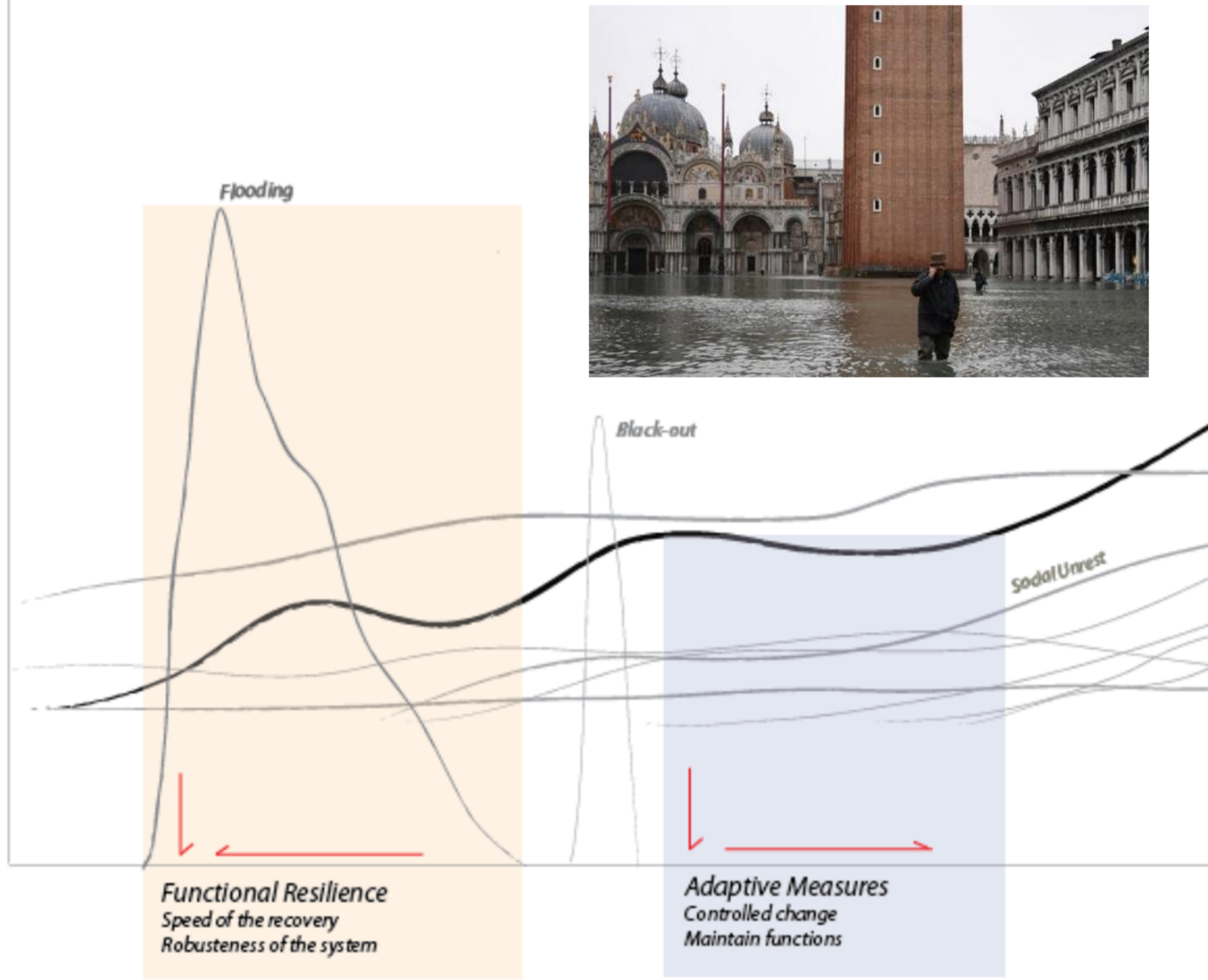
Functional Resilience
Speed of the recovery
Robustness of the system

Adaptive Measures
Controlled change
Maintain functions

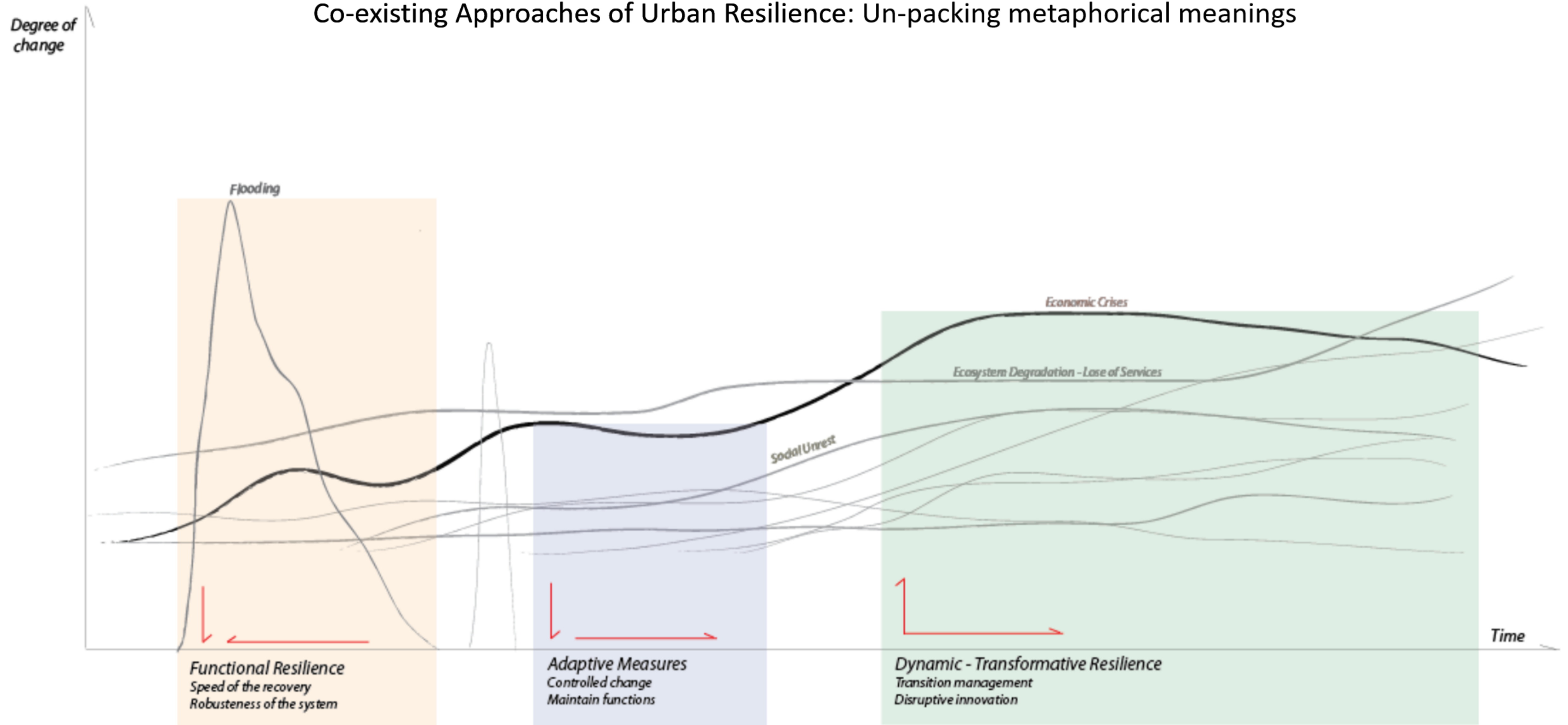
Co-existing Approaches of Urban Resilience: Un-

If the water rises "too high" THE GATES ARE RAISED

Degree of change



Co-existing Approaches of Urban Resilience: Un-packing metaphorical meanings

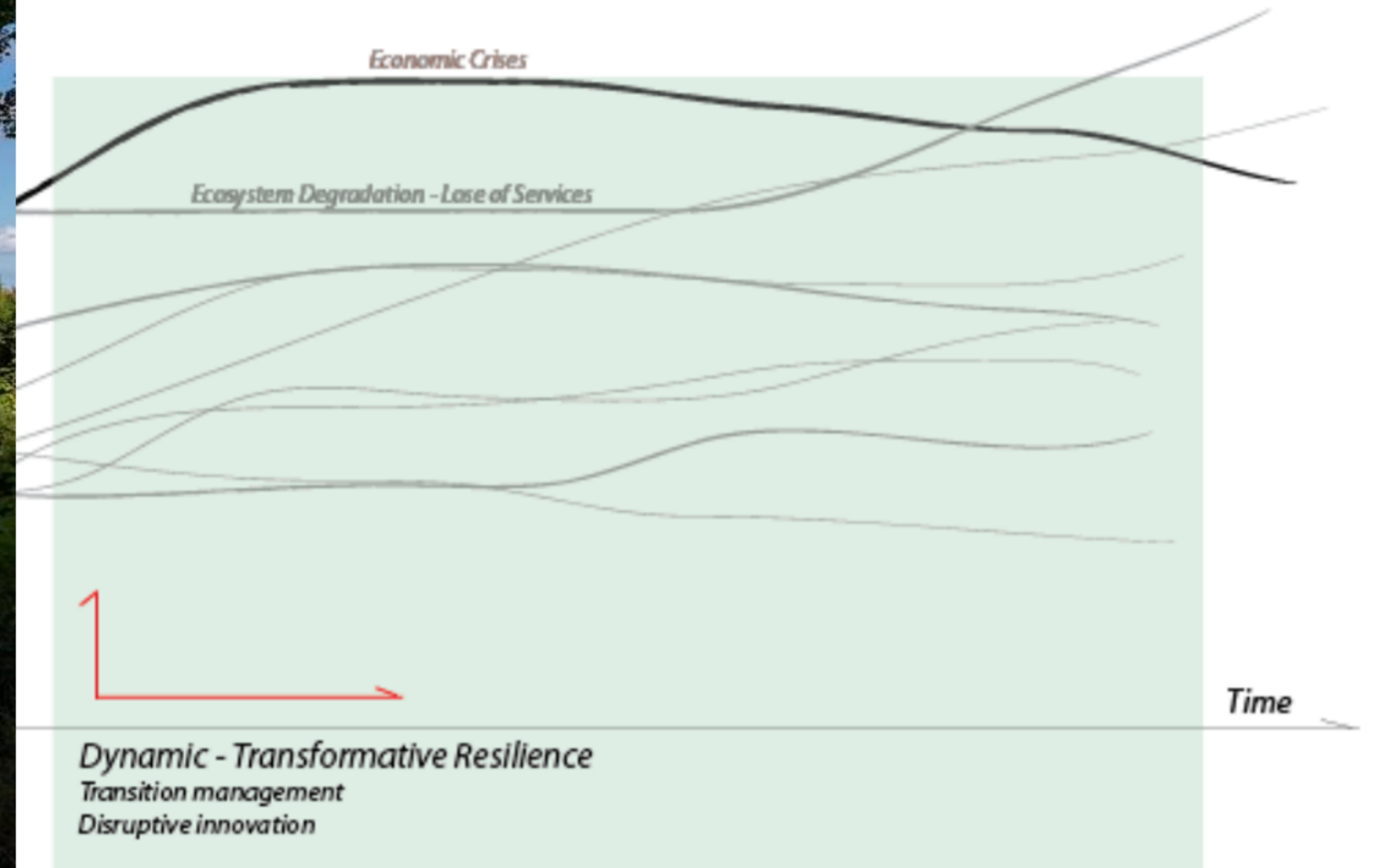


Co-existing Approaches of Urban Resilience: Un-packing metaphorical meanings

Transformation entails the Mitigation of the stress, not just the reduction (as adaptation does)

Degree of change

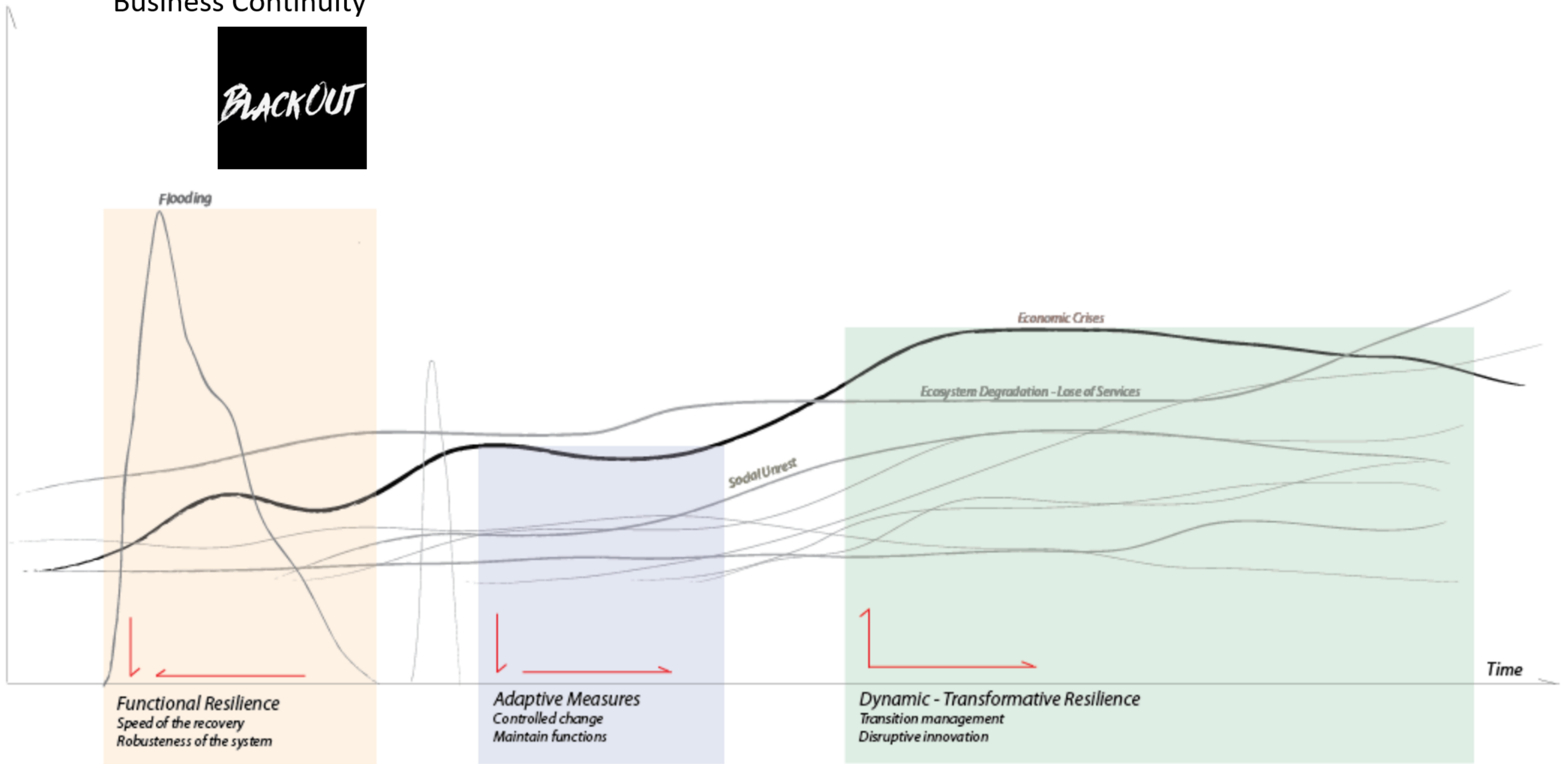
Flooding



Business Continuity



Degree of change

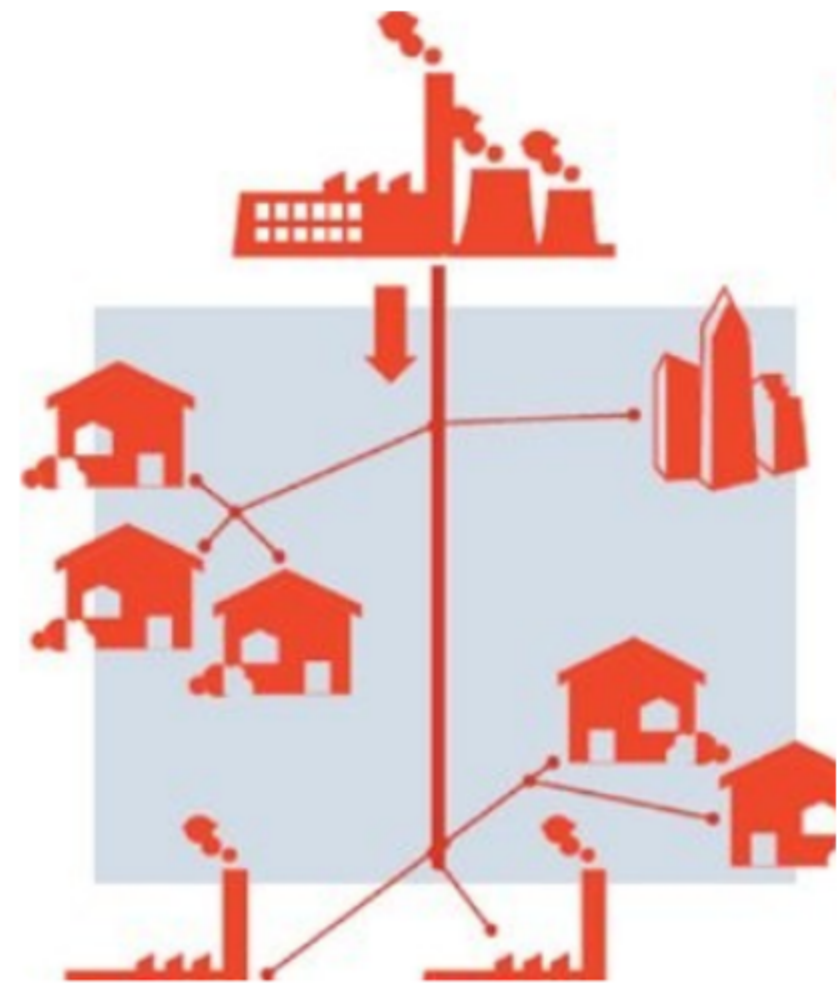


Time

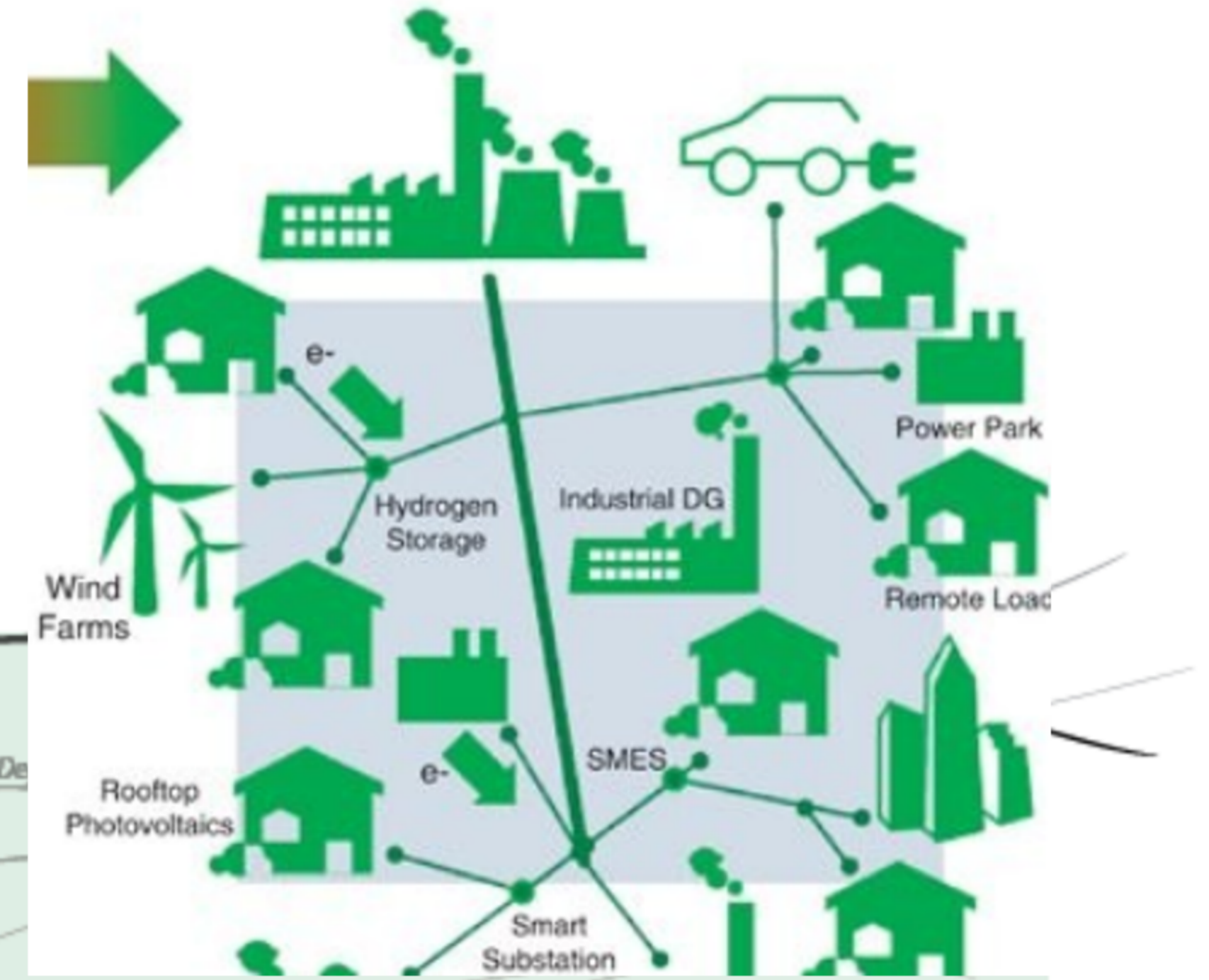
Business Continuity



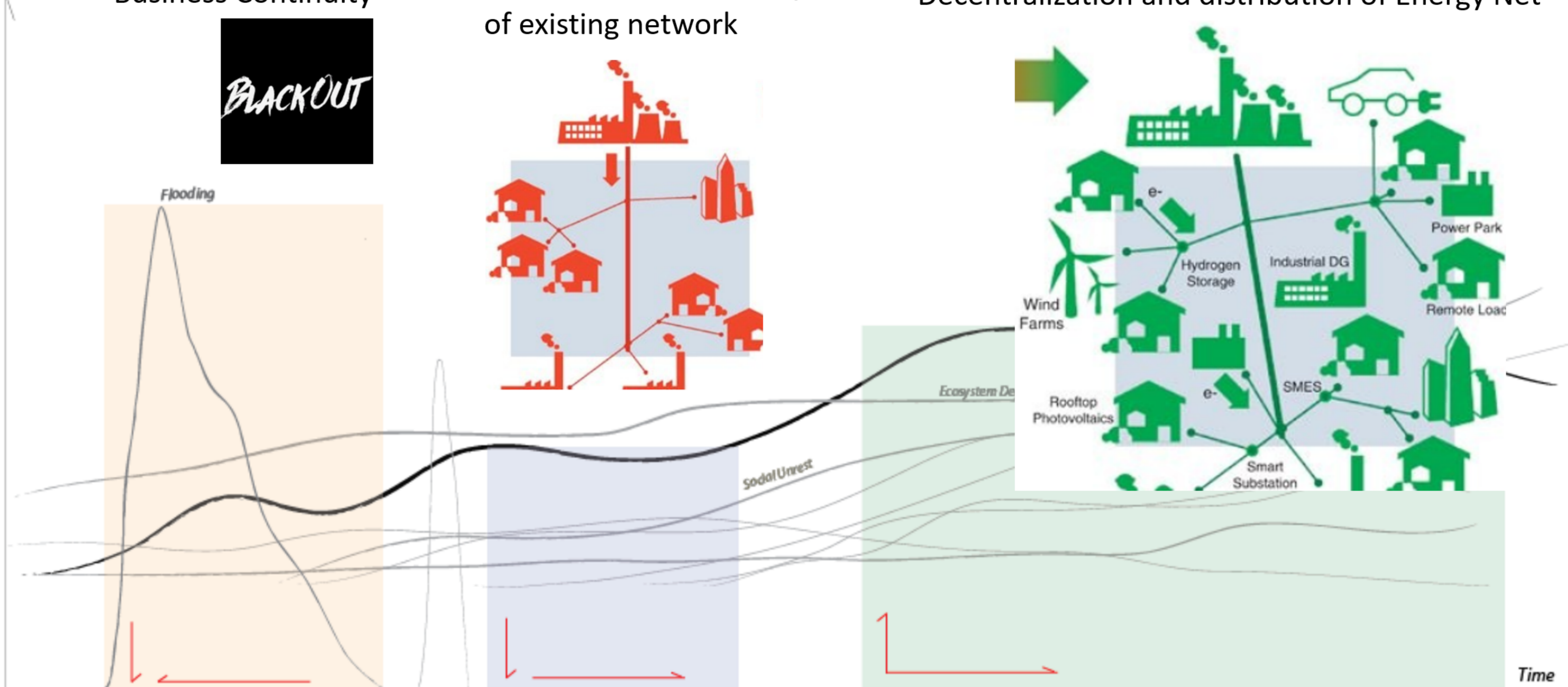
Robustness/redundancy of existing network



Decentralization and distribution of Energy Net



Degree of change



Functional Resilience
Speed of the recovery
Robustness of the system

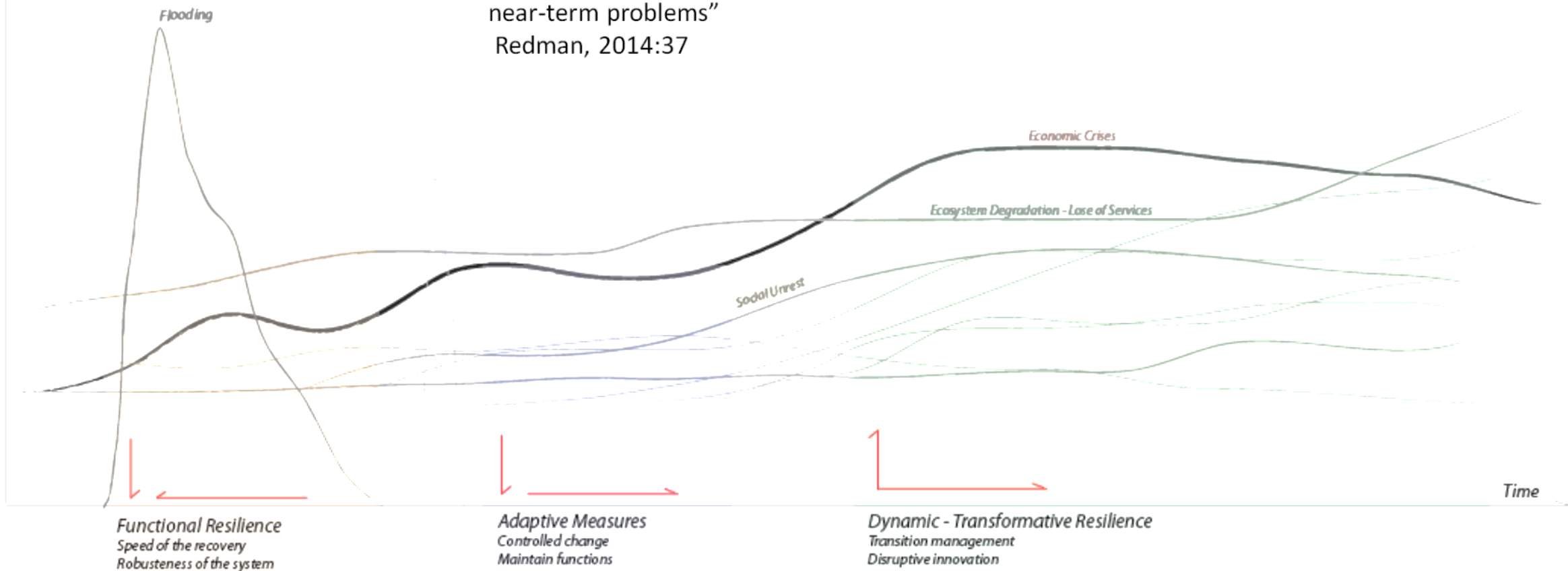
Adaptive Measures
Controlled change
Maintain functions

Dynamic - Transformative Resilience
Transition management
Disruptive innovation

Are you planning for Risks' impact reduction (Adaptation), or to mitigate risks (transformation)?

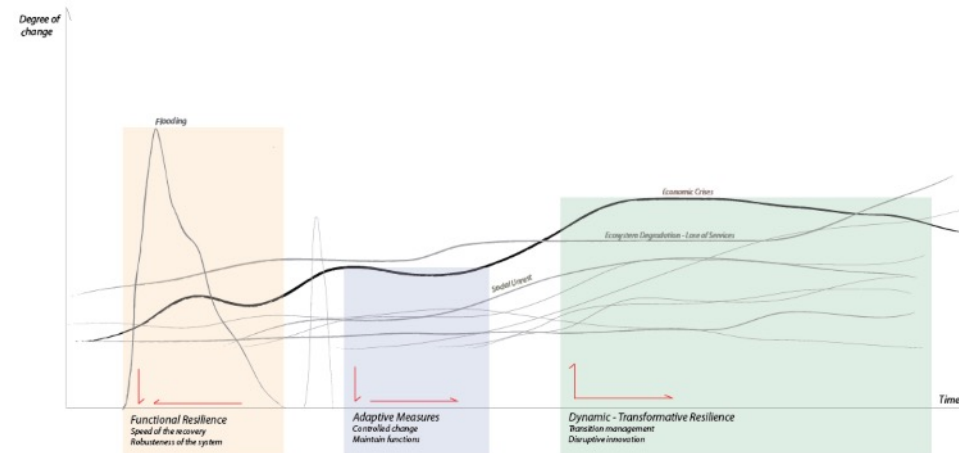
“The current political arena favours resilience (and adaptation, rather than transformative change) because it works to maintain the established order and address near-term problems”

Redman, 2014:37



Keynote take-home Message 1

Urban resilience needs to be un-packed respect to its approaches and these need to be managed synergistically to avoid lock-ins

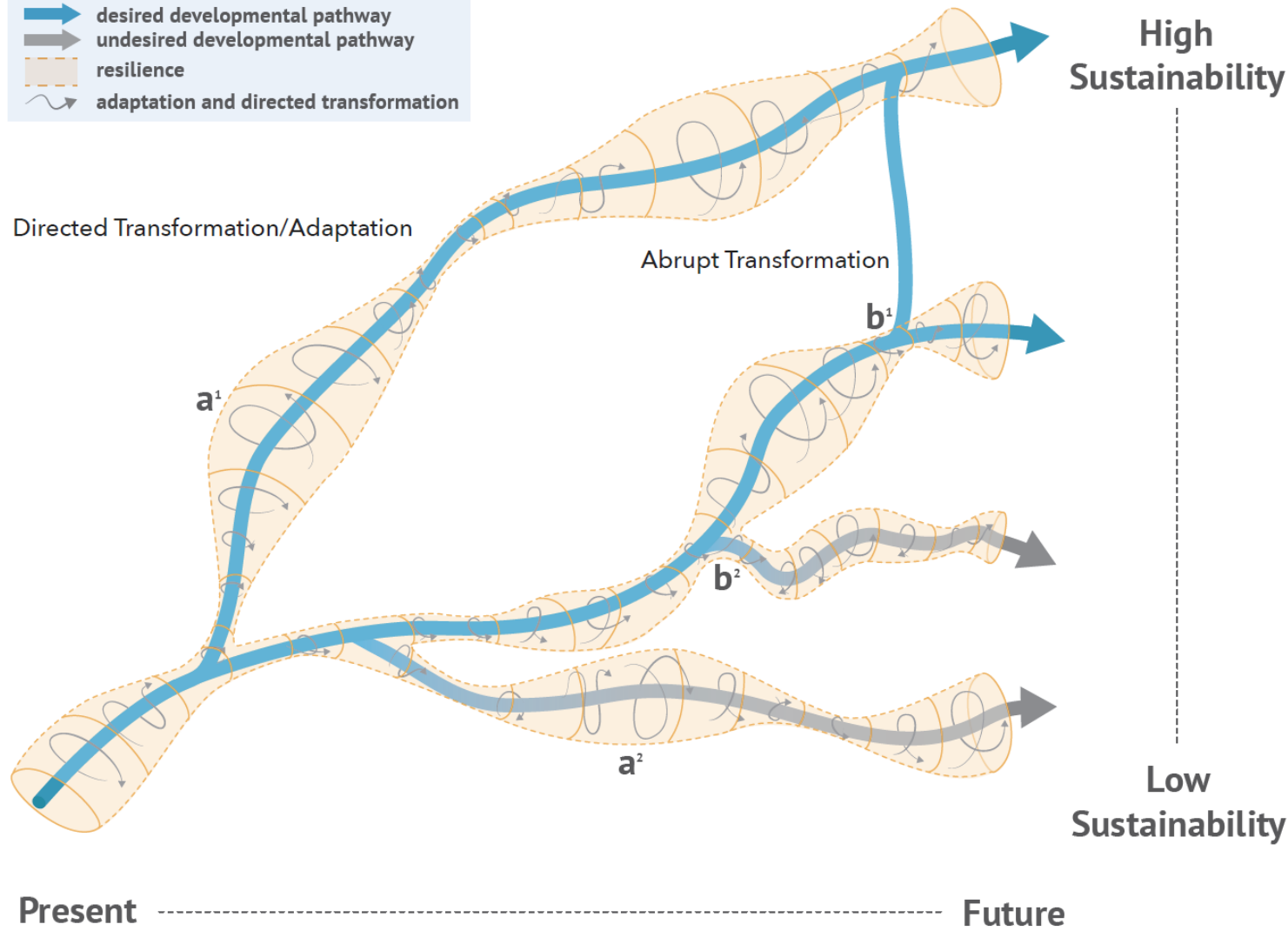


Resilience and Sustainability

Here Resilience and sustainability are used almost interchangeably..

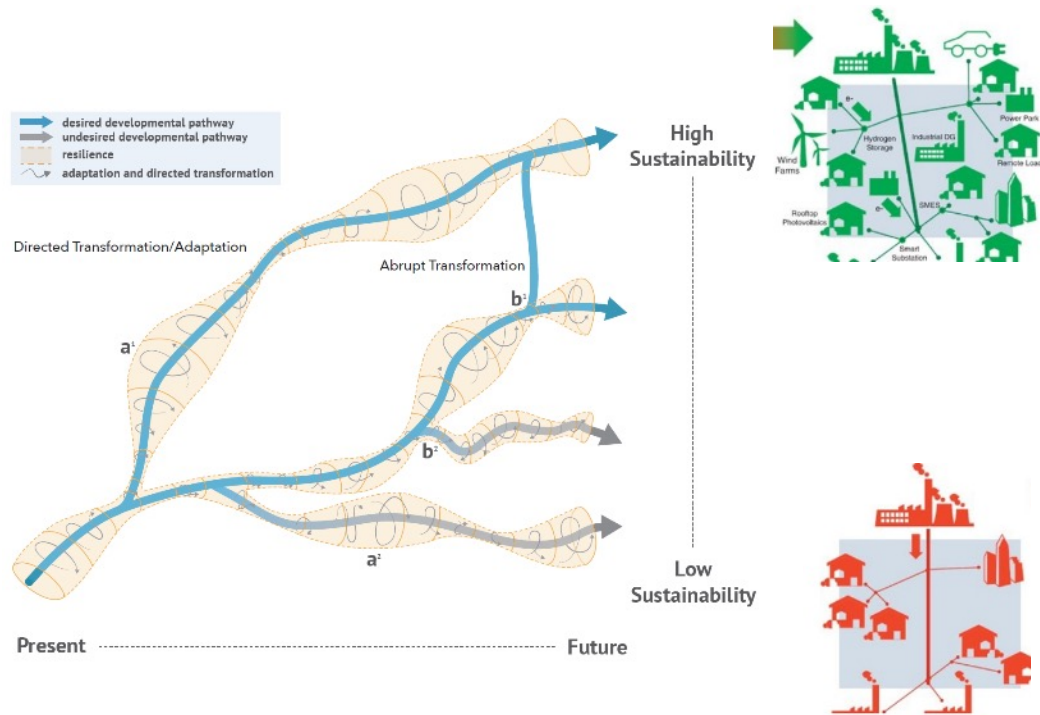


Resilience and Sustainability



Source: Elmqvist, Thomas, et al. "Sustainability and resilience for transformation in the urban century." *Nature Sustainability* 2.4 (2019): 267-273

Resilience and Sustainability



If we think that by building un-critically resilience we achieve sustainability..

Are we confounding Sustainability with “Persistence”?

resilience can make unsustainable system persistent

Keynote take-home Message 2

Urban resilience needs to be un-packed respect to its approaches and these managed synergistically to avoid lock-ins

Resilience and sustainability are different and resilience only works for system persistency, not sustainability per se

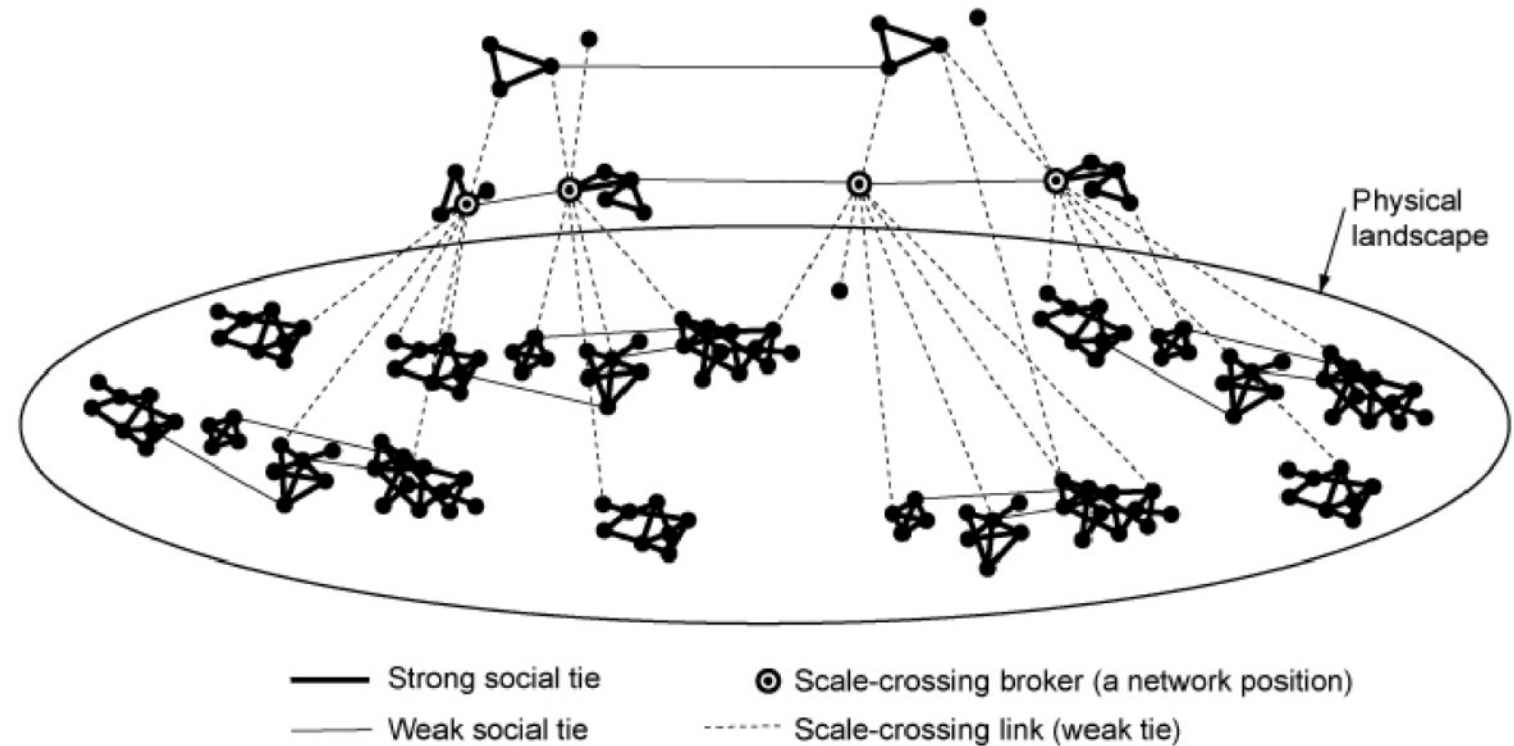
Last but not least.. Community resilience and urban resilience

“The **role of civil society** has been not properly recognized in providing urban services (-) but it **does play a key role as a factor increasing city resilience**”

(City Resilience Framework, 2014)

“**Social practices** were many times the **main vehicle** that communities or cities would use **to deal with problems**”

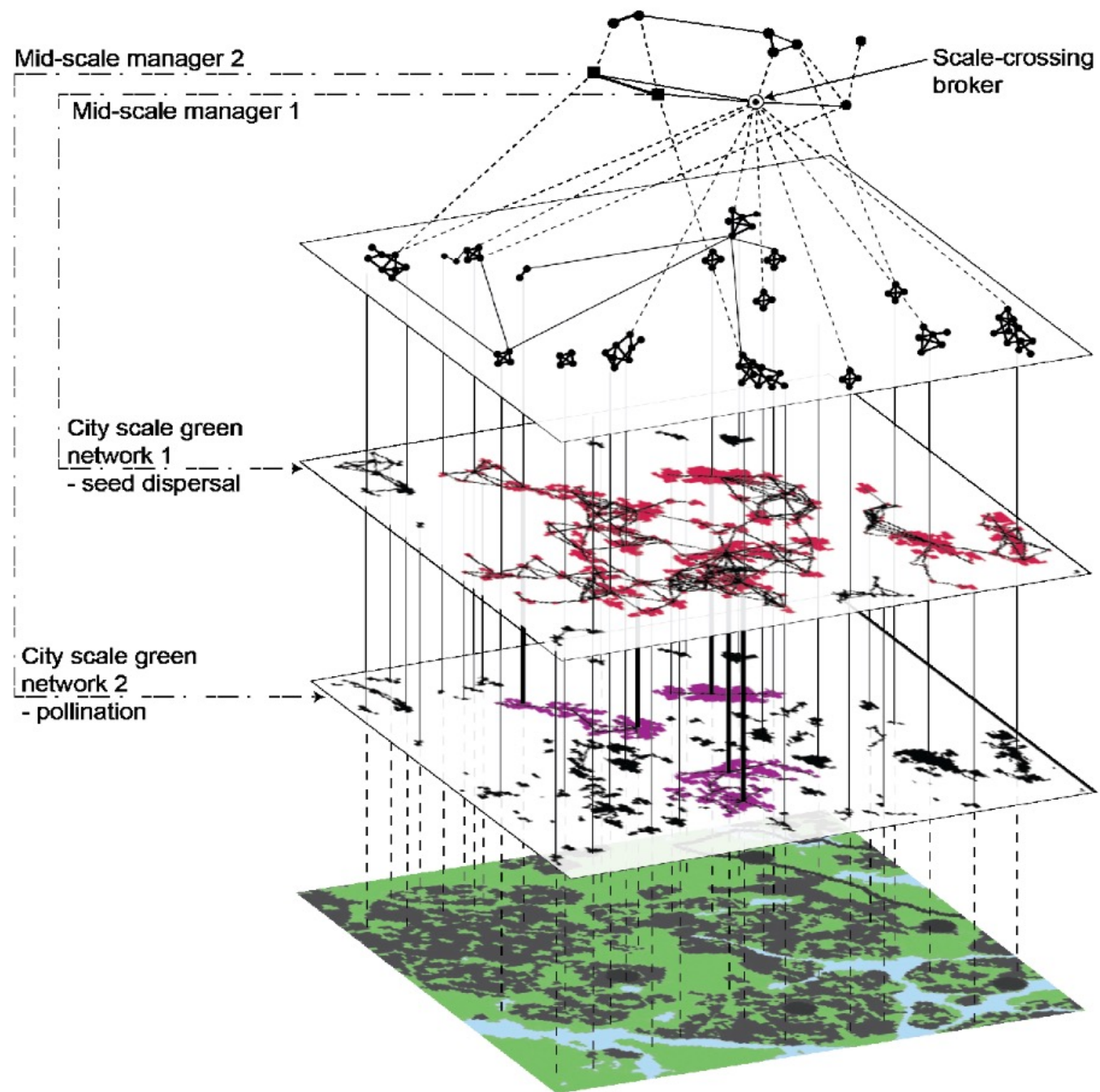
(ARUP, 2014)



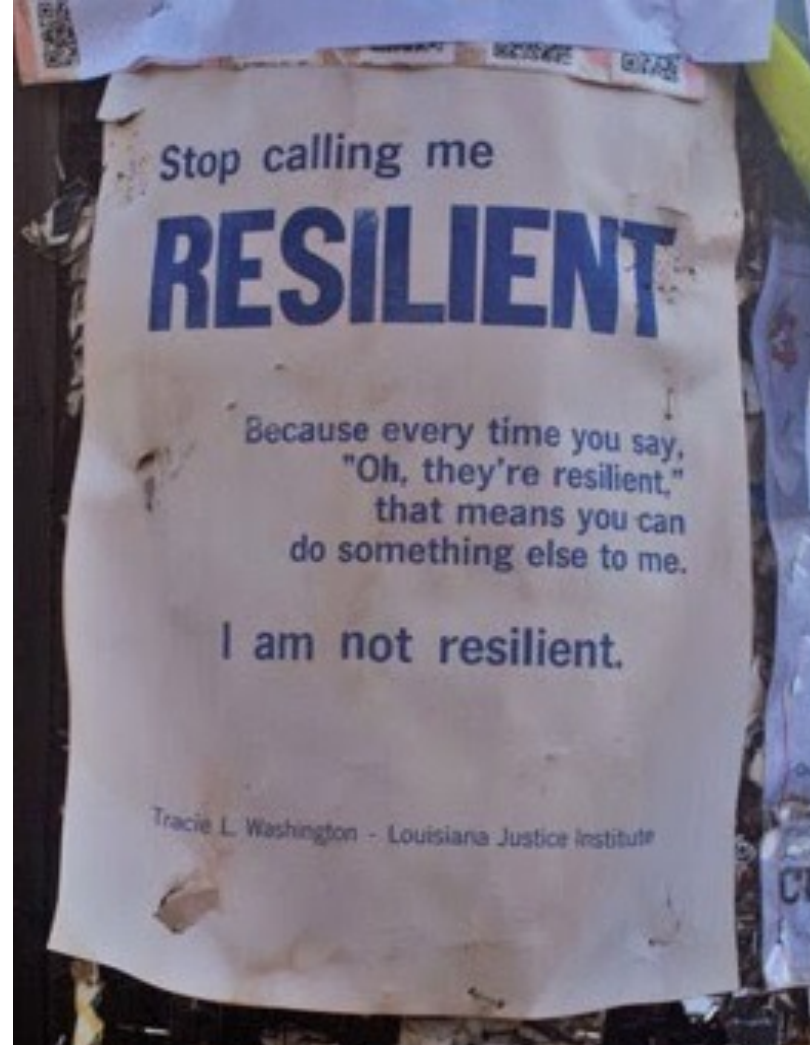
Understanding Social-Actor Networks & their Geo-Spatial configurations

Understand shapes and typologies of Social networks within a territory is key to understand the why(s) of urban dynamics, developments choices and finally the **potentials of community resilience**

Source: Henrik Ernstson, Stephan Barthel, Erik Andersson, Sara Borgström (2010)
[Scale-Crossing Brokers and Network Governance of Urban Ecosystem Services: The Case of Stockholm](#)



Urban resilience and communities' resilience



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Green gentrification in European and North American cities

[Isabelle Anguelovski](#) , [James J. T. Connolly](#), [Helen Cole](#), [Melissa Garcia-Lamarca](#), [Margarita Triguero-Mas](#), [Francesc Baró](#), [Nicholas Martin](#), [David Conesa](#), [Galia Shokry](#), [Carmen Pérez del Pulgar](#), [Lucia Argüelles Ramos](#), [Austin Matheney](#), [Elsa Gallez](#), [Emilia Oscilowicz](#), [Jésua López Máñez](#), [Blanca Sarzo](#), [Miguel Angel Beltrán](#) & [Joaquín Martínez Minaya](#)

Nature Communications **13**, Article number: 3816 (2022) | [Cite this article](#)

OPINION | BIOLOGICAL SCIENCES | 
f t in 

Why green “climate gentrification” threatens poor and vulnerable populations

[Isabelle Anguelovski](#) , [James J. T. Connolly](#), [Hamil Pearsall](#), , and [J. Timmons Roberts](#) [Authors info & Affiliations](#)

December 26, 2019 | 116 (52) 26139-26143 | <https://doi.org/10.1073/pnas.1920490117>

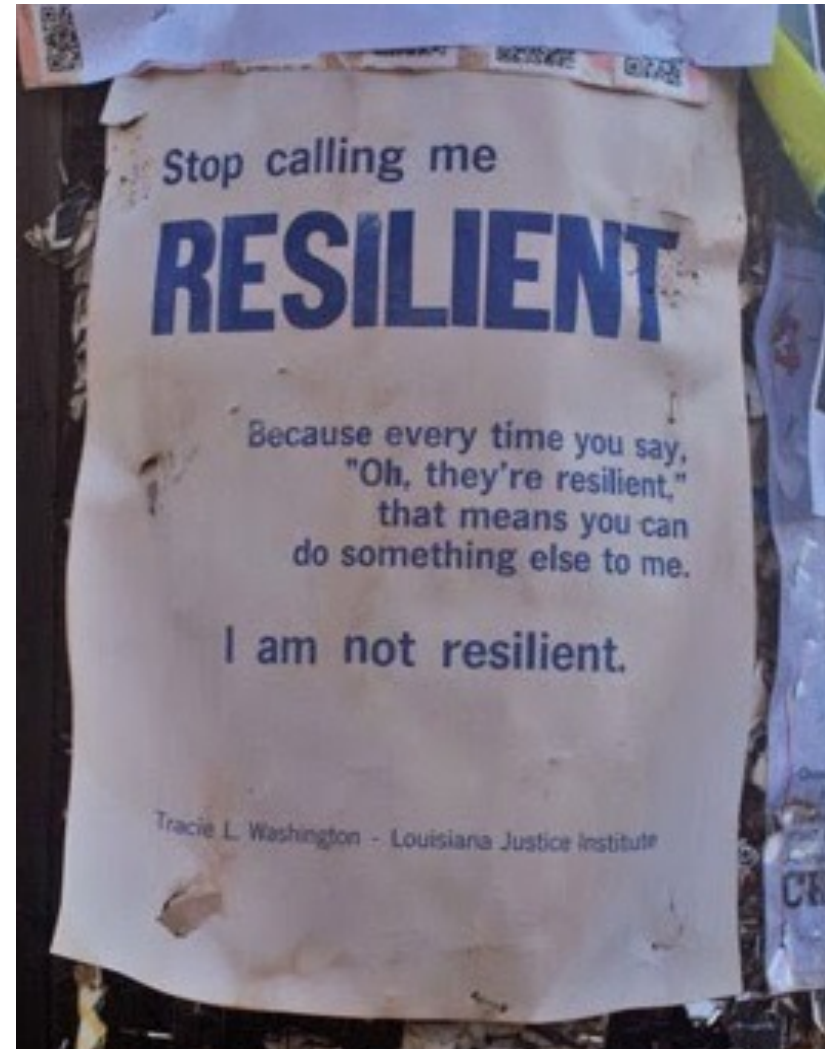
Urban resilience and communities' resilience

*“reflect on what precisely it is that is being **made resilient**, in the face of which specific dynamics, **for whom ..”***

Smith and Stirling 2010

*“the **uncritical assumption** of positive outcomes from resilience-building may fail to address different winners and losers and the political processes mediating trade-offs between actors”*

Bahadur and Tanner 2014



Keynote take-home Message 3

Urban resilience needs to be un-packed respect to its approaches and these managed synergistically to avoid lock-ins

Resilience and sustainability are different and resilience only works for system persistency, not sustainability per se

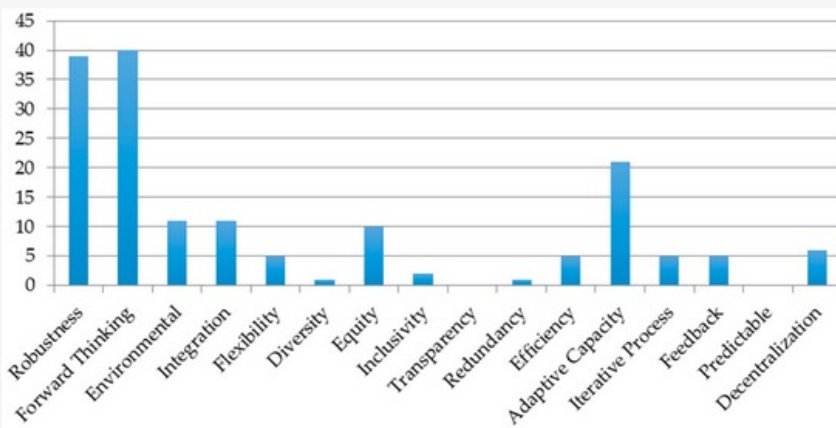
Resilience for whom? Consider Resilience Trade-offs:

What is made resilient, who is benefitting, whose resilience is reduced while increasing others' resilience?

Quick check to cities practitioners' understandings of urban resilience

Resilience implies robustness or transformation? U.S. Perspective (2016)

Figure 4. Number of practitioner definitions referencing resilience characteristics based on coding.



Open Access Article

Comparing Conceptualizations of Urban Climate Resilience in Theory and Practice

by Sara Meerow^{1,*} and Melissa Stults^{1,2,3}

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Sustainability **2016**, *8*(7), 701; <https://doi.org/10.3390/su8070701>

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<https://www.mdpi.com/2071-1050/8/7/701>

Table 4. Some key differences in how academics and practitioners conceptualize urban resilience.

	Academic Literature	Local Government Practitioners
Resilience as “bouncing forward” vs. “bouncing back”	Majority “bouncing forward”	Majority “bouncing back”
Definition consistency	Some differences, but share a broad focus on coping with climate and disturbances	Huge variation in meaning, perceived importance, scope, and specificity
Commonly cited characteristics	Diversity, flexibility, redundancy, adaptive capacity, integration, inclusivity, equity, iterative process, decentralization, feedback, environmental, transparency, forward-thinking, predictable	Robustness, forward-thinking, environmental, integration, equity
Less frequently cited or contested characteristics	Robustness, efficiency	Decentralization, predictable, redundancy, feedback, iterative process, transparency

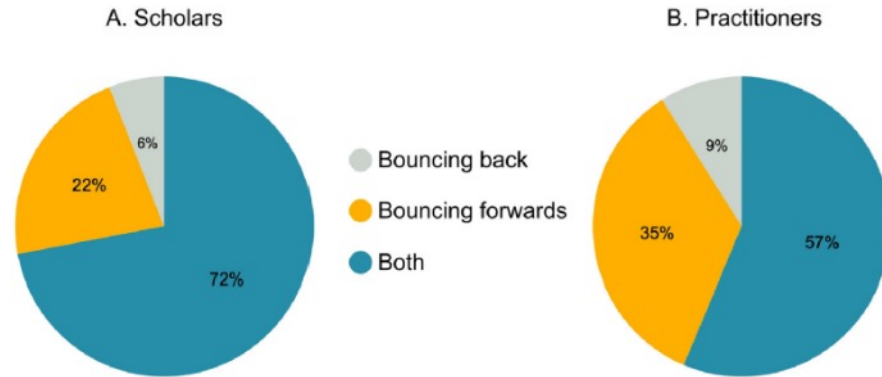
Beyond bouncing back? Comparing and contesting urban resilience frames in US and Latin American contexts

Tischa A. Muñoz-Erickson ^a, Sara Meerow ^b, Robert Hobbins ^c, Elizabeth Cook ^d, David M. Iwaniec ^c, Marta Berbés-Blázquez ^e, Nancy B. Grimm ^f, Allain Barnett ^g, Jan Cordero ^e, Changdeok Gim ^h, Thaddeus R. Miller ⁱ, Fernando Tandazo-Bustamante ^j, Agustín Robles-Morua ^j



Highlights

- Resilience has rapidly emerged as a major focus of urban research and practice.
- We know little about resilience frames across different urban contexts and actors.
- In practice, most resilience frames do not align with notions of transformation.
- Implications of cultural and political differences in frames deserve more attention.
- Resilience practice needs to include anticipation, systems thinking, and equity.

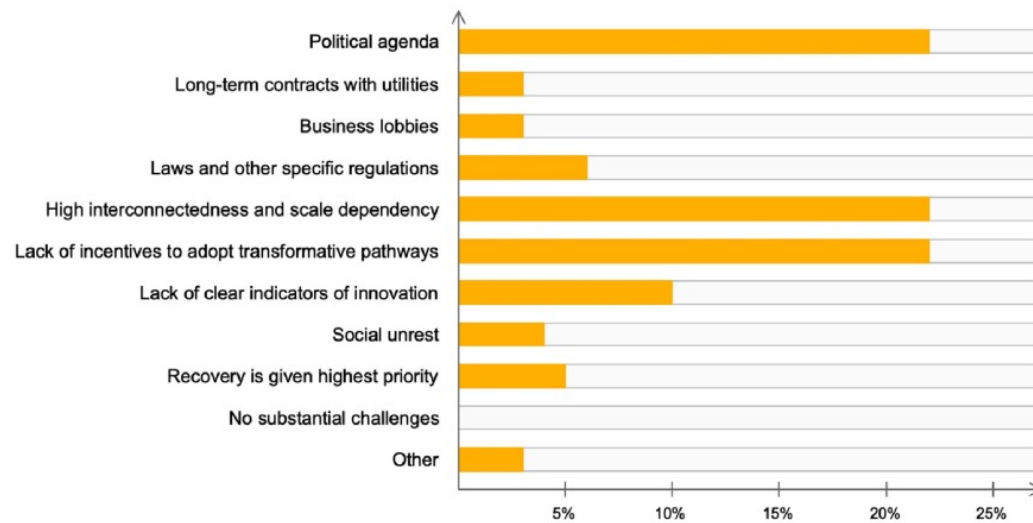


Understandings of urban resilience meanings and principles across Europe

Lorenzo Chelleri^a ✉, Aliaksandra Baravikova^b 👤 ✉

<https://www.sciencedirect.com/science/article/abs/pii/S0264275120313330>

Barriers to reconcile 'bouncing back' and 'forwards' perspectives (according to the survey participants)



Inconsistencies ahead

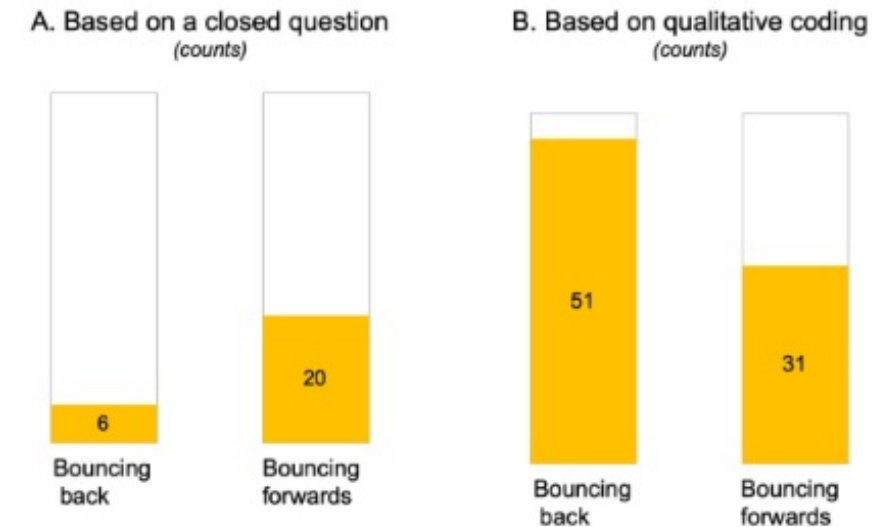


Fig. 6. Comparing the results from closed-ended and open-ended questions.

Quick check on Quality of our (European) Climate Resilience Plans

Quality of urban climate adaptation plans over time

[Diana Reckien](#) , [Attila Buzasi](#), [Marta Olazabal](#), [Niki-Artemis Spyridaki](#), [Peter Eckersley](#), [Sofia G. Simoes](#), [Monica Salvia](#), [Filomena Pietrapertosa](#), [Paris Fokaidis](#), [Sascha M. Goonesekera](#), [Léa Tardieu](#), [Mario V. Balzan](#), [Cheryl L. de Boer](#), [Sonia De Gregorio Hurtado](#), [Efrén Feliu](#), [Alexandros Flamos](#), [Aoife Foley](#), [Davide Geneletti](#), [Stelios Grafakos](#), [Oliver Heidrich](#), [Byron Ioannou](#), [Anna Krook-Riekkola](#), [Marko Matosovic](#), [Hans Orru](#), [Kati Orru](#), [Ivan Paspaldzhiev](#), [Klavdija Rižnar](#), [Magdalena Smigaj](#), [Maria Szalmáné Csete](#), [Vincent Vigié](#) & [Anja Wejs](#) — Show fewer authors

npj Urban Sustainability **3**, Article number: 13 (2023) | [Cite this article](#)

Full study available here

<https://www.nature.com/articles/s42949-023-00085-1#MOESM1>



Fig. 1: The 'ADApTation plan Quality Assessment' (ADAQA) index construction rationale.

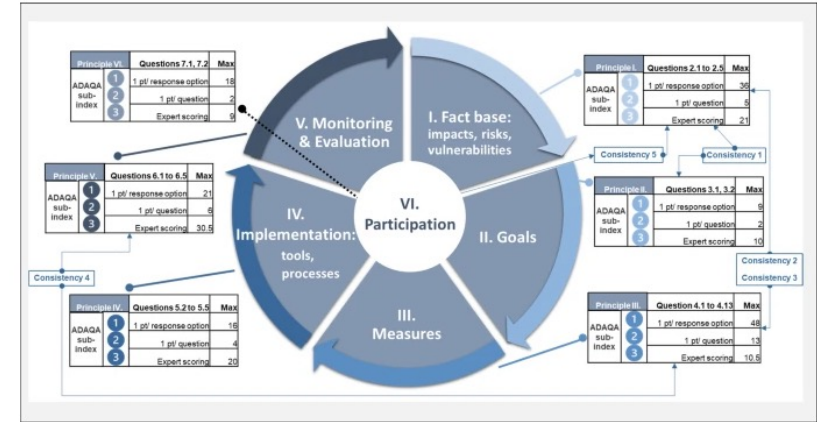
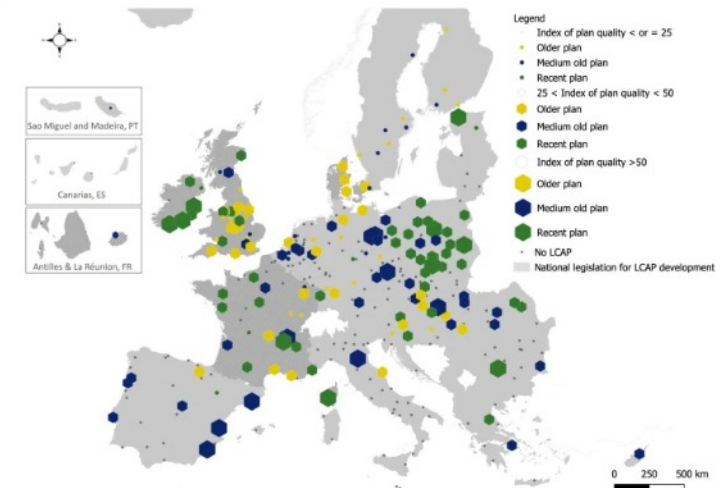


Fig. 2: Map of sample cities across Europe and respective urban climate adaptation plans.



Which is **the quality** of European cities' Climate Plans?

Poor quality in general

climate risk assessment, vulnerability and equity/justice considerations^{14,42}, we found that the average adaptation plan in a European city attained around one-third of the total possible quality score. On average, plans covered half of the possible scores regarding adaptation measures and adaptation goals, and a little less (45% of attainable score) regarding implementation tools and processes. We found particularly little information on public participation in plan creation (17% of attainable score) and monitoring and evaluation (20% of attainable score) in our city sample.

Poor Progress in quality over time

However, the quality has not evenly increased for every principle. It was significant for

Poor Consistency

Consistency between identified risks and planned adaptation measures and actions is a crucial factor for the overall quality of urban adaptation plans. Consistency increased slightly over time, mostly from medium-old to recent plans and in particular with relation to the alignment of impacts/risks with adaptation goals (consistency 1), and of vulnerable sectors/industries with adaptation measures (consistency 2). The plans' consistency declined regarding the alignment of impacts/risks for vulnerable groups and related measures (consistency 3).

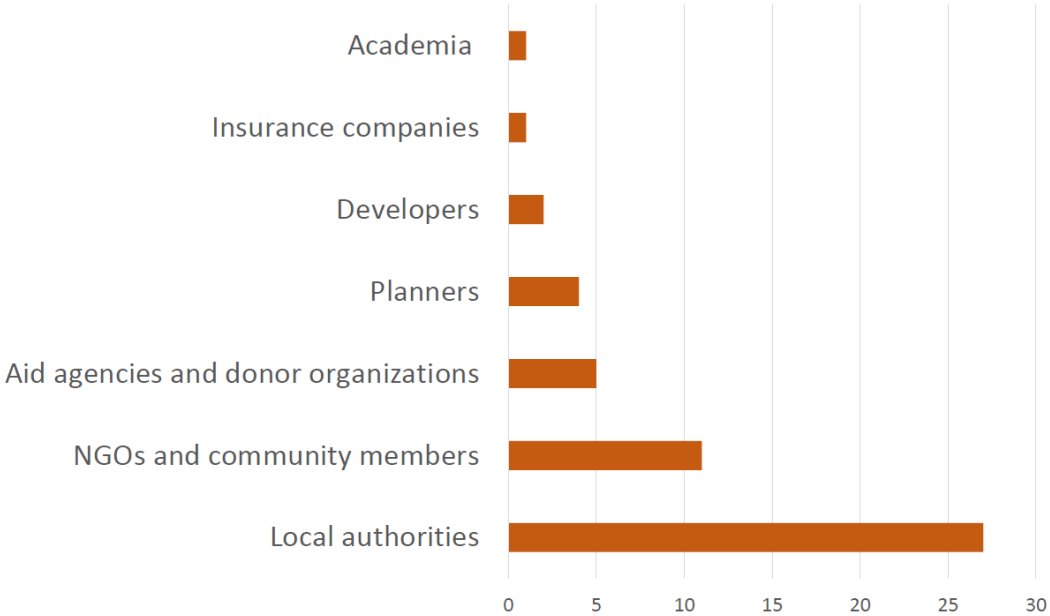
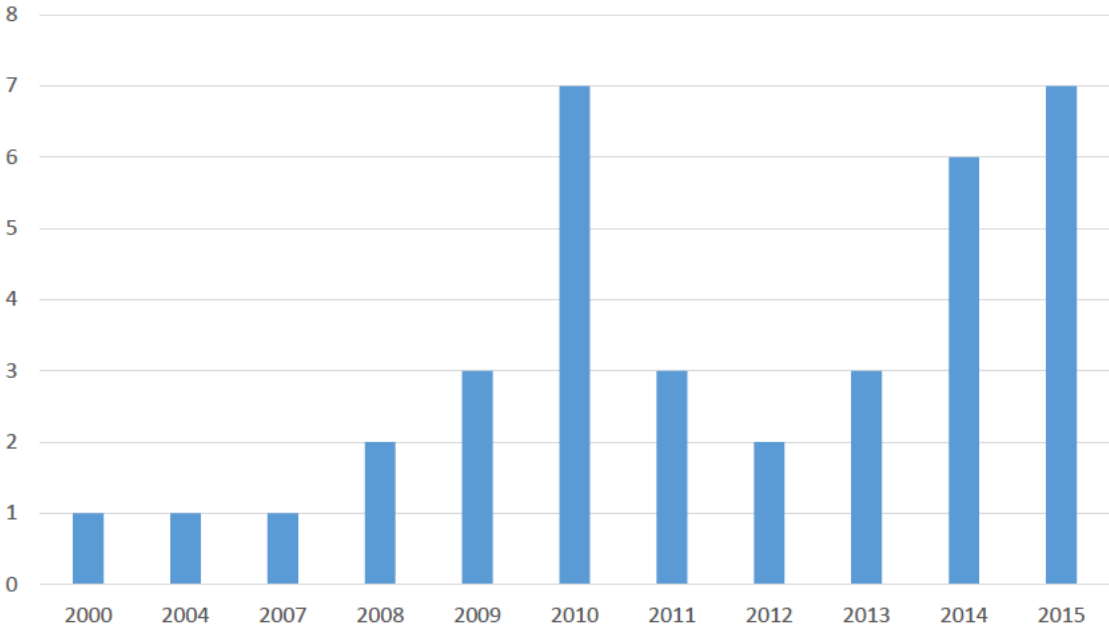
Poor consideration for people and vulnerable groups

Therefore, plans focus more on the impacts/risks for vulnerable sectors/ industries than on the needs of vulnerable groups of citizens. Although the focus on vulnerable industries may

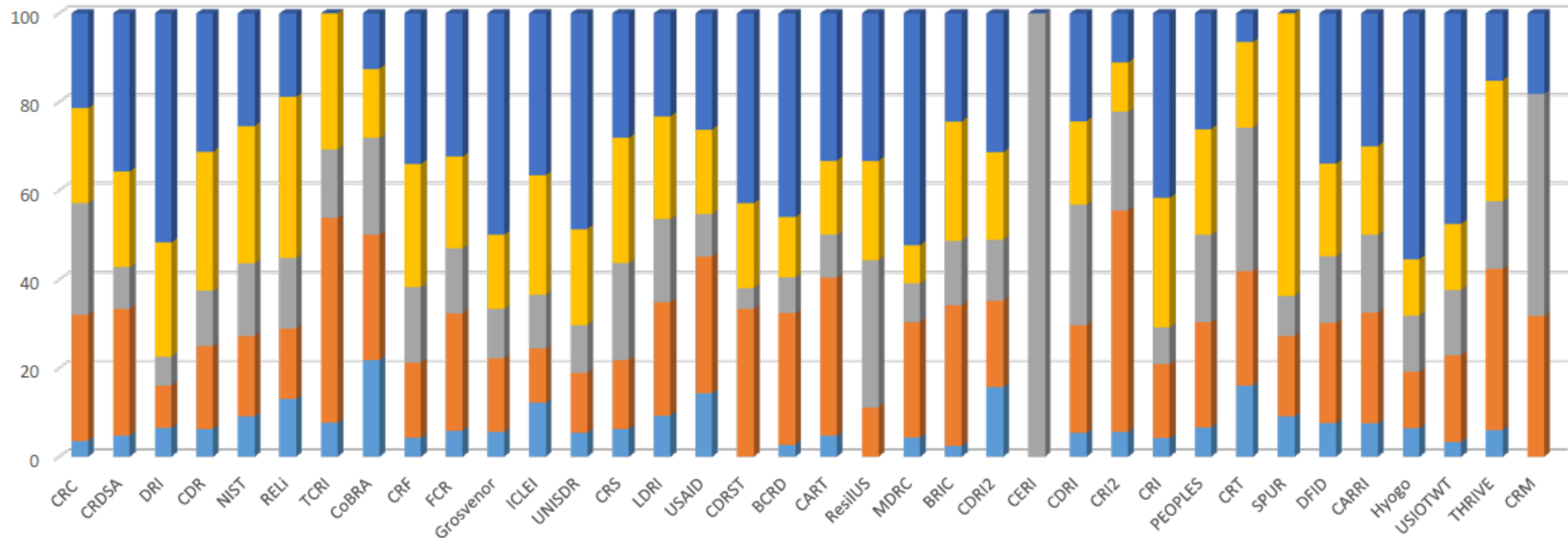
Is there any lack of guidance?

Emerging of frameworks-tools and target audience

Number of tools by release year



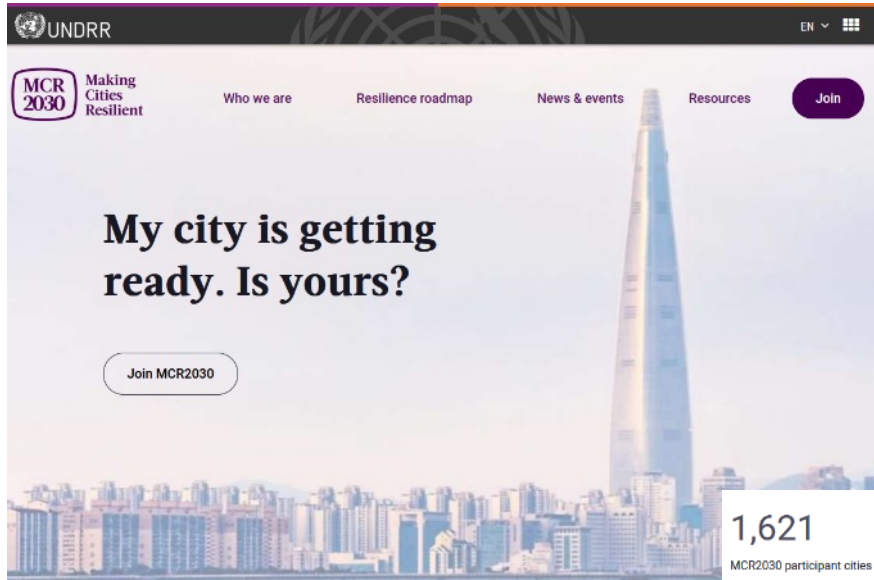
Tool	Year	Primary developer(s)	Focus	Risk	Target audience	
CRC	2015	Bushfire and Natural Hazards CRC	AU	Natural	Local authorities and councils	
CRDSA	2015	Academia, Alshehri et al.	Saudi Arabia	Multiple	Local authorities	
DRI	2015	Earthquakes and Megacities Initiative (EMI)	Global	Multiple	Local, regional and national government agencies	
CDR	2015	Academia, Yoon et al.	Korea	Multiple	Local authorities and public	
NIST	2015	National Institute of Standards and Technology	US	Multiple	Local authorities	
RELi	2015	American National Standards Institute (ANSI)	US	Multiple	Developers	
TCRI	2015	Australia	ment, international	
CoBRA	2014	UNDP I	<p>The past decade has also seen a huge increase in the number of global and regional projects, programmes, networks and other initiatives aimed at building the resilience of cities.²⁷ These include:</p> <ul style="list-style-type: none"> ■ 100 Resilient Cities Campaign (2013–2019) and subsequently the Resilient Cities Network ■ UN-Habitat's Urban Resilience Hub ■ C40 Cities Measuring Progress in Urban Climate Adaptation resource ■ The United Nations Office for Disaster Risk Reduction (UNDRR) Making Cities Resilient Campaign – now called Making Cities Resilient 2030 (MCR2030) ■ The International Council for Local Environmental Initiatives (ICLEI) Transformative Actions Program and Resilient Cities Congress ■ The World Economic Forum's cities and urbanization focal area ■ The Circular Cities Hub. <p>Most of these initiatives focus on assessing risks, building the capacity of stakeholders to develop resilience strategies and plans, and raising awareness.</p>			ital and non-governmental
CRF	2014	The Roc			ities (of IFRC)	
FCR	2014	Internat (IFRC)			ies, aid agencies	
Grosvenor	2014	Grosven			panies, private industry	
ICLEI	2014	ACCCRN				
UNISDR	2014	IBM and				
CRS	2013	Communi				
LDRI	2013	Academ				
USAID	2013	USAID			ental organizations, donors	
CDRST	2012	Torrens			munity members	
BCRD	2011	RAND et			ital/non-governmental	
CART	2011	TDC/Uni			is	
ResilUS	2011	US, Resi				
ICBRR	2012	Palang M				
BRIC	2010	Academ			rities	
CDRI2	2010	Academ				
CERI	2010	AWM (A				
CDRI	2010	Coastal : spheric .				
CRI2	2010	Academ				
CRI	2010	MS-AL S tration (ency service providers	
PEOPLES	2010	National				
CRT	2009	Bay Loc			ions, individuals, training	
SPUR	2009	San Fran			developers	
DFID	2009	Departm			il society organizations	
CARRI	2008	Communi			is	
Hyogo	2008	UN/OCH			community-based organi-	
USIOTWT	2007	U.S. Indian Ocean Tsunami Warning System Program	South/South East Asia	Coastal (natural)	Governmental and non-governmental organizations; International aid agencies, banks, and donors.	
THRIVE	2004	Prevention Institute	US	Racial health disparity	Local government, NGOs	
CRM	2000	Canadian center for Community renewal	Canada	Recession	Local authorities, community members	



Dimension	Average
Environmental	6.8
Social	23.5
Economic	18.8
Built environment	21.8
Institutional	29.1

■ Environmental ■ Social ■ Economic
■ Built environment ■ Institutional

Source: Sharifi et al, 2016



FILTER RESOURCES

Type >

Tags >

Social & Economy

- Awareness raising 85
- Circular economy 81
- Citizen participation 213
- Culture 34
- Education 57
- Finance 166
- Funding 107
- Governance and policy 188
- Social innovation 190
- Stakeholder engagement 190
- Tourism 17

- Air quality 44
- Biodiversity 34
- Climate resilience 299
- Food 27
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- Local resource 50
- Nature based solutions 70
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- Waste 64
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- Carbon capture 34
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- Materials 51
- Sustainable fuel 48
- Technology 155
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Resources for sustainable and just cities



Mapping of Approaches for UrbanA project during Rotterdam

To address the issue of considerable amounts of knowledge remaining fragmented or inaccessible, this Wiki brings together approaches, instruments, toolboxes, good practices, and inspirations for making cities more sustainable and just. Follow the links to find more information and resources.

- [Key principles to support cities to be more sustainable and just](#)
- [Key drivers of injustice in cities](#)
- [Enabling factors for just and sustainable urban governance](#)
- [Innovative good practices for urban energy transitions](#)
- [Inspiring roadmaps for future, post-carbon cities](#)
- [Approaches and instruments for building more sustainable and just cities](#)
- [Just Sustainability Projects & Initiatives](#)
- [Translocal networks for just sustainability transitions](#)
- [Cities, justice, sustainability and covid-19](#)



Keynote take-home Message 4

Urban resilience needs to be un-packed respect to its approaches and these managed synergistically to avoid lock-ins

Resilience and sustainability are different and resilience only works for system persistency, not sustainability per se

Resilience for whom? Consider Resilience Trade-offs:

What is made resilient, who is benefitting, whose resilience is reduced while increasing others' resilience?

Cities lack skills and the human resources to understand, chose and apply the tools they need, as the expertise to write bankable projects for accessing funding. Also, there is a huge gap in term of policy coherence.



EDITORIAL

Urban resilience implementation: A policy challenge and research agenda for the 21st century

Jon Coaffee ✉, Marie-Christine Therrien, Lorenzo Chelleri, Daniel Henstra, Daniel P. Aldrich, Carrie L. Mitchell, Sasha Tsenkova, Éric Rigaud, on behalf of the participants

First published: 24 August 2018 | <https://doi.org/10.1111/1468-5973.12233> | Citations: 80



Cities

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Edited by

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- Ayyoob Sharifi
- Marie-Christine Therrien
- Jon Coaffee

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Keynote take-home Messages

Urban resilience needs to be un-packed respect to its approaches and these managed synergistically to avoid lock-ins

Resilience and sustainability are different and resilience only works for system persistency, not sustainability per se

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What is made resilient, who is benefitting, whose resilience is reduced while increasing others' resilience?

Cities lack skills and the human resources to understand, chose and apply the tools they need, as the expertise to write bankable projects for accessing funding. Also, there is a **huge gap in term of policy coherence**.

Thank you

Lchelleri@uic.es

Break

We will be back at 11:20 sharp!



URBAN PLANNING FOR RESILIENCE: THE CITY AND THE REGION

EUKN

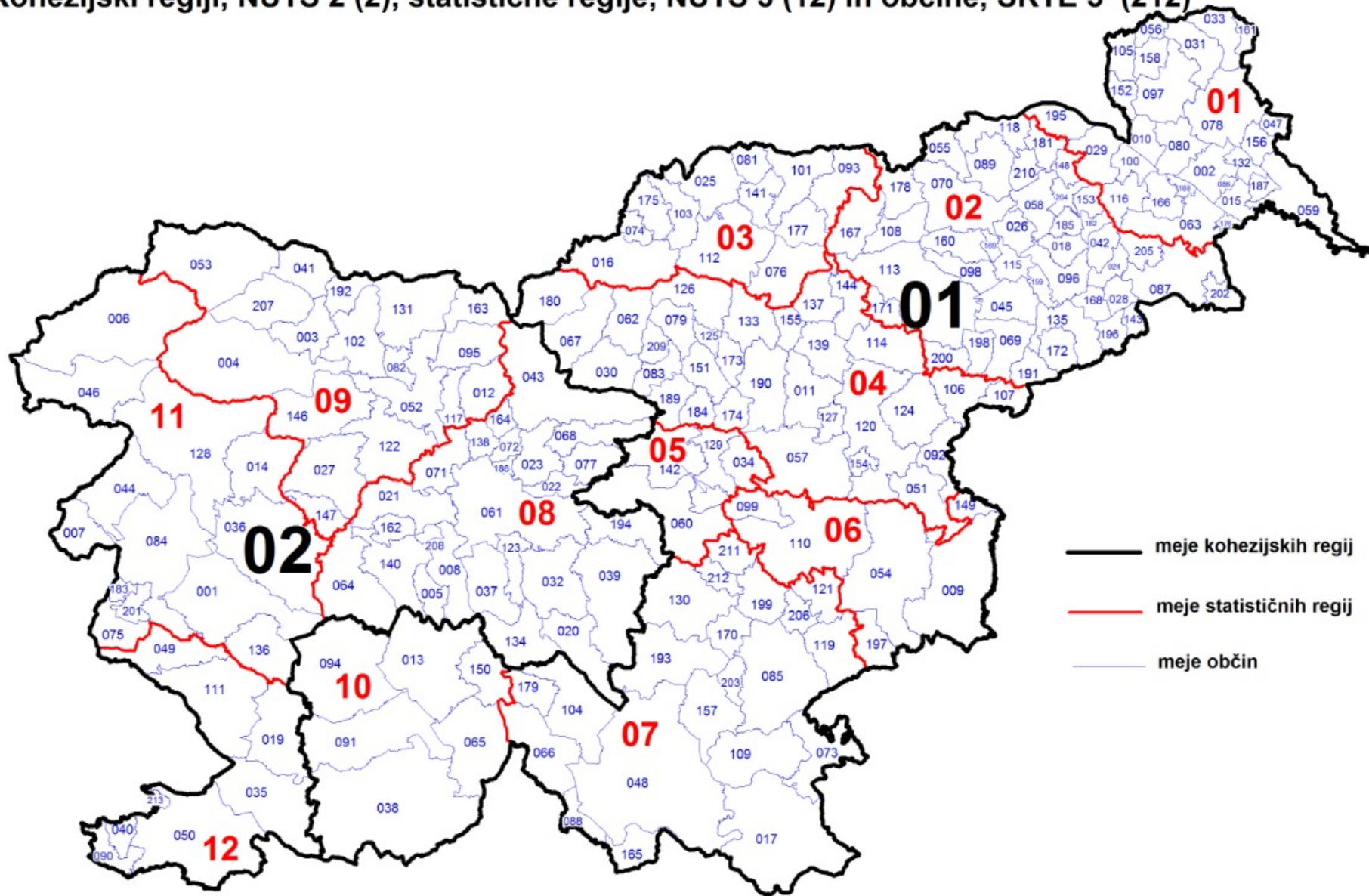
24 OCTOBER 2023

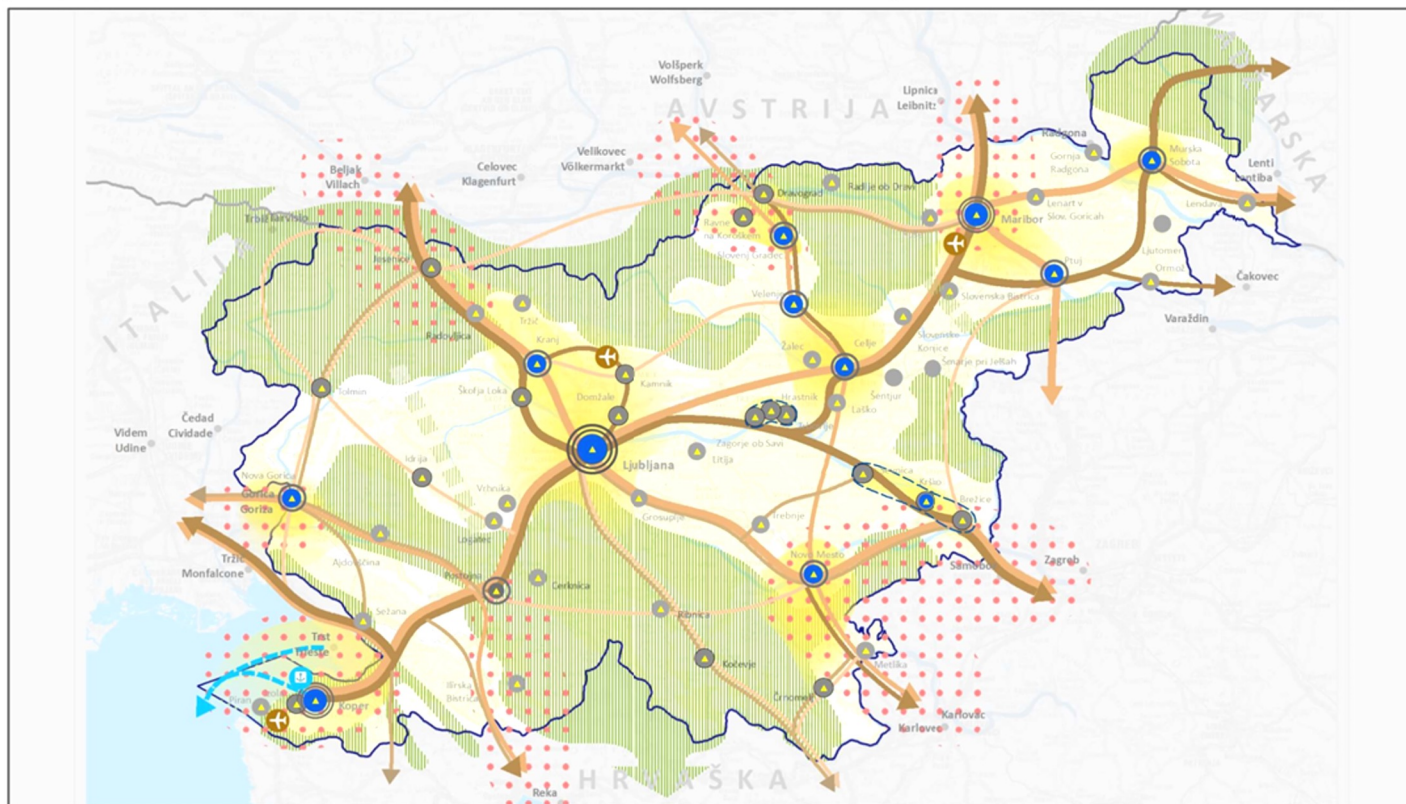
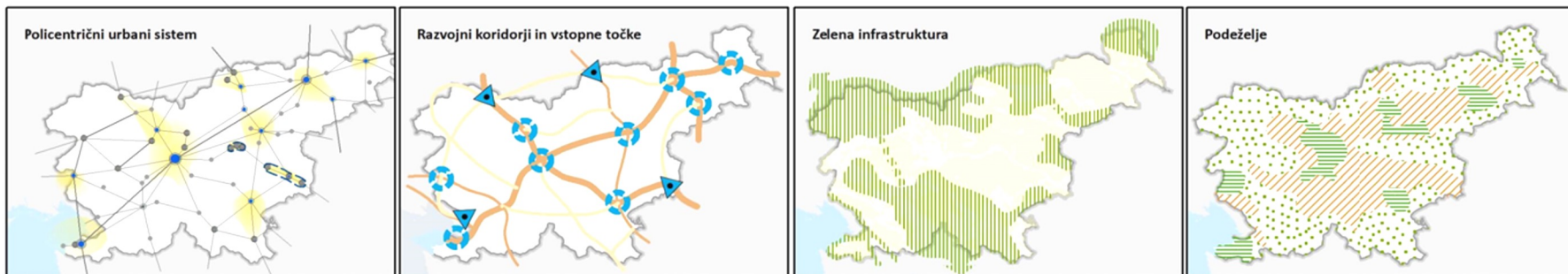
Miran Gajšek, City of Celje

The concept

- 1) The water catchment area of Savinja river and its tributaries is the same like the NUTS 3 region; it's the „programming region“ for EU cohesion policy and EUROSTAT statistics.
- 2) **Savinja river is the torrential one.**
- 3) The state and 212 local communities are responsible for urban planning, (according to Slovenian Constitution and legal system)
- 4) The rule: floods, earthquakes, fires: We have to do, what can not be done in normal circumstances!

Kohezijski regiji, NUTS 2 (2), statistične regije, NUTS 3 (12) in občine, SKTE 5 (212)





Središča v policentričnem sistemu naselij

- 1. raven - glavno mesto in mednarodno središče
- 1. raven - mednarodno središče
- 2. raven
- 3. raven
- 4. raven
- ▲ prednostno območje za stan. oskrbo
- sred šče mestne občine
- širše mestno območje
- somestje
- območje čezmejnega sodelovanja

Podeželje

- prednostno območje za kmetijstvo
- jedro podeželsko območje
- podeželsko območje v zaledju mest
- odmaknjeno podeželje

Zelena infrastruktura

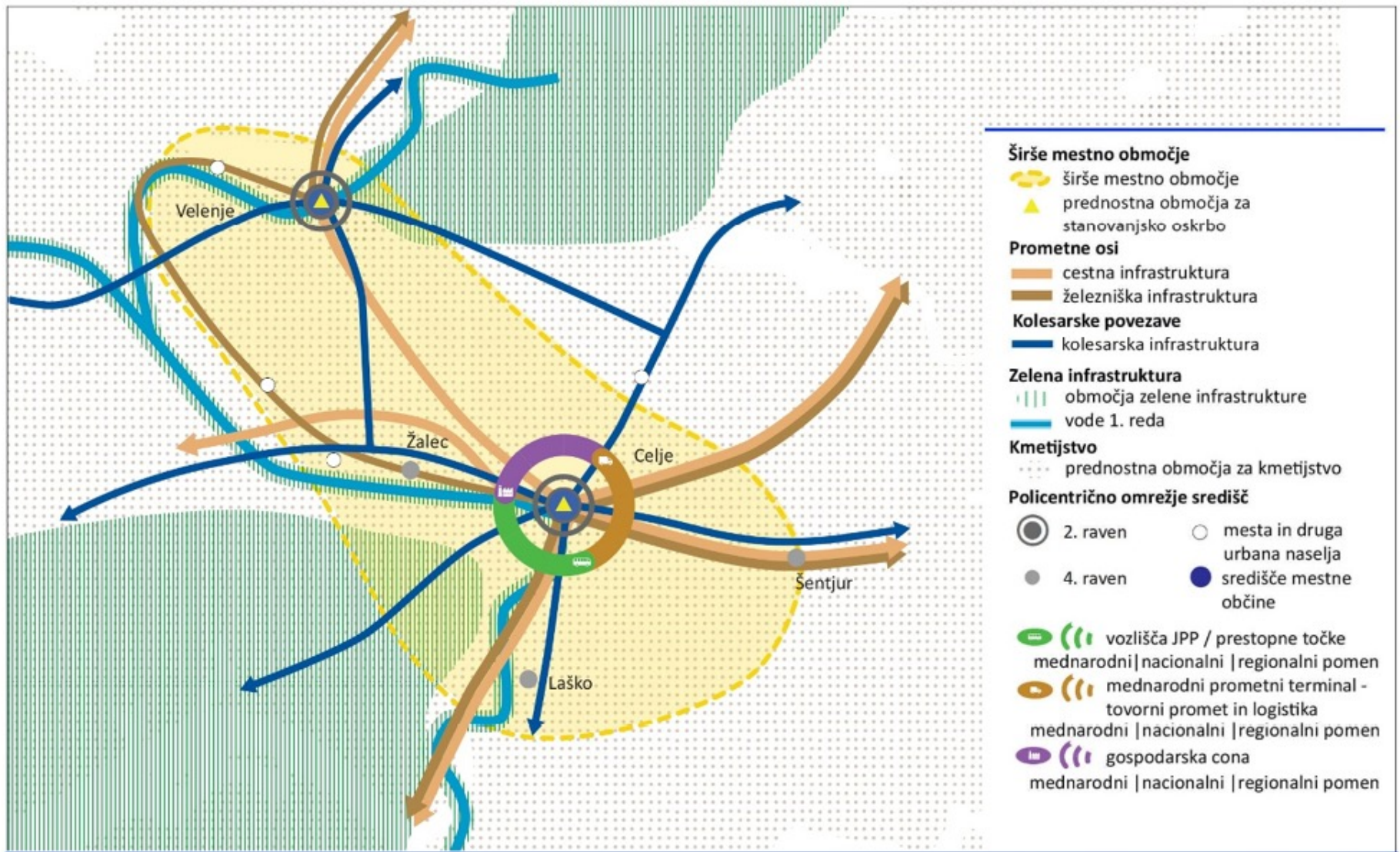
- glavno območje zelene infrastrukture
- zeleni koridor

Povezave

- Glavne povezave
- železniška povezava
 - cestna povezava
- Ostale povezave
- železniška povezava
 - cestna povezava

- pomorski prometni koridor
- letališče
- pristanišče
- vozlišče
- vstopna točka

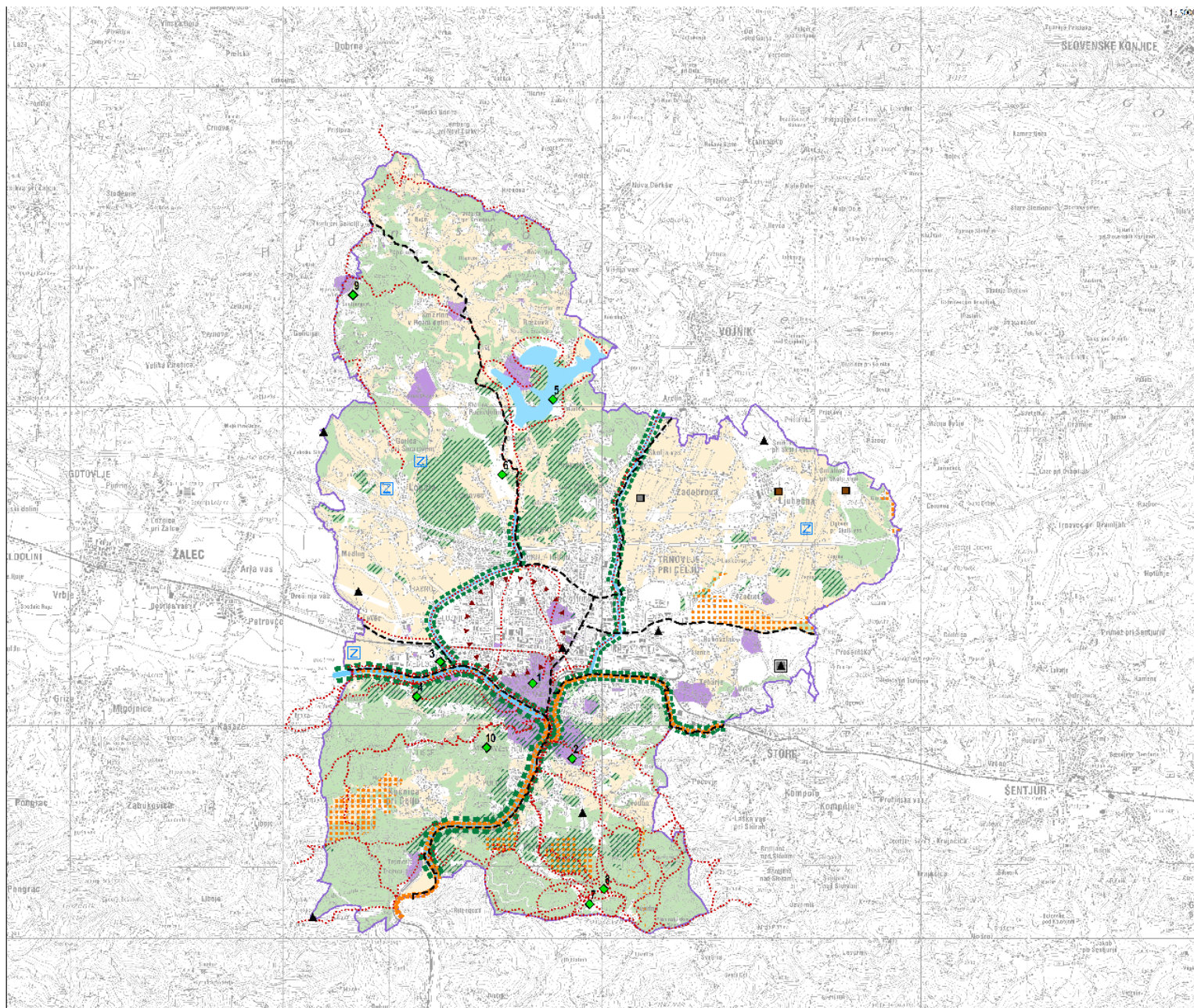
Vir podatkov:
 Kartografska podlaga, GURS, 2017
 Strokovne podlage SPRS, 2017
 Gostota prebivalcev, SURS, 2020



Savinjsko - šaleško širše mestno območje

OBČINSKI PROSTORSKI NAČRT
STRATEŠKI DEL

KARTA IV/2:
USMERITVE ZA PROSTORSKI RAZVOJ OBČINE:
- RAZVOJ V KRAJINI



MESTNA OBČINA CELJE



EUKN Policy Lab 'Urban Planning for Resilience' : Zagreb, Croatia

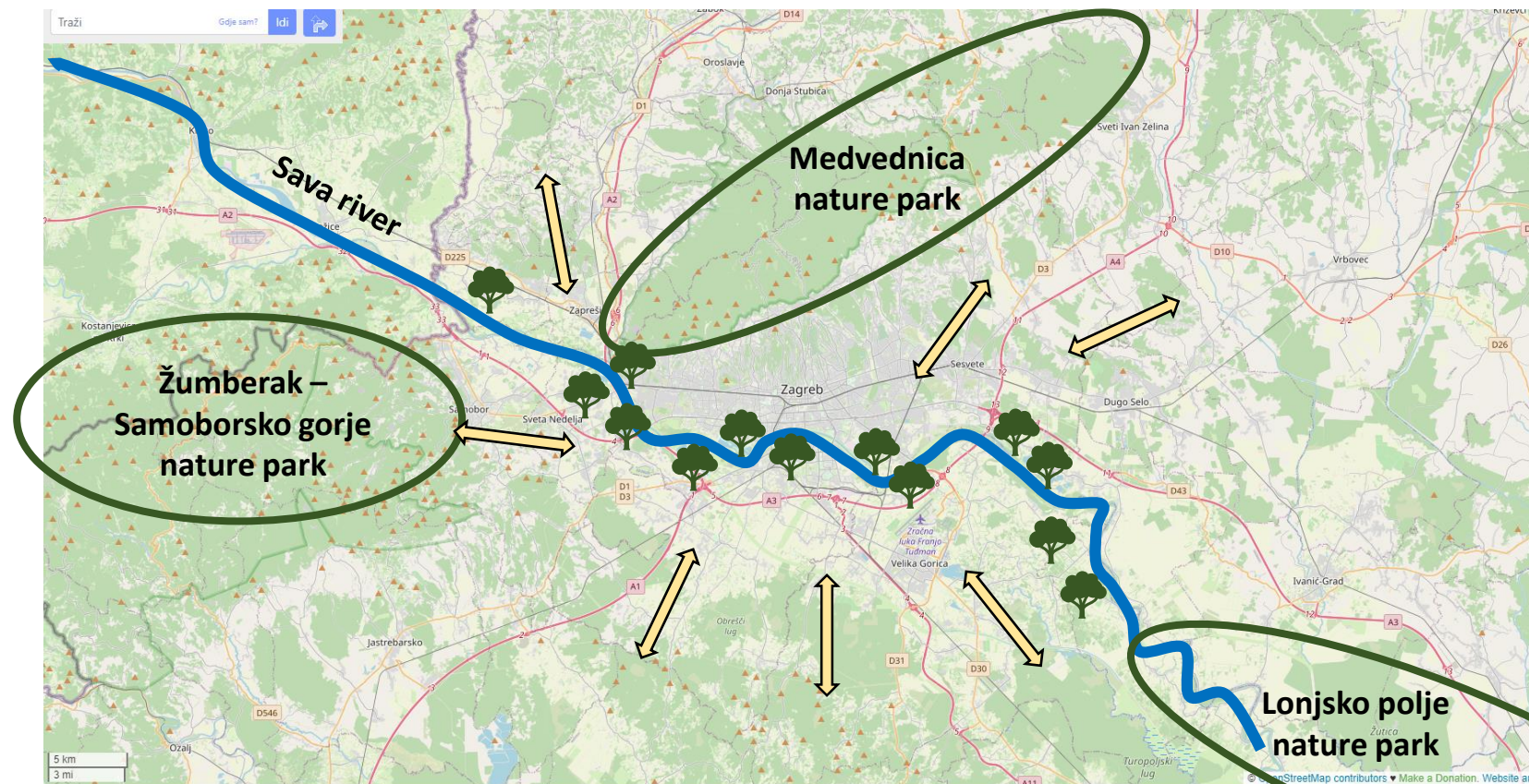
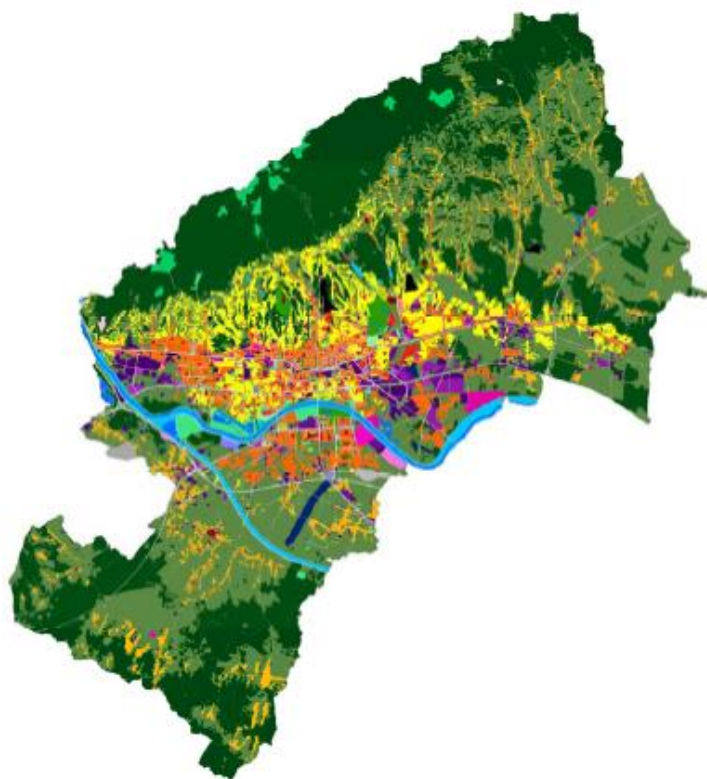
Nikša Božić, dipl.ing.arh.
Institute for Spatial Planning of the City of Zagreb

24 October 2023



zavod za
prostorno
uređenje
grada
zagreba

Zagreb: basic data



No. of inhabitants, 2021:

City of Zagreb: 767.131

City of Zagreb + Zagreb County: 1.067.116

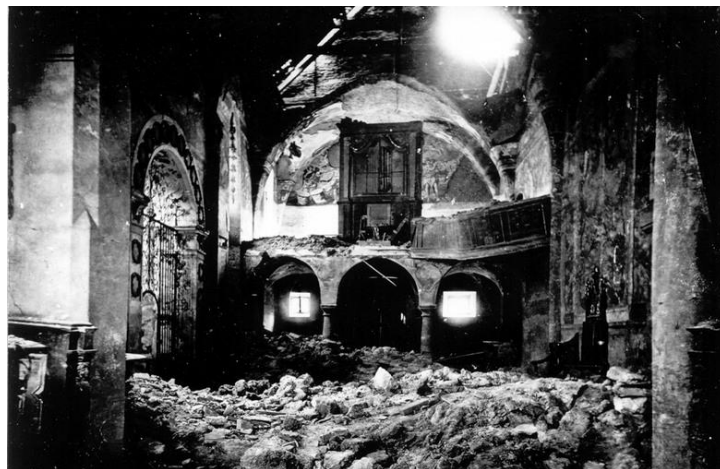
Zagreb earthquake of 1880



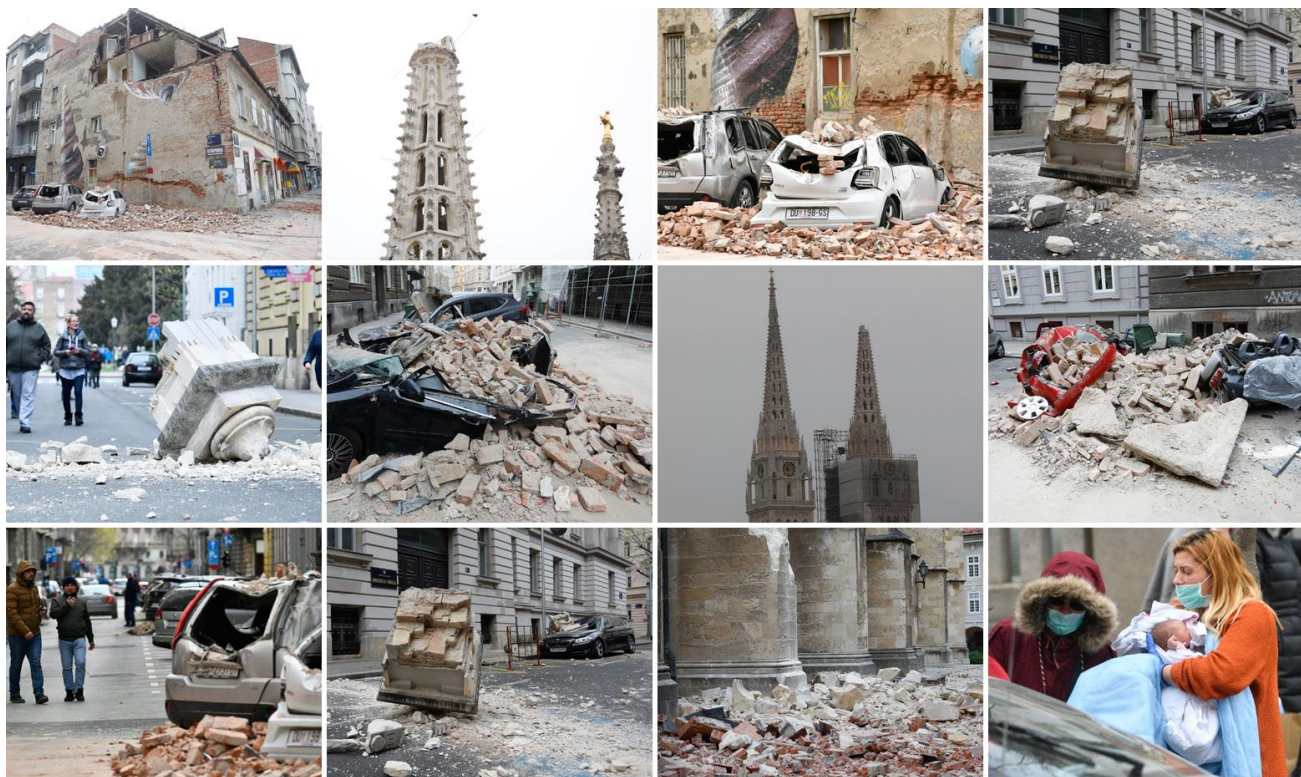
281 - III - 1337



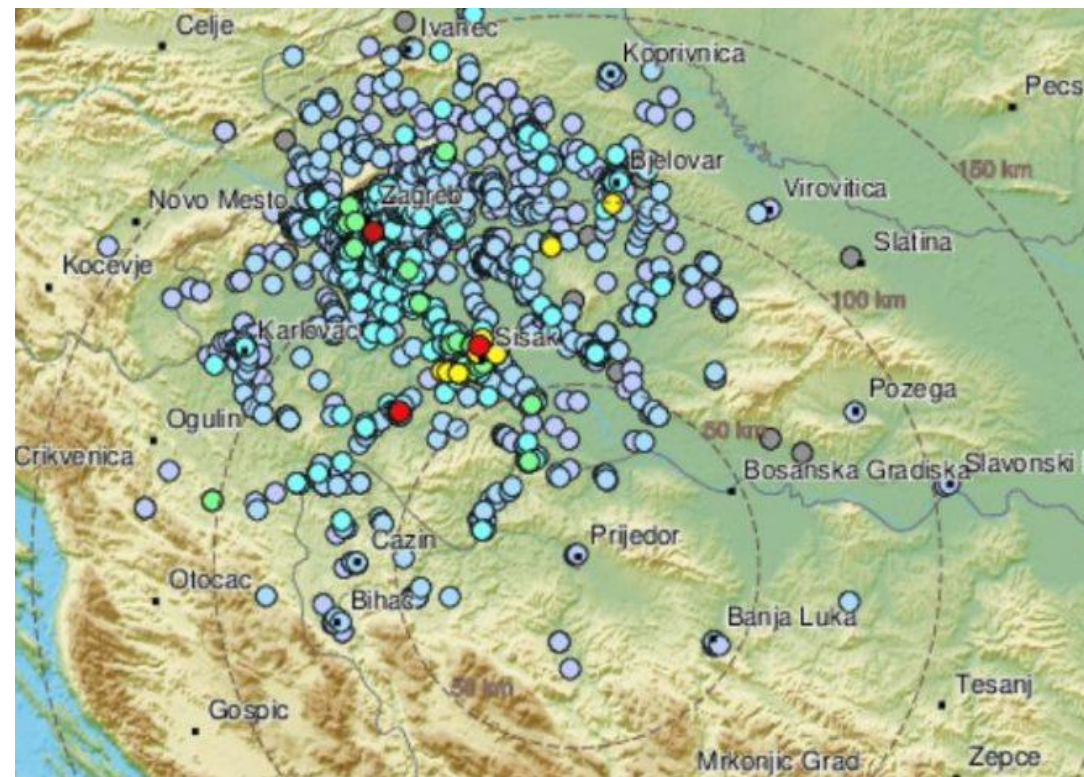
Zagreb earthquake
November 9, 1880
Magnitude 6.3



Zagreb earthquakes of 2020



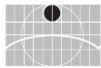
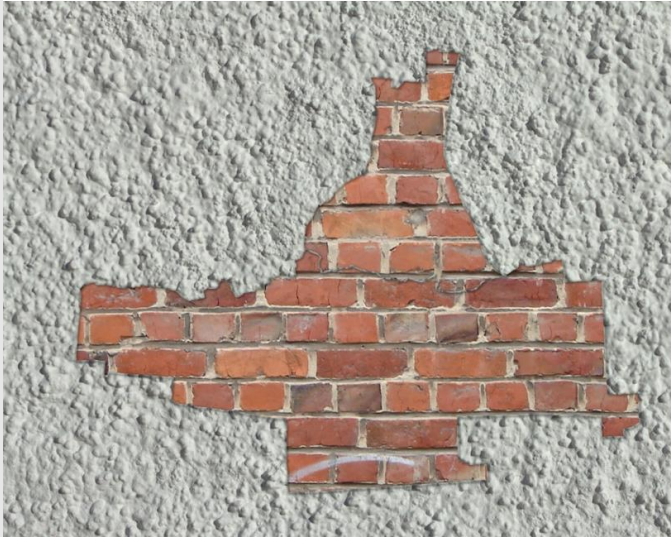
Zagreb earthquake
March 22, 2020
Magnitude 5.5



Series of Petrinja earthquakes
December 29, 2020
Magnitude 6.2

Comprehensive Renovation Program of the Historic Urban Core of Zagreb

PROGRAM CJELOVITE OBNOVE POVIJESNE URBANE CJELINE GRADA ZAGREBA



ZAVOD ZA PROSTORNO UREĐENJE GRADA ZAGREBA
Ulica Republike Austrije 18, 10 000 Zagreb, www.zzpgg.hr

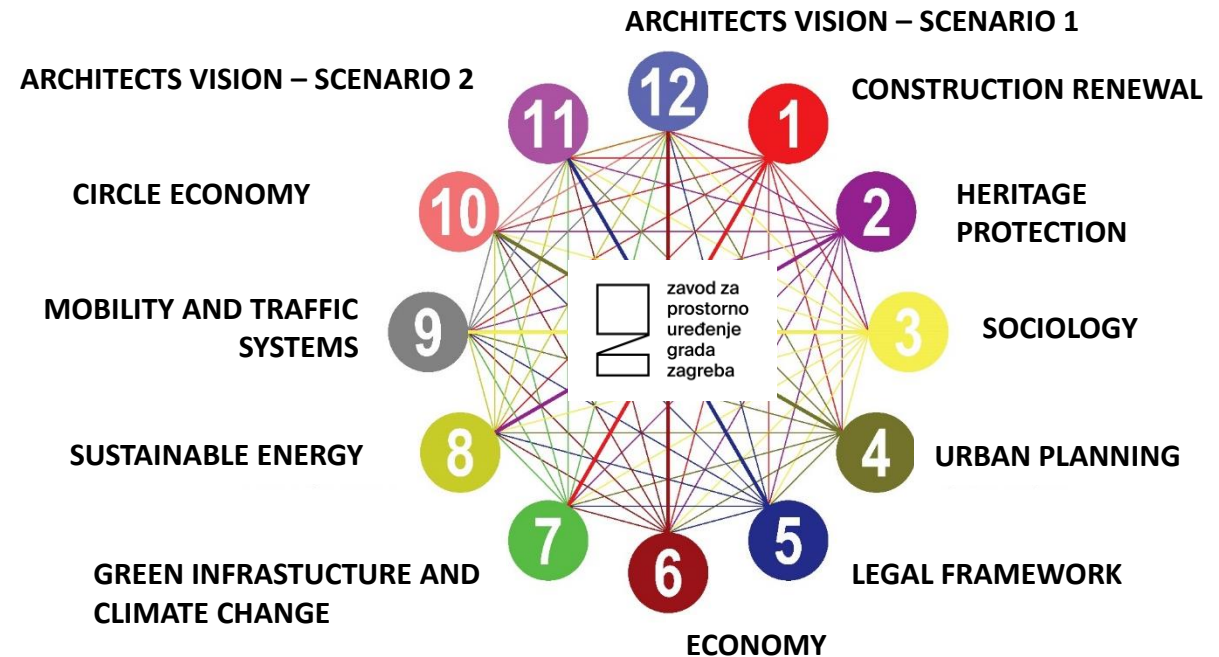
1

Natural disaster as a trigger and accelerator for urban renewal

- ..." it is not only about the restoration of houses and monuments, but also about the **restoration of the living habitat for 37,000 residents**, because without them the city is just an empty shell.
- The reconstruction of Zagreb should by no means be just the sum total of the reconstruction of individual buildings, but the image of the city, the multitude of its faces that make up its identity must be restored..."
- (Branko Kincl, HAZU, Croatian Academy of Arts and Sciences, 16 April 2020)

Comprehensive Renovation Program of the Historic Urban Core of Zagreb

- Vision of urban renewal - **GreenCenter 2050**
- Sociodemographic **vitality**, social cohesion and social justice
- **Identity**, ambiental characteristics and recognisability of the city center
- **Climate change resilience and climate neutrality** using NBS
- Energy transition and economy development on basis of and circular economy
- Transit (freight and car) **traffic restriction** for the historic core;
- Electrification of transport systems
- **Redefining the traffic network** - forming zones of traffic calming
- **Biodiversity increase** (biosolar roofs, canopies);
- **Water management** (rain gardens, green roofs, public fountains,...);
- Introduction of **natural terrain standards** on the plot, construction of green roofs
- Enabling **temporary shading of public areas** – increasing tree canopy cover



Other wake-up calls



Urban pluvial flood
July 2020



Extreme weather
July 2023



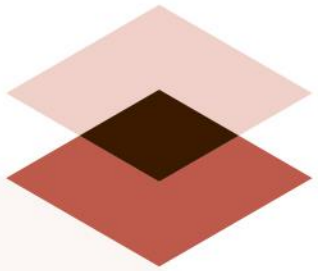
Sava high water level
August 2023

EUKN Policy Lab 'Urban Planning for Resilience' : Zagreb, Croatia

Thank you for your attention

Nikša Božić, dipl.ing.arh.
niksa.bozic@zagreb.hr





perspective
.brussels

Brussels as a sponge city

Keeping urban water clean,
accessible and controllable

EUKN Policy lab

24 October 2023

Maarten De Backer, perspective.brussels

Bureau bruxellois de la planification / Brussels Planningsbureau

www.perspective.brussels

Perspective.brussels

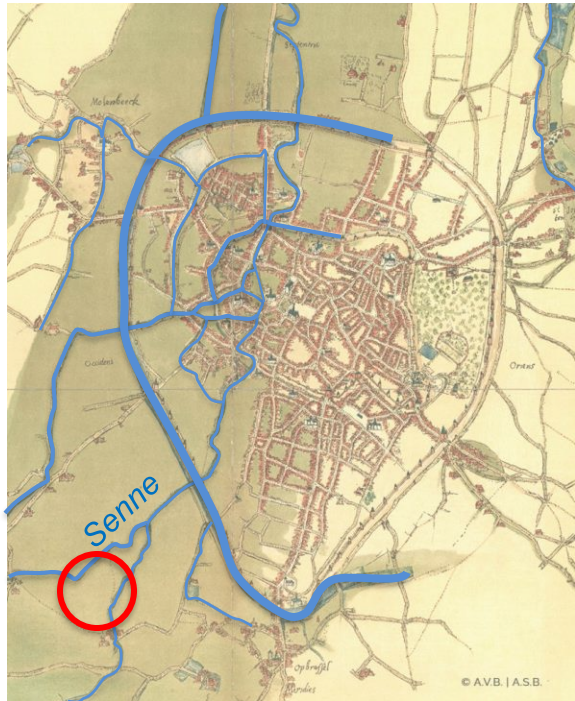
- Brussels regional public agency created in 2016
- Spatial and strategic planning agency
- Multidisciplinary centre of expertise

- Coordination of the Belgian EU Presidency 2024 on urban policies

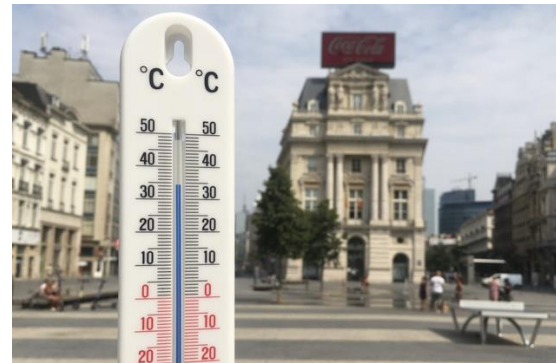
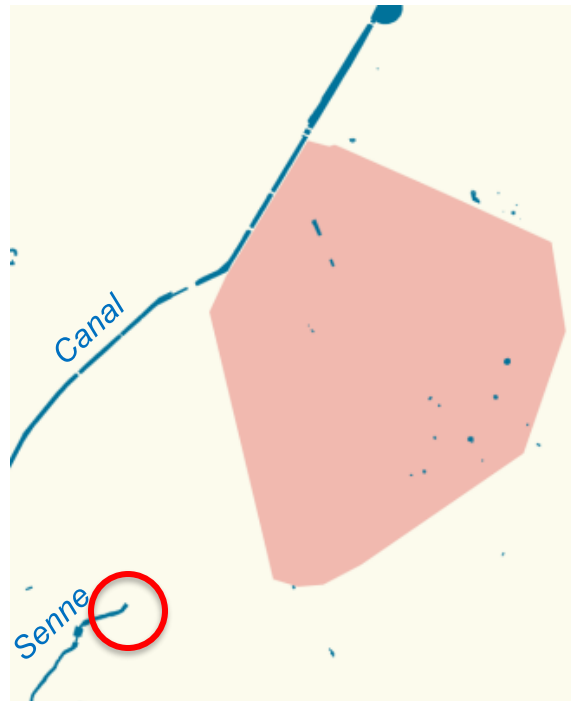


Urban water in Brussels

1550

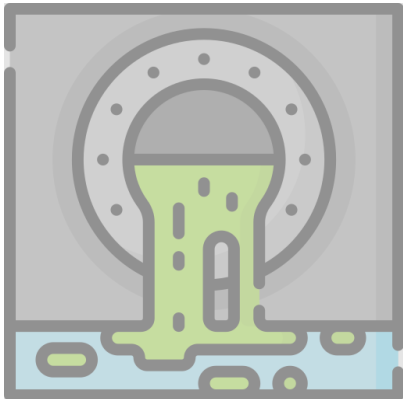


2020



Why is Brussels (and your city) so vulnerable?

- Water infrastructure is often overengineered
 - Less interaction with surface water
 - Water sources diverted to sewers
 - Rain causes pressure on infrastructure → pollution, floods
- Brussels case: Senne river too small to recover from total population stress



Sewer overflows



Reduced water quality



Less water interaction

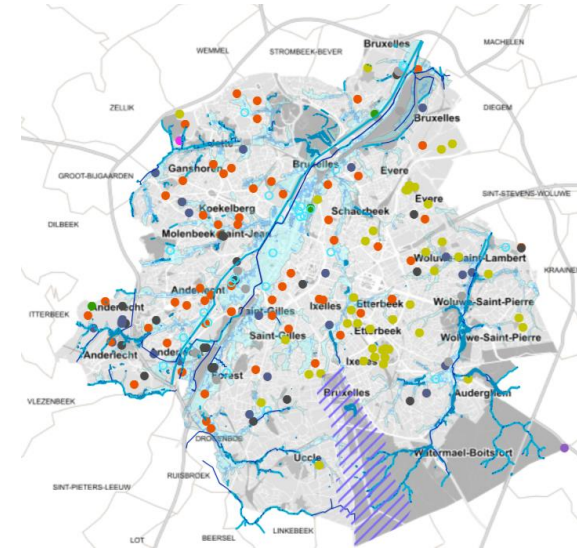


Brussels as a sponge city

Brussels as a sponge city: 2 objectives

1. Improve water quality

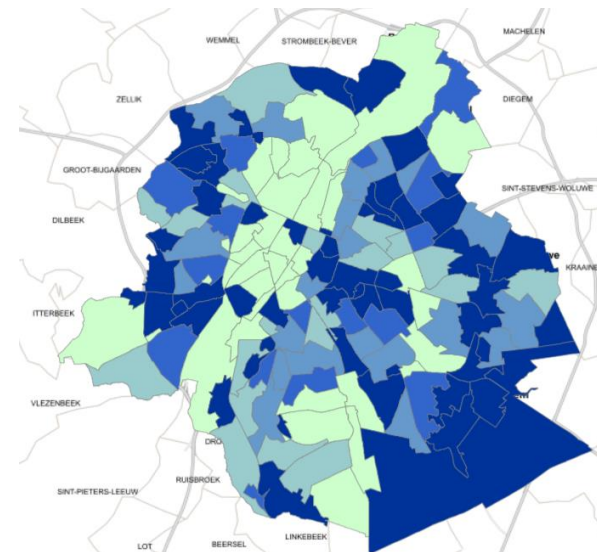
- Absorb rain water runoff, give space to river
- Improve link water and urban planning
Ongoing study of 20th century urbanisation in Brussels



Technical data →

2. Make water accessible

- Acknowledge water demand
- Hollistic landscape-design



Social statistics →



Hollistic landscape design



Redistribute public space



Swimming infrastructure



Rain gardens



Rethinking road network



Restoring the river

Belgian Presidency EU24

A presidency that cares about cities

A program related to developing resilience

1. Resolve flood and drought risks of urban and metropolitan regions
 - Pilot Action Territorial Agenda: Urbanisation strategies for transregional or transnational valleys facing climate change.
2. Developing qualitative density in cities
 - European Seminar for spatial planning agencies to share case-studies, solutions and challenges in order to build resilience and reconcile the urban with nature

Host: perspective.brussels
29-30/05/2024



perspective
.brussels 

Thank you!

Contact:
mdebacker@perspective.brussels

 **perspective.brussels**

EUKN Urban Planning for Resilience
Policy Lab for Slovenia (Spodaj slovenščina)
24/10/2023

REFRAMING VENICE AS A LIVING CITY

Jane da Mosto

We are here Venice ETS

(Satellite view of the Lagoon of Venice)

V I T A L



Destinations were overwhelmed by... Here's how they're doing now

Published 27th October 2020

The Telegraph News Business Sport Opinion Politics World Money Life Style Travel Culture

How a new art exhibition in Venice is shining a light on the planet's battle against rising oceans

Venice's Church of San Lorenzo is home to Francesca Thyssen-Bornemisza's TBA21 Academy, whose latest exhibition carries a stark warning

By Caroline Roux
12 September 2020 - 7:00am

Skift Take

Venice's struggle to deal with oversize cruise ships is constantly in the headlines, but beware of anyone claiming a solution has been reached — the situation is beset

New artificial dam aims to save Venice from climate change-induced flooding



ONLY ON CTM
CBS THIS MORNING
PROTECTING AN ANCIENT CITY
CBS GETS EXCLUSIVE LOOK AT VENICE'S NEW FLOOD BARRIERS
RAND PAUL DELAYS DEFENSE BILL VOTE OVER TROOP DRAWDOWNS US CARRIES OUT RA 7:41 / 41°

EURONEWS.COM
Will Venice survive climate change?
Venice's flood defences are keeping the city dry, but scientists ...

La biologa che con la barchetta a remi tenta di fermare le navi da crociera: "Venezia è troppo bella per lasciarla distruggere da questi giganti"

di Vera Mantengoli



Jane Da Mosto mentre rema nel canale di Venezia: la foto è stata scattata da Michele Gallucci

La foto che la ritrae mentre rema di fianco alla Msc Orchestra ha fatto il giro del mondo. Chi è Jane Da Mosto che da 25 anni combatte la sua guerra per salvare la laguna

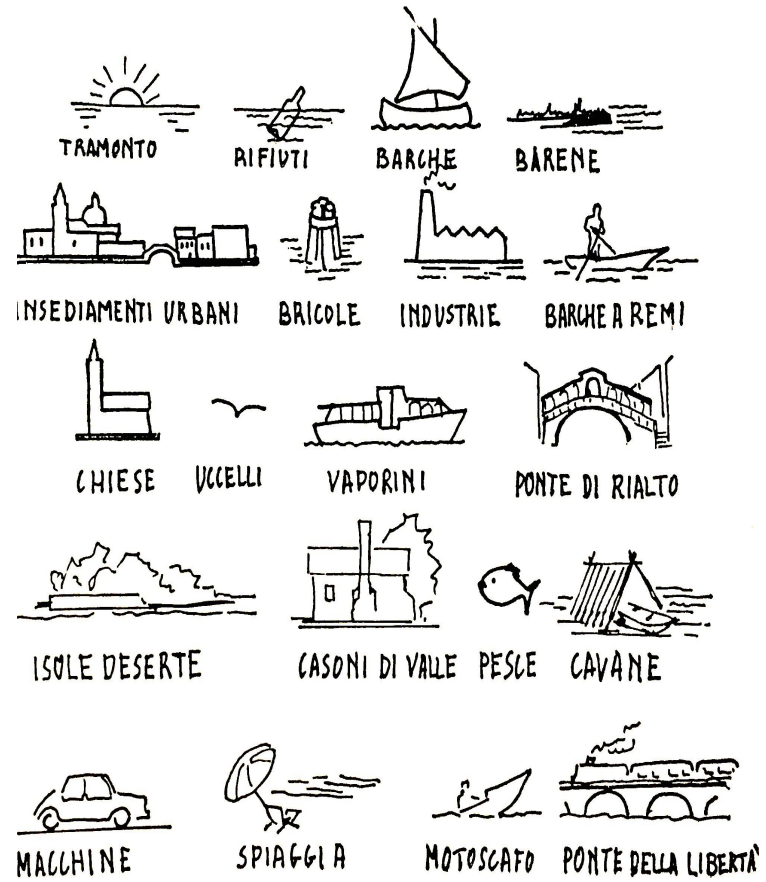


YOUTUBE.COM
Après le virus, la crainte du tourisme de masse à Venise
| ARTE Regards





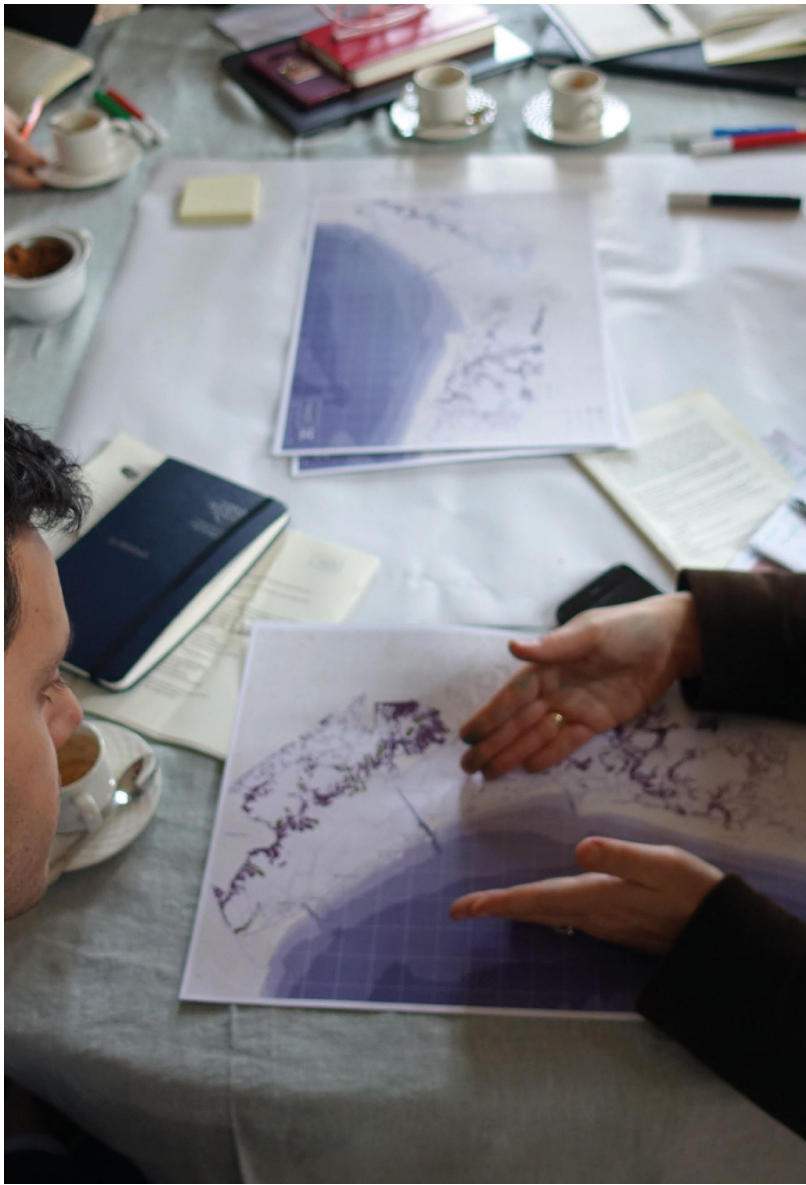
VENICE IS THE LAGOON



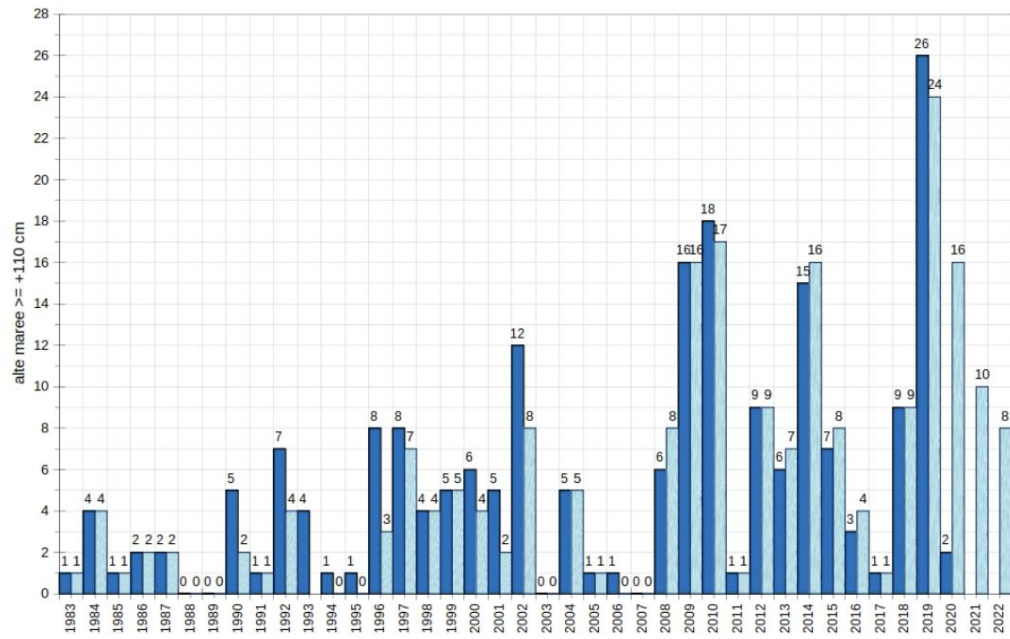
LANGUAGES OF VALUE



EXCHANGE OF KNOWLEDGE

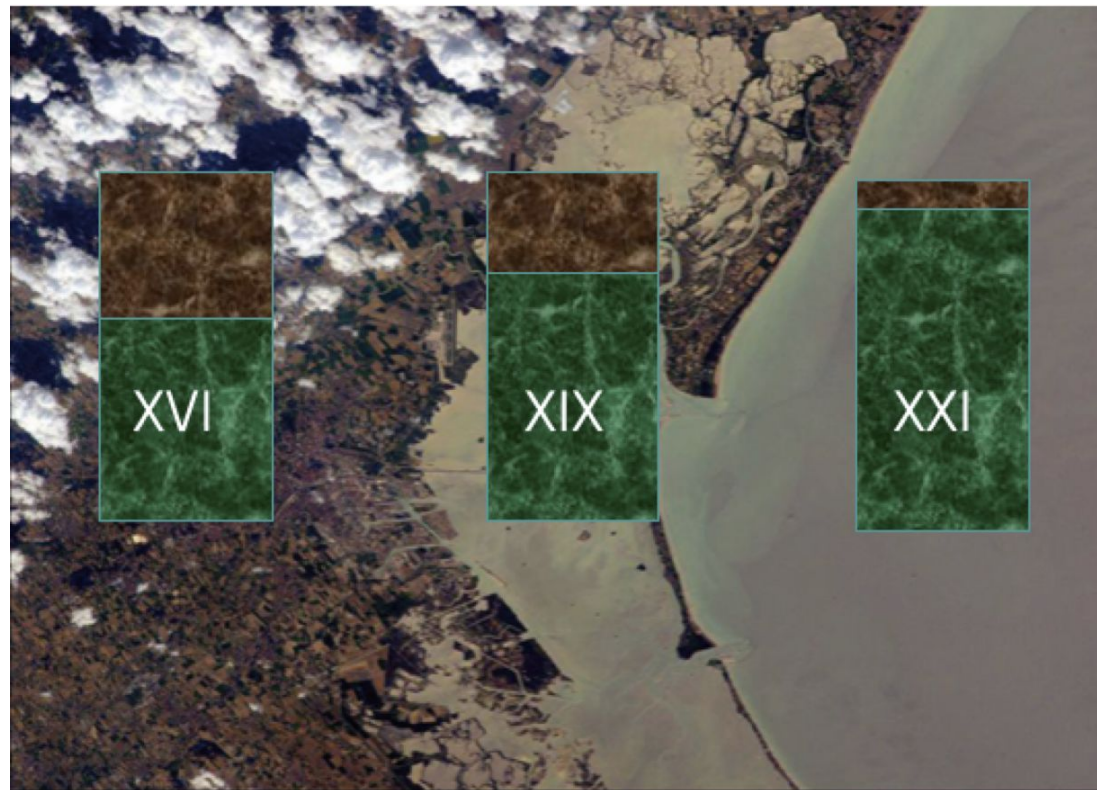


Images: Eleonora Sovrani, Nicholas Hilaire



Distribuzione annuale delle alte maree $\geq +110$ cm registrate a Venezia e in mare (Piattaforma) dal 1983 al 2022

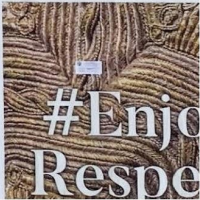
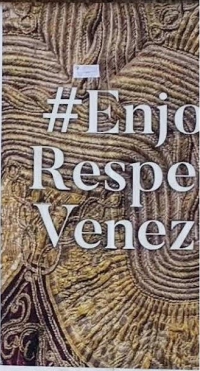
■ Venezia ■ Piattaforma



**CRUISE SHIPS
AMPLIFY
HUMAN-TO-HUMAN
TRANSMISSION
OF INFECTIOUS
DISEASES**

SOURCE: J. Rocklöv, H. Sjöden, A. Wilder-Smith. "COVID-19 outbreak on the Diamond Princess cruise ship: estimating the epidemic potential and effectiveness of public health countermeasures". *Journal of Travel Medicine*, Vol. 27, Issue 3, April 2020. taana030. <https://doi.org/10.1093/jtm/taaa030>

**CRUISE SHIPS
AMPLIFY
HUMAN-TO-HUMAN
TRANSMISSION**



**IN AIR CRUISE
PASSES VIA THE LUNGS
INTO THE BODY'S
CIRCULATORY SYSTEM
AND OTHER ORGANS
CAUSING HEALTH
PROBLEMS AND/OR
DEATH.**

**ERDINANDO
CIANNA
VENEZIA / TRE OGI
1.08.19 > 02.02.20**

**AIR ON CRUISE
SHIPS CAN BE
WORSE THAN IN
SOME OF THE
MOST POLLUTED
CITIES OF THE
WORLD.**

**ERDINANDO
CIANNA
VENEZIA / TRE OGI
1.08.19 > 02.02.20**

LA REGOLA DEI
FORNASETTI

08.05.2019 — T.F.
24.11.2019 — D.F.

**AS A CRUISE
PASSENGER
YOUR ENERGY
CONSUMPTION AND
WASTE PRODUCTION
ARE HIGHER THAN
SOME CITIES**

**I GIGANTI
DELLA LAGUNA**

MUSEO DI STORIA
NATURALE DI VENEZIA
GIANCARLO LIGABUE
27-05-2023

PRESENTAZIONE
DEL PROGETTO
DALLE ORE 15:00
ALLE ORE 19:00

**I GIGANTI
DELLA LAGUNA**

MUSEO DI STORIA
NATURALE DI VENEZIA
GIANCARLO LIGABUE
27-05-2023

PRESENTAZIONE
DEL PROGETTO
DALLE ORE 15:00
ALLE ORE 19:00

**I GIGANTI
DELLA LAGUNA**

MUSEO DI STORIA
NATURALE DI VENEZIA
GIANCARLO LIGABUE
27-05-2023

PRESENTAZIONE
DEL PROGETTO
DALLE ORE 15:00
ALLE ORE 19:00

Salicornie

Spartina maritima

Limonium

**THE
AR**

Salsola soda

SELITZ

GAGOSIAN

WHAT IS HAPPENING TO VENICE?

Outcome of the long-awaited Government decision on the future for cruiseships (Comitatone 7.11.2017)

CURRENT CRUISE TERMINAL
Solution most wanted by cruise companies to maintain the profitability of large investments in infrastructure. But the disadvantages for the city are well known.

DEFINITIVE SOLUTION:

MARGHERA

Construction of a new cruise terminal, accessed via the industrial shipping channel (Canale dei Petroli). This will take many years to plan and implement; critical issues include:

- > land ownership
- > congestion and conflicts with ongoing commercial shipping and other industrial activities
- > proximity to hazardous areas.



INTERIM SOLUTION: RE-OPENING THE VITTORIO EMANUELE CANAL

Cruise companies would like to retain the cruise terminal where



it currently is even if ships access it via the longer route through the central lagoon. The canal between here and Marghera has not been used by large ships for almost 50

years; dredging it to the required depth and width is conditional on an Environmental Impact Assessment. The EIA should also take account of the rest of the plan, including the

route along the Canale dei Petroli across the lagoon. Environmental groups and independent expert have serious reservations.

CURRENT CRUISE SHIP ROUTE

Size limit for ships has increased to 55,000t whereas a 2012 law proposed setting the limit at 40,000t and for a couple of years cruise companies voluntarily complied with this threshold. Ships in this category tend to be older, i.e. more polluting with less reliable engines. The Coast Guard is supposed to issue additional emissions limits and other environmental parameters in consultation with the Environment and Culture Ministries.

PROPOSED OFF-SHORE TERMINAL

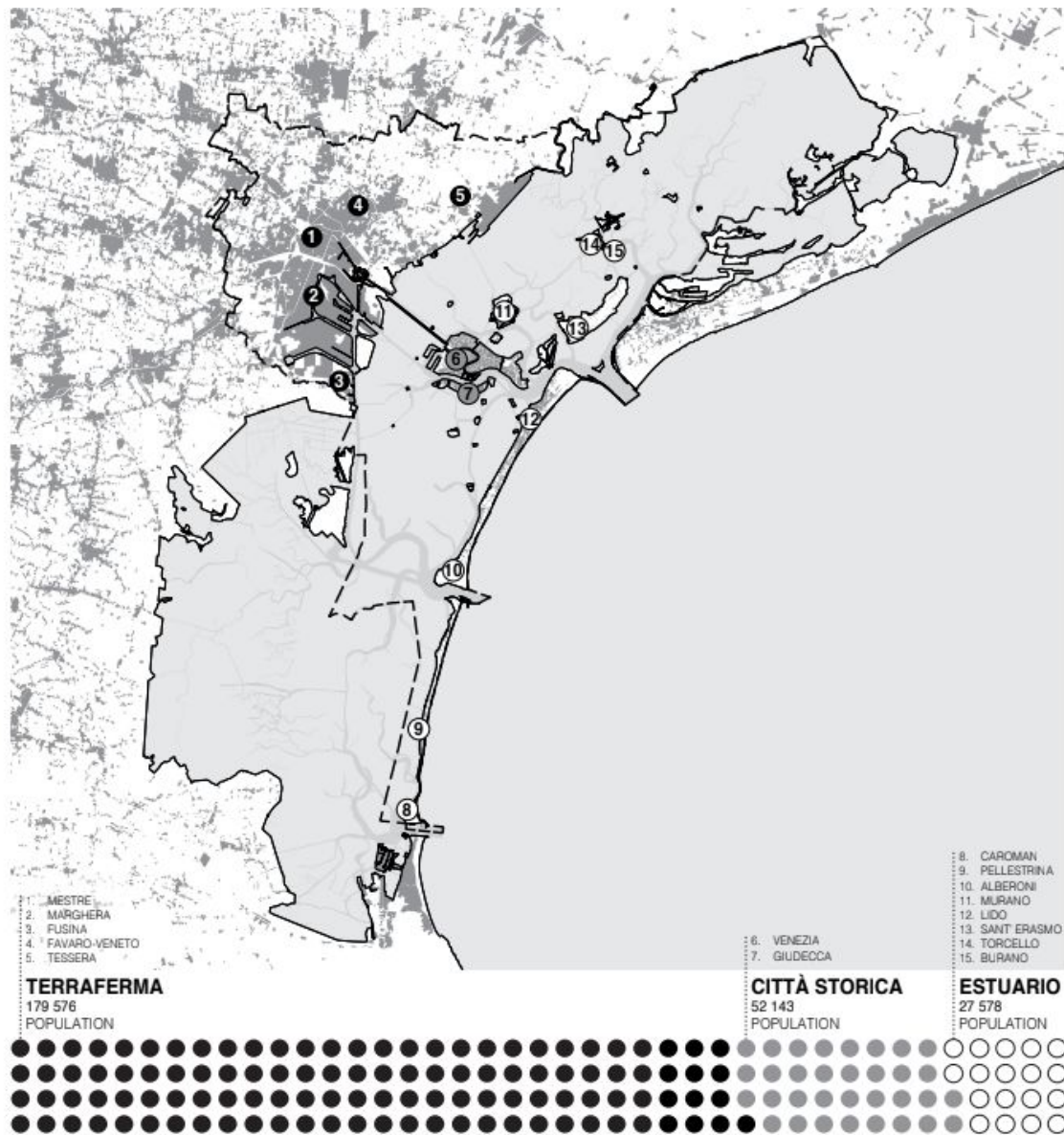
> The solution conceived by Duferca/De Piccoli is the only proposed solution to have passed an EIA with some provisions:

- > not accepted by Punta Sabbioni-Cavallino-Treporti
- > 2-3 alternative projects.

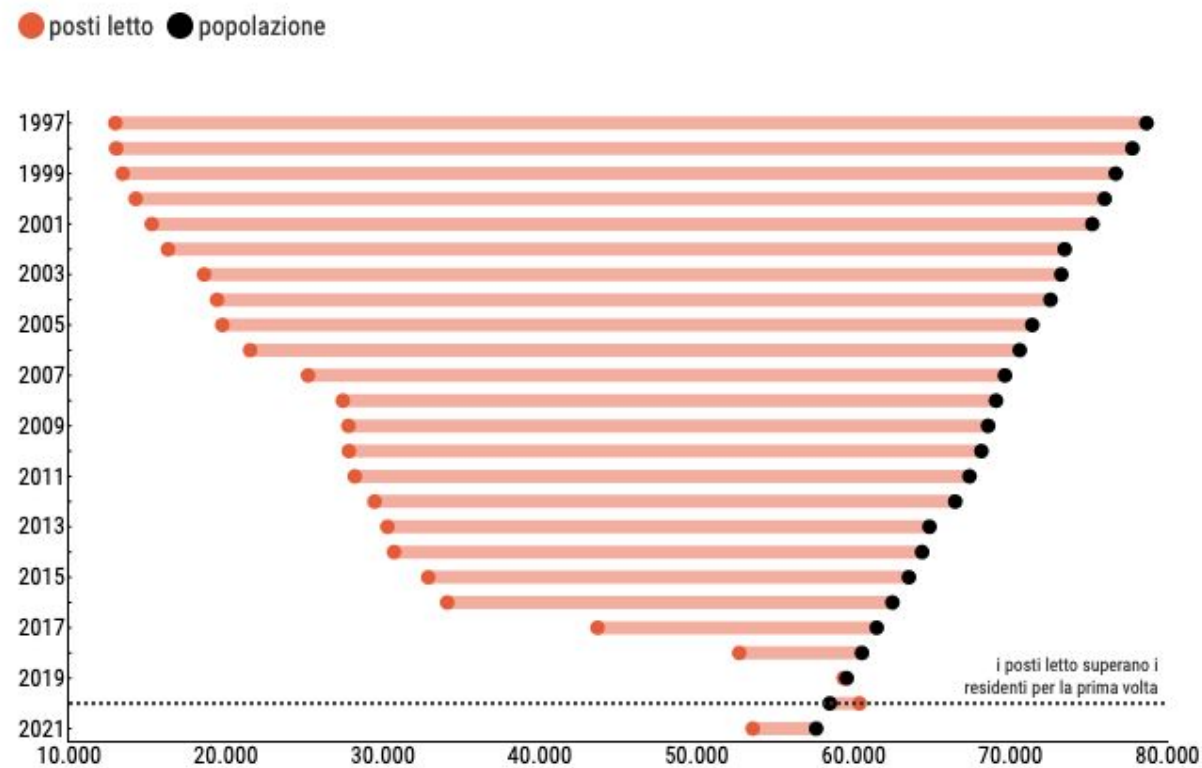
INDUSTRIAL SHIPPING CANAL// CANALE DEL PETROLI

Erosion in the central lagoon due to ship traffic is very serious. Rather than increase traffic, it is necessary and urgent to restore the ecosystem. **Safeguarding Venice depends on the health of the Lagoon.**





THE MUNICIPALITY OF VENICE
Population data from: Città di Venezia, 2020



Fonte: Elaborazione OCIO su dati Ufficio di Statistica della Regione Veneto (stutture alberghiere e strutture non alberghiere) • Comune di Venezia - Servizio Statistica e ricerca su dati Anagrafe comunale (dati popolazione)

Note: Per "Venezia Insulare" si intendono i 6 sestieri e le isole, cioè la "Città d'Acqua" con esclusione di Lido e Pellestrina.



Images: Eleonora Sovrani

MEMORIA (*remembering*)



RIELABORARE (*reimagining*)



RIPRISTINARE (*restoring*)





WE ARE
HERE
VENICE

Thanks for your attention!



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