Re-cycling Urbanism

NEW PARADIGMS, TOOLS AND PROJECTS FOR ECOLOGICAL CITIES
“The lack of resources is no longer an excuse not to act. The idea that action should only be taken after all the answers and the resources have been found is a sure recipe for paralysis. The planning of a city is a process that allows for corrections; it is supremely arrogant to believe that planning can be done only after every possible variable has been controlled.”

- Jaime Lerner

Architect, urbanist, former mayor of Curitiba, Brazil
WE LIVE IN AN ECOLOGICAL URBAN WORLD
urban planning must pass a vision based exclusively on uses and rules
urban planning must recover a vision based on

+ metabolism  + circularity  + resilience
we must
RE-IMAGINE URBANISM
because we live in a

METAMORPHOSIS AGE
GREEN METAMORPHOSIS
SHARING

METAMORPHOSIS
Metamorphosis needs INNOVATION
URBAN INNOVATION
collaborative spaces, open environments, shared platforms increase creativity, intelligence and profitability of the people involved
“Creative habitats are platforms to open doors to the adjacent possible. Each new innovation opening up new ideas to explore.”

Steven Johnson
TECH-DIVERSITY
Interaction of creative habitats – the coral reef (bio),
the web (tech) and the city (people) – makes great
inventions come to light, resulting from converging
and shared paths, even unconsciously,

exclusively based on

coopera[tion]
innovation is born from the relationship, the sharing and the hybridization of ideas
urbanism have to plan and design the new alliance between
human capitals, creative cities and smart citizens
VISION
We live in a world of cities

The city plays a major role in the Urban Age as habitat bearing the responsibility to generate innovative lifestyles, more sustainable smart and creative, and to be the reformer of its own development pattern.
THINK OUTSIDE THE BOX
Judith Rodin

THE RESILIENCE DIVIDEND

Today, humanity faces unprecedented risk

Urban populations have never faced so many shocks and stressors. Without strategic investment, cities struggle to adapt, respond and recover from disaster.

EXTERNAL SHOCKS

Natural Disasters
Infrastructure collapse
Terrorism
Pandemics
Cyberattacks
Financial crises
Globalization
Climate
Urbanization

ACCELERATORS

Unreliable public transportation
Corruption
Water scarcity
Crime/violence
Poverty
Scarcity
Income inequality

SLOWER TO ADAPT
HARDER TO RESPOND
LONGER TO RECOVER

INVESTMENTS

INVESTMENTS

Infrastructure
Economic diversification
Preparedness
Community Cohesion
Safety
Urban Planning & Design

RESIDENTS

Lives saved
Greater mobility and access
More job opportunities

BUSINESSES & INSTITUTIONS

Restore operations
Lower operating risk
New markets for innovation and technology

GOVERNMENTS

More effective disaster aid
Increased private investment
Greater protection for the vulnerable
rur-urban hyper-metabolism

- farming/collection
- biologic nutrients
- restoration
- biochem feedstock
- biogas
- anaerobic digestion/composting
- extraction of biochem feedstock
- cascades
- Consumer
- collection
- energy recovery
- landfill
- leakage to be minimized

- mining/materials manufacturing
- parts manufacturer
- product manufacturer
- service provider
- recycle
- refurbish/remanufacture
- reuse/redistribute
- maintenance
- technical nutrients
planning in the METAMORPHOSIS AGE
METAMORPHOSIS IS THE NEW AND POWERFUL KEYWORD IN TIME OF CRISIS.

We are not undergoing a passing situation, but we are living in a crisis which requires a *metamorphosis* of the ecological, cultural, economic, social and political systems *to get out of it different than we were when entering it*. 
IN THE METAMORPHOSIS ERA, NOTHING CAN REMAIN UNCHANGED

and **we have an obligation to rethink** the identity and role played by the components of society as a whole, and how they affect urban and land planning.
IN THE METAMORPHOSIS AGE CITIES ACT AS POWERFUL POPULATION ATTRACTORS

no longer from rural areas, but – even more in time of crisis – from other cities, thus generating a flow of “social capital” crossing them, able to feed their competitiveness, regeneration and quality provided that it is adequately transformed into resources for sustainability.
new keywords for the EUROPEAN URBAN AGENDA
is the arena of the cities that made the battle goes: rethinking their driving function of territorial cohesion, aggregative of intelligence, catalyst of resources and innovation environment.

WE NEED TO RE-ACTIVATE THE URBAN METABOLISM
world urban return on investment
RE-LOAD THE CITY
The European cities are often systems producing an **unsustainable waste of resources** (financial, social, territorial) and a high consumption of energies (material and immaterial) with respect to the quality it generates.

**We are in a situation in which the emergency actions are no longer effective.**
All the same, we realize that in the same cities their intrinsic qualities are still high, values are intact, talents are active and relations are fluent and broad.
Then, the acceptance of decline and its management is not the only way, but we can and must commit ourselves to “Re-load the urban operating system” to reactivate the city again.

The new generation urban project will have to supply a new operating system to the city, re-combining territorial resources, economic flows and social capitals.
re-think urban policies
re-connect relationships
re-empower private sector
re-activate urban cycles
the rise of middle cities
In Europe the most dynamic cities are not the megalopolis, because the strong hubs of the European world cities (London, Paris and Berlin) are complemented by a network of 25 second level cities able not only of being the new driving forces for development, activating support policies to their attractiveness, but above all of playing an important international role in the production of creative capital.
SIX PARADIGMS
to rethink urban planning
MULTIPLICITY

proactive knowledge
LIGHTNESS
control and rules
QUICKNESS
responsibility for the decision
EXACTITUDE
commitment to action
VISIBILITY
the value of communication
CONSISTENCY
the ethics of planning
planning in the 
RE-CYCLE AGE
FRESH KILLS PARK
Cultivating New Habitats Over Time

existing habitats → mature biomatrix
It is necessary to “re-cycle cities” to experience a creative, intelligent, sustainable and inclusive growth, both by using the potential of “city mines” consisting of dismissed or under-used areas, and acting on the innovation of life styles, behaviours and sustainable socioeconomic values, and above all on the ways to regulate, plan and control settlements.
In the era of metamorphosis cities de-grow, shrink and become more densely populated: they produce urban “fragments”, functional “chips” and development “scraps” which only through a re-cycling process can be again the components of new life cycles capable of generating renewed urban landscapes or be the triggers of interrupted cycles, or can still contribute to turn some now ineffective micro-cycles into a more powerful cycle.
RE-CYCLING URBANISM

conceptual map of the recycling urbanism [beta 3 - © M. Carta, 2014]
RECYCLE ITALY

1 RESEARCH PROJECT OF INTERNATIONAL INTEREST

3 YEARS OF RESEARCH ACTIVITY

11 UNIVERSITIES INVOLVED

12 PLANNED EVENTS

24 INTERNATIONAL PARTNERS

28 NATIONAL PARTNERS

180 PROFESSORS, RESEARCHERS, RESEARCH FELLOWS

805,000 EUROS OF FINANCING

NEW LIFE CYCLES FOR ARCHITECTURE AND INFRASTRUCTURE OF CITY AND LANDSCAPE

CASE STUDIES

01 // UNIVERSITÀ IUAV DI VENEZIA
02 // UNIVERSITÀ DEGLI STUDI DI TRENTO
03 // POLITECNICO DI MILANO
04 // POLITECNICO DI TORINO
05 // UNIVERSITÀ DEGLI STUDI DI GENOVA
06 // UNIVERSITÀ DEGLI STUDI DI ROMA "LA SAPIENZA"
07 // UNIVERSITÀ DEGLI STUDI DI NAPOLI "FEDERICO II"
08 // UNIVERSITÀ DEGLI STUDI DI PALERMO
09 // UNIVERSITÀ DEGLI STUDI "MEDITERRANEA" DI REGGIO CALABRIA
10 // UNIVERSITÀ DEGLI STUDI "G. D'ANNUNZIO" CHIETI PESCARA
11 // UNIVERSITÀ DEGLI STUDI DI CAMERINO

networks and landscapes of production
veneto
adriatic city
fragile territories
mining districts
sommavessovia
rubeto valley
romitan coast
sicilian north-west platform
metropolitan city of reggio calabria
TRANSFORM LARGELY VACANT AREAS THROUGH BLUE AND GREEN INFRASTRUCTURE

NEIGHBORHOODS: MANY TYPES OF DISTRICTS

Detroit Future City emphatically states that all neighborhoods in Detroit will have a future, just not the same future. Here are some of the possibilities. There will still be districts of heavy industry and traditional single-family housing. But under the framework in Detroit future City, Detroit would also see many more districts labeled “innovative production” for a mix of food and energy production, “innovation ecological,” where vegetation could be used to remove contaminants from soil, and “live and make,” where artists and art-lovers would both live and work in former industrial or commercial buildings.

INNOVATION PRODUCTIVE

These areas put vacant land to productive, active use and generate new knowledge in the process. Examples in Detroit include parking lots being transformed into small gardens and community centers.

TRADITIONAL MEDIUM DENSITY

This area consists of low-rise housing and commercial areas, providing housing and local retail to a mixed-income population.

INNOVATION ECOLOGICAL

This area is characterized by the presence of green space, including parks, forests, and other landscapes, which are designed to improve the quality of life for residents and visitors.

GREEN MIXED USE

This area is characterized by a mix of residential, commercial, and green space, providing a variety of amenities and services to residents.

LARGE PARKS

These are large open spaces in the city that provide recreation and environmental benefits to the community.

LIGHT INDUSTRIAL

Areas that support light industrial use, such as manufacturing and assembly.

HEAVY INDUSTRIAL

Areas that support heavy industrial use, such as mining and heavy manufacturing.

GENERAL INDUSTRIAL

Areas that support a variety of industrial uses.

LIVE AND MAKE

Areas where artists and art-lovers can both live and work in former industrial or commercial buildings.
To regenerate the vast heritage composed of peripheral tissues in transition, of the industrial disposal or inefficient housing, need to activate a process of **hyper-cyclin** through the simultaneous activation of multiple cycles of life, to make the city less erosive of environment and resources, and functionally more creative, more socially inclusive and more energy efficient.
seven paradigms
SEVEN CYCLES
#RE-SILIENCE: the resilience cycle

in which the flexibility of functions, the permeability of spaces and the adaptability of settlements are no longer conceptual and spatial problems, but have to be related to the whole social, economic and technological bulk which is today part of the city construction, thus becoming themes/instruments/norms of the future city’s project.
#RE-NOWN: the identity cycle

capable of improving urban “reputation” through a better identification of inhabitants and users. The city, being again an “encyclopaedia” of the community (an opportunity for knowledge and education), commits town planners and architects to conceive new forms, places and relations which contain and connect local/global relational flows that the city produces with increasingly greater frequency, capacity and speed.
#RE-THINK: the knowledge cycle

able of acting on the democratization of urban communication, planning opportunities and designing places where the knowledge of the urban system is no longer a specialists’ domain and becomes widespread knowledge, inter-subjective skills, becoming concrete material for the pact of communal life of urban populations and for the consequent development pact.
#RE-SPONSIBLE: the participation cycle

capable of helping improve democracy and efficiency of plans and projects, promoting diffused environments of cognition/action more adequate to contemporary social and environmental needs. The argumentative ethics of planning must become a vehicle for new interpersonal relations and an engine for mobilizing collective intelligence around the project of urban quality, also through the diffusion of urban centers: more and more mobile, open and shared places.
The Mechanics

When it comes to government innovation—especially during tough times—some of the best ideas come from thinking small. That’s the notion behind the Mayor’s Office of New Urban Mechanics, a unique IT agency focused on finding innovative ways to deliver services and increase citizen engagement. It’s like an in-house R&D for the city, and the two partners behind that office—Jacob and Osgood—say that a flexible approach to projects is key. Most of the projects cost about $10,000, which is subsidized through a combination of city, state, and private contributions from non-profits and private partners. “In order to get products up and running as quickly as possible and starting value as quickly as possible, we try to make those as nimble as possible,” Jacob says.

Jacob and Osgood’s small, nimble focus has yielded big payoffs. Their signature product, a maintenance request app called Boston Connect, has been downloaded more than 16,000 times and is used in more than 20 countries since it was launched in 2008.

Osgood, an urban policy gun with a Harvard MBA, used to be a Canadian IT developer. Suck started at City Hall in 2007 and eventually became advisors to Mayor Thomas Menino. Menino promoted the idea of a nimble IT solutions shop known as New Urban Mechanics over the eight people (or the “fortnight”) tasked with developing partnerships within and outside of City Hall to quickly prototype new apps and programs. “Come up with an idea, work with us and let’s see if it would work,” Jacob’s office has run the pitch to get through. Working involves brainstorming, prototyping, and collaborating. New Urban Mechanics is managing almost 20 projects that address needs in the education and what Osgood and Jacob call “participatory democracy.”

“Part of the New Urban Mechanics office is that it’s small, calculated risks can have a major impact. The work that Osgood and Jacob do can fundamentally change the way things are done with city IT, think people are beginning to recognize the whole host of opportunities that can shift the way government conducts its business,” says Osgood.
#RE-MOTE: the digital cycle

increasingly more cloud based, requires a high synergy between central role of services, building structure and technological supply. The new urban fabrics deriving from re-use will have to be more and more permeated by digital behaviours which form and re-form between producer and consumer, open to the citizens’ demands and requirements of functionality, and enriching them with their demand for democracy and responsibility. We are here faced with the first forms of open urbanism for more sentient and dialogic cities.
City Dashboard
Amsterdam (beta)

Transport

- Avg. speed: 29.78 km/h
- Road pressure: 42.78%
- Parking: 36.43%

- Actual trips
  - On time
  - Avg. delay time

Environment

- NO₂ (nitrogen dioxide): 459.78 μg/m³
- CO (carbon monoxide): 214.86 KΩ
- Noise level: 58.66 dB
- Light: 218.52 lux

- NH10 (fine particles)

City Dashboard
Amsterdam (beta)
committed to include new hubs of social aggregation into the urban framework which can help it fluidify, by using architectural places caught in their change and re-used for sociability opportunities as new “urban activators”.

The cities of the new “archipelago” economies and of social fluidity accelerate the affirmation of new values which can ease the production of new semantic cycles on the transforming or decommissioning areas able to direct change.
METRÒPOLIS

MULTIPLICATION OF ACTIVITY
Consolidated and emerging centres
#RE-MAKE: the cycle of creativity

will require more and more often not only the exercise of creativity, strategic vision, ecological project and innovative management, but also integrated projects and local tactics accompanied by a constant assessment of the effects of choices and by the checking of performances.
COMMITMENTS
Promoting cities’ liveability, landscape quality, cohesion of inland areas, environmental sustainability and energy efficiency as a priority on the EU political and social agenda.

Land and landscape quality as well as environment and energy protection must be the benchmark of active policies for the implementation of new urban value.
Accelerating the new metropolitanization processes determined by the changes in economic and social conditions that lead to a different growth and spatial dislocation of cities and populations in a renewed polycentric trans-municipal and networked dimension within new archipelago-landscapes. This requires radical changes in the main contents of urban and regional planning as well as new regulatory and design tools.
Including new creative city sensibilities and paradigms within town planning in order to enhance urban talents, re-cycling urbanism paradigms in the practice of brownfield areas’ creative design, urban shrinkage paradigms as land project beyond consumption and the smartness ones, thus renewing the water-energy-waste cycles and managing digital and mobility networks in a sustainable way.
re-cycling urbanism

vision + strategy + project + rules + community