CONTENTS

PROLEGOMENON

In March 2016, the "International Group on Urban and Architecture Design"1, (INTEGRO UAD) under my foundation and coordination convened a meeting at the University of Florence, to discuss an international framework on *ECOPOLIS. Approaching the Integrative City*[2] and the preservation and regeneration of cultural heritage in the Contemporary City. The main goal of the First INTEGRO UAD Annual Meeting was to re-confirm the international debate for knowledge on the City in Transformation including ecological and sustainable design matters, started fifteen years ago within the European funded Programme on *ECOPOLIS. Sustainable Planning and Design Principles*[3] planned and coordinated by me. Since then, a number of international meetings[4] were hosted at the University of Florence under my coordination that have contributed significantly on the debate. In this context, evolving topics were discussed by international attendees and for seven-year scientific research activity, several important issues had been put in evidence with the purpose to finalize the shape and substance of several volumes already published within *Cities, Design&Sustainability. The New Series* under my editorship.

This volume, therefore, is the expression of the scientific findings built within the above-mentioned international meetings while the development of the collection of chapters reflects interpretations of the most pressing issues and necessary perspectives required to frame changes in planning and design. However, the need to make the selection of some written chapters that have contributed to a significant conceptual process and new perspectives in introducing and defining the 'Heritage Open Space in Transformation', (HOST), the 'Public Open Space in Transition' (POSiT), the 'Waterfront Urban Space', (WUS) to play a role in shaping urban change has become the contents of this book titled *Nature City. Urban Greening for Changing Urban Environments*.

In organising this collection, it is aimed to better understand questions, prospects, and reflections on improving strategies and tactics in the coming decades. Particularly, a better comprehension of the deficiencies of existing decision-making and organization of urban landscape should lead to the recognition of appropriate remedies. Discussions, debates, and stated considerations can now inspire to give a formal and comprehensive international attention to the transformation of cultural heritage in historic urban centres.

Particularly, to set out this volume, the initial task was to find a range of topics worked in a related field to reflect the current urban change with a distinctive consequence of cultural heritage and a better comprehension of the deficiencies of existing decision-making. Moreover, all the viewpoint sections are dealing with sustainable urban change, which emphasises and combines urban redevelopment, connectivity, accessibility, greening and landscape while underlining positively integrative ecological and sustainability concerns. Further, a con-

[1] INTEGRO UAD is a European Partnership founded in 2015 and chaired by DIMITRA BABALIS at the University of Florence. The International Group aims to provide multidisciplinary research and studies on innovative issues within the City in Change and its cultural heritage, tangible and intangible for new urban scenarios in different European contexts. The INTEGRO UAD aims to work collaboratively with research activities and contributions to the evolving main topics areas on sustainable and ecological design, in emphasising urban change.

[2] The 1st INTEGRO Annual Meeting is held in Florence at the University of Florence, organized and chaired by DIMITRA BABALIS: Year 2016.

[3] European Commission/Directorate General for Education and Culture, Years: 2004-2007, Scientific Coordinator and Chair: DIMITRA BABALIS.

[4] INTEGRO Annual Meeting: Years: 2016/2017/2018/2019/2020/2021/2022.

temporary understanding of the vital role that public spaces can play is stressed offering new insights into ways for both human needs and cultural values. Through this approach a common vision to provide consistent high standards of planning and design is developed, addressing interdisciplinary concerns.

Specifically, the first part of the book tries to put forward a more appropriate definition of the public open space with innovative strategies and specific tools for issues regarding the change of historic urban landscapes. Elaborating at the international level on the topic, have been examined origins and specificities of a variety of typologies of heritage open spaces and their transformation strategies and in relation with current urban greening trends and challenges. By establishing definitions, roles and cultural values of an open space within the historic environment, layers and limits of transformation, concrete intentions of preservation of important values and elements, debates took a significant step forward.

The second part of the book reveals a deeper understanding of urban waterfronts and their ecological and sustainable transformation. An important issue is to identify special interest to recognise urban waterfronts as part of a sensitive urban environment while preserving and accessing to natural areas for recreation and protection, enhancing social, health and economic vitality. This integrated approach clearly involves diverse and complex skills across different disciplines and the opportunities to create and support nature with blue-green spaces for urban resilience, social vitality and health and well-being.

Dimitra Babalis
The Series Editor

INTRODUCTION

Exploring Current Trends and Challenges to Transform Urban Environment

Because the cities evolved in response to complex urban and architectural influences, planners, architects and designers seek to put some 'fixed points' in preserving, regenerating, and developing the built environment in transition. Evolving themes would explore the values of ecological and sustainable design in all its aspects and implementation that may be seen as advice to share insights of a more extended understanding of urban environment.

However, the new conception of the Contemporary City is currently under the reflection and experiment on regeneration debate. Thus, transformation and protection of urban environment through a good design must be based on heritage value, diversity, and sustainability issues. On the other hand, the ecological dimension of design must be based on balance and availability of natural resources, new people's needs and resilience to better manage sustainability. Nowadays, urban change in both inner and outer urban areas is characterised by uncertainty opening in an interdisciplinary line and deals mainly with an innovative planning and design especially in areas of great priority and clear evidence of degradation. The most of such areas have their own vocation due to their location, microclimate conditions and social dynamics. Certainly, the new models of intervention they should consider a variety of social conditions and context types. Different urban spaces they should act at different scales of intervention. Accordingly, with design decisions public open spaces can take a different meaning and identity that is based on different aims to be achieved within the context conditions, physical dimension, use and functions. Contemporary City is seeking to find solutions by combining management of its urban spaces. Particularly, at understanding and investigating on future planning of public open spaces is important to undertake research intends and decision-making to enhance environment from functional, social, and environmental point of view.

Re-thinking and re-vitalising urban spaces some questions should be taken under consideration:
- How can we face transformation of urban spaces according to current people's needs and with a methodology of understanding and designing sustainably?
- How can we place new functions that re-create the new condition of an urban space, especially in historic environment to social and cultural consideration?
- How can we design the new features and green elements in a way to preserve the cultural value and at the same time to generate the spatial, environmental quality and well-being?

To identify and regenerate urban spaces is intended to return them into new life. The focus of our vision is to bring nature into the city increasing greening and climate resilience. A number of open spaces such as courtyards, micro-open spaces, in between urban spaces can be considered of great potentiality, especially to provide an unique city centre experience. Certainly, urban spaces should be regenerated according to microclimate benefits and to low energy impact by planting trees, insertion of green and re-designing path and cycle ways. To this end, for the regeneration of

micro and macro urban areas, including policy planning and local frameworks is essential a careful reading of open space typology that should define coded behaviours of urban environment. A great goal is to identify the mending at the micro scale of intervention that should be connected also to the wider city area. A significant improvement of urban life with environmental benefits at urban and social scale including sustainable management of public realm should consider:
• An approach to the quality of an urban space with ecological and sustainable interventions that can encourage the placement of micro spaces without forget the recovery of the surrounding built environment.
• The most awaited results to promote a greater participation of public and private sector within the planning and design that would be the right track process.
• The design and management of urban spaces that should be measured with the effects of climate change with strategies of conscious behaviour.
• A holistic approach that goes beyond simply measuring of sustainable parameters but guaranteeing design and creating the opportunity site.
• The use of green and sustainable elements such as the use of local materials, important in raising awareness and reducing environmental impact.
• The energy conservation for design and management of individual spaces and surrounding buildings but also the microclimate more than the citywide climate.
• A sustainable management of urban spaces in order to address the causes and effects of urban and social changes within mitigation strategies and climate adaptation.

Accordingly, in designing an urban space, the following points should be considered:
• Definition based on identity, characteristics and urban potentiality in order to re-define characterisation and new urban scenarios.
• Selection of micro and macro urban spaces according to the type of intervention of revitalisation with the inclusion of new uses and green.
• Recognition of the environmental value and urban centrality that is based on value of urban and cultural assets.
• Identity of environmental, social inclusion and cultural measures to ensure the quality of the urban space in historic environment.
• Conception of new features for both preservation of the city image and microclimate benefits.

For sure, design intents should be presented according to the complex theoretical problem that produce considerations in terms of conceptual definition of a designed place within the development of methodology tools. At local scale the expected impact in raising the practical issues for designing urban spaces can be summarised as follows:
• Designing small community spaces widespread and inclusive.
• Joining through processes of participatory design and sense of places.
• Contributing to improving city's environmental, functional, and aesthetic impact.
• Having a positive effect on property values of surrounding buildings in the areas of intervention.
• Making available to local stakeholders to be involved as co-leaders within urban frameworks.

A further level of consistency between design issues and methodology is the expression of a strong interdisciplinary attitude with innovative, inclusive involvement of local people. For the historic city and its next future and in terms of urban transformation design principles for the 'Heritage Open Space in Transformation', (HOST)[1] or the 'Public Open Space in Transition', (POSiT)[2] should include the following:
• Rethinking public open space more for walking, cycling and socialising activities whilst maintaining space for public space.
• Creating pedestrian footway zones of sustainable width with facilities of great functionality, making streets safer by furniture or other barriers, and with well-designing crossing for protection.
• Designing infrastructures for safe cycling providing protection or separation on busy roads whilst promoting sharing on quieter roads, and connecting into a wider network.
• Facilitating historic open space for contemporary uses and social interaction, making streets, squares, and small places more liveable to meet different user needs.
• Greening streets, squares, and small open spaces using trees and planting for aesthetic, to combat urban heat and shade streets during hot weather.

- Encouraging an open space activity for social activities with the creation of pocket parks, parklets, pop-up cafés, reducing the impacts of traffic noise, protecting from the sun and ensuring a variety of sitting facilities.
- Designing historic open spaces for safety and security measures against crime, increasing sense of personal security.
- Designing historic open spaces for good visibility with pedestrian-focused lighting.
- Providing comfortable accessibility and mobility and well-designed open spaces for all.

Yet, rapid change is coming within the historic environment and significant implications in terms of public open space design. The transition period, in fact, has created a lot of conflict and in terms of protection of cultural heritage, defining regulations and introducing innovation and technology. To this regard, is essential to explore urban design implications in the historic environment. The impact on 'open space design' has not to be limited to create only pedestrian areas but should be used for the preservation of cultural heritage whilst introducing facilities for more shared use of streets, squares, and small spaces. Specifically, is important to examine interventions for diverse historic open space typologies and potentiality of urban design. Certainly, it seems likely that removing emissions and noisy pollution through reducing city traffic can also help improve the built environment, preserving heritage and improving human health. However, the shared usage of public open space requires major local authority's regulation and policy. Given that most historic cities have high levels of tourist congestion, it seems more likely that the existing open spaces should be more attractive with a higher level of facilities and green strips and more flexible public space use. It is therefore important to shape new urban places within historic environment considering time, history and innovative design.

Accordingly, urban planners and designers have critical roles on responding to current trends and concerns on public realm enhancements to improve accessibility, walkability and reduce car traffic and pollution. At the same time, they can create better places for socialisation, relaxation, urban safety against crime and terrorism, reduction of environmental threats and enhancement of cultural heritage. At the current, what is much needed to take into consideration is climate change that never has been such a determined issue in existing and new development. To face climate change within urban transformation in historic context is important to proceed with specific actions such as reduction of gas emissions, implementation of an integrative planning to mitigate extreme weather and finding solutions in managing urban green spaces. A key issue is to create a new 'form of urban transformation' that can make a stronger cultural, social, and environmental urban context to overcome barriers to innovation, design and implement blue-green systems fit for an uncertain future. Moreover, to design for health and well-being can also play an important role in transforming historic urban tissues. To address the above-mentioned issues, new concepts, and methods in designing public space must consider more social inclusion, environmental enrichment and new opportunities for both city and people.

The future direction for change should also consider waterfront regeneration, waterfront aspirations and priorities schemes for intervention. To this end, planning policies and strategies should identify core waterfront sites that can drive design towards deliverable major interventions as well as small scale interventions while preserving cultural heritage. A main goal of 'Waterfront Urban Space'[3], (WUS) regeneration is where a place can express cultural heritage and history. For sure, changing waterfronts and changing landscapes can contribute to changing economies. In addition to understanding the significance of heritage value in a waterfront environment there is also the importance of understanding historic assets. Considering this temporality and, moreover, the place specific timeline is crucial to understanding the inherent quality and identity of these places. This will be particularly important where places have undergone many alterations, or where alterations are particularly drastic. A clear appreciation, therefore, of the layers of history and heritage will help decide for example which buildings/artefacts may be best kept, what might be removed to reveal an even more vital, or fascinating, earlier period and what might be best removed for future safety and perhaps restored and preserved off-site.

Yet, the re-designing of derelict and abandon urban waterfronts is clearly meant to encourage ecological and sustainable urban change. In this respect, waterfronts should highlight potentialities improving waterside environment and reviewing emerging nodes that can add value and aware for a successful waterside design process. To do so, urban watersides can be considered as attractive places for well-being and sociability. Improving waterfronts can enhance integration of land and city's accessibility and connectivity. Further, they can create new opportunities, re-configuring the image and identity of the city and offering a range of regenerated public

3 The notion of *Waterfront Urban Space, (WUS)* has been introduced, formulated and developed by Dimitra Babalis in the framework of the research: "Waterfronts and Eco-sustainable Urban Management" funded by the University of Florence, Years: 2017 and 2018. Follow-up the publication: *Waterfront Urban Space. Designing for Blue-Green Places*, within the "Cities Design&Sustainability. The New Series", edited by Dimitra Babalis and Tim G. Townshend.

open space that must include: Adaptation to climate change and to smart technologies / Creation of a walking and cycling culture / Re-image working and living places.

Macro and micro urban design, therefore, attempts to propose projects that can give a new characterisation of a WUS while their urbanity can offer solutions that should based on more specific criteria of ecological and sustainable management. In response to climate change, many waterfront proposals seek to respond and promote sustainable transformation and development in a variety of ways by:

• Improving water quality and aquatic habitat restoration, where applicable.
• Greening the waterfronts by upgrading, creating and linking new and existing parks and greenways to support biodiversity.
• Promoting sustainable design and building development including energy use and waste minimisation.
• Developing and implementing strategy for risk and urban resilience.

A further layer of complexity that has begun to emerge is the contribution of urban blue spaces to human health and well-being. The benefits of greenspaces as places that promote stress reduction and mental restoration; opportunities for increased physical activity; opportunities for greater socialisation; and improved environmental quality have been established for some time. Bluespace has received less attention, however it is likely that areas which are primarily blue as opposed to green may possess these same qualities, even if their surroundings are quite hard and urban. Water may even have added benefits for example auditory and olfactory stimulation. The sound of gently running, or lapping water is calming and the colours of water bodies soothing and more generally there is a human enthrallment with water. Some work has even sought to establish whether living near water bodies can stimulate physical activity and while the research base is in its infancy the signs are encouraging. Moreover, there is plenty of evidence to link water bodies with sense of place and identity. Therefore, urban waterfronts have become established as places to manage regeneration and retain culture and character. In this sense, different emerging topics should consider these new urban relationships, and urban capacity to react and maintain urban equilibrium.

Waterfront regeneration can take many forms depending on the scale, location, degree of environmental degradation, and the number, condition and typology and historic significance of existing buildings and other structures. However, whatever the site-specific condition there are twin points of departure to be considered alongside the regeneration process. The first one is to find the right method of planning and design to respect people's needs, wants and aspirations. The second is diverse community involvement, preservation of heritage, natural resources, and full exploration of opportunities and constraints. The long-term impact and sustainability of all activities and proposed interventions must be fully assessed as well as the transformation itself. As a key aspect is that of contextual reintegration and this may be achieved through the appropriate consideration of the following points:

• Re-connection within the surroundings.
• Preservation of cultural heritage.
• Re-use and rehabilitation of existing buildings (and sensitive insertion of new ones – where needed).
• Creation of amenities, local services, public spaces and facilities.
• Placemaking and the character of the site's context.
• Opportunities for passive and active engagement with the water.
• Restoration of ecology and preservation of flora and fauna.

Today urban waterfronts have changed the pattern of regeneration paying more attention to environmental issues, the preservation of historic character and reuse of old buildings; the potential for leisure and recreation; and even impacts of human health and well-being.

It was observed that producing good public open space design could help to improve skills for healthier places to work and enjoy. At the same time, the role of local planning authorities should be crucial to engage decision-making in a discussion about the value for well-being activities. Designing healthier public open spaces to be used for better people's lifestyle through an enabling programme could help to improve urban environment. Therefore, the shared usage of public open space requires major regulation and policy. It seems that the today's open space policy should consider changes for a more flexible public space use and social care. But more attention should be given to raising the quality of a public open space and strong support for its transition as places for health and well-being. Attitude from designers is crucial to the prospects for a quality of place and quality of urban lifestyle.

However, recent studies consider direct links between 'greenspace' and human health and well-being. Newly, there is an emergent body of work which evidences the health improving properties of 'bluespace', generally defined as 'green-blue space', by providing:
• Spaces for physical activity and recreation.
• Places for social interaction.
• Psychological restoration and stress reduction.

Specific studies in urban design, psychology and public health established that environment types such as 'greenspace' combined with 'green-blue' infrastructure, active mobility and facilities can bring measurable health outcomes. As cities are spatially heterogeneous, public open space design is more usefully viewed as a dynamic process, especially under specific urban and social changes. Urban landscapes or built environments in transition maybe more likely to be sustainable and flexible if properly planned, designed, and managed. Finally, improving the health of local communities requires greater action that reflects changes. To be clear, all the above considerations on public open space design for health and well-being have must consider future pandemic emergencies-. For this reason, definitive conclusions about the impact on the design of public open spaces would be deeper analysed. At this stage, some emerging thoughts and concepts on socialising will have to be formulated by the need to walk or ride a bicycle, or by finding ways to outdoor exercise during the pandemics. Certainly, it is necessary to reflect on the need to adapt design principles to "new urban conditions" to achieve immediate actions for health outcomes.

Structure of the Book

This volume contains a collection of chapters that include main topic areas of scientific research and has to be seen as an added opportunity to go deeper onto the following main topic areas such as historic environment and its tangible and intangible heritage / sustainability and place-making / urban greening and well-being / waterfronts and widening ecological and sustainable design. The book addresses current trends and challenges exploring on how we can transform our urban environment in ways to increase urban greening, resilience, and sociability, improving urban waterfront spaces for accessibility and protection embracing innovation and technology. Moreover, it deals with historic urban environment that should be protected and properly designed to provide climate change thought sustainable planning and design. Particularly, this includes urban strategies for climate change mitigation and adaptation with more greening to maximise micro-climates within the city; Climate-responsive design at a local scale to protect urban heritage of core areas, historic waterfronts and sensitive landscapes; Opportunities to innovate urban environment prioritising cross-sectorial strategies to reduce urban uncertainty. Ideally, a supplementary planning and design research should be useful to better face current urban uncertainty by using green spaces but should also look at preserving and protecting elements and structures strictly relating to a sensitive historic environment. Knowledge, vision, and strategy are essential for an effective approach to urban greening that will ensure a sustainable urban change. This can be the way to reach successful design and appropriate use of context. It is no coincidence that the best designed places in sensitive context are the most valuable and enduring. The book is divided into two parts:

PART I – *New Dynamics of 'Public Open Space in Transition'* offers significant ways of delivering considerable positive improvement in historic built environment within public open space transformation. The main question is to put design knowledge in balancing the needs of nature and the built form to deliver a place that can work and evolve. Intervention of all scales can increase the dynamics of the built environment and nature bringing diversity to streets, squares, and public open spaces. It is through these steps that opportunities for nature can be increased to thrive in historic environment to deliver attractive and liveable places.

Chapter 1 – *Capturing the Change of Urban Space in Historic Environment* illustrates how the enhancement of open spaces in historic environment can create active, attractive, and fully accessible new urban environments. It shows how heritage values can be considered as a great opportunity to valorise heritage in all its forms and could be used as a powerful urban design tool. Cultural heritage could be the starting point for urban design at all scales of intervention. Therefore, in terms of the existing character of place, sustainability should be the guiding principle for sustaining a core urban site, its formal configuration and social resilience. Ideally, urban spaces in historic environment they can be connected after a proper planning and de-

sign through a good open space strategy. Finally, incorporating heritage values in urban design can be a bridge between spatial planning and design and climate change adaptation. Finally, the paper identifies the major growing issues on shaping eco-sustainably inner urban spaces in historic environment giving effective responses to urban transformation process.

Chapter 2 – *Pocket Parks for Changing Times and urban Uncertainties* deals with new forms of public open spaces to meet community needs and new uses in historic environment. The regeneration of small-sized urban spaces such as small green strips, community gardens, courtyards, waterfront spaces and so on can create places of great community asset. Spaces for play, relaxation, socialisation, and physical activity are vital for individual and community well-being; Yet at the same time issues such as landscape protection and urban security can create challenges for the designer. The chapter examines how 'pocket park design' can be an inspirational idea to when set into a well-coordinated strategy for a city's small spaces with a greater awareness, self-sufficiency, flexibility, capacity and adaptation to both climate and social change. In this chapter, the use of the comparative method of analysis of examples drawn from across Europe it seeks to define characteristics, typologies, and variety of pocket park design. Finally, it is argued that is necessary to establish concrete concepts and guidelines including a variety of design aspects for the creation of a new typology of pocket parks that can produce more successful spatial relationships and conditions at the societal level.

Chapter 3 – *Dialogue with Cultural Heritage. Urban Design for Innovation and the Pockets Parks in Florence's Core Centre* discusses historic environment and relationships between open space and its social dynamics to be considered in urban design. It sees interesting opportunities to revitalise and re-appropriate urbanity and vitality; To restore and define urban form; To redistribute new uses and functions; To guarantee accessibility and interaction of heritage places; To integrate nature and culture with social relationships. In discussing, urban design attempts to encompass a new characterization of urban spaces, their urbanity must offer solutions for regeneration that should be based on more specific criteria of ecological and sustainable management. Proposing inclusiveness of spaces and places with promotion of sociability and enjoyment, integrating cultural and economic values, health and well-being it does mean developing together the concept of urban resilience and urban quality. Specifically, this contribution considers historic contexts with a great potentiality for transformation, identifying project methods and design principles that have to be based on sustainability and innovation. The chapter puts forward the thesis that the value of historic cities can be preserved and revitalised under changing conditions in order to offer a different concept of 'urban landscape '. Finally, some concrete proposals of pocket parks are proposed for the Florence's City Centre that aim to interface cultural traditions with smart management of change.

PART II – *New Perceptions and Values of 'Waterfront Urban Space'* demonstrate how a 'Waterfront Urban Space', (WUS) can deliver a legacy healthy and sustainable place. Importantly, the common theme is a contextual-led approach to create enriched natural networks. To work with water and be resilient to future events it is essential our natural approach creating a setting where people can connect with waterfront providing essential access to nature and benefits to well-being and quality of life. A key outcome is the desire for a more natural urban waterfronts where green places and green pedestrian corridors can be a distinctive and unique way to define sense of place.

Chapter 4 – *Promoting well-being. Waterfront Urban Space and the Health* argues on waterfront transformation along rivers is likely to attract people and create 'active' places for health and well-being. Waterfront projects seek to create vibrant public open spaces for sociability and physical activity. So, health must be considered by local authorities into the planning process to defend common goods. On the other hand, shared responsibilities among professionals and local people can help to better understand spatial dynamics, place, and form. Ecological thoughts and changing behaviours help to achieve a raising awareness, education in regulating riverfront change for health. For sure humans' attitudes and aspirations can be translated into a sustainable urban design. Research showing the direct links between 'greenspace' and human health and well-being. However, there is now an emergent body of work which evidence health improving with the development of 'blue space' by providing 'active places' for sport and recreation, places for sociability. Therefore, a combination of the two 'blue-green' can provide health benefits.
The aim of this contribution is to show the potentiality of the River Arno in Florence that can effectively maximise recreational potentiality for well-being and health. Riverfront proposals for change with the creation of new open spaces for health such as: parks, gym spaces, urban farm-

ing and so on could be a great challenge for future urban design.

Chapter 5 – *Developing Guidelines for Waterfront Pocket Parks. Responsive Opportunities Along the Florence Core Riverfront* stresses that over the last few decades, environmental and social changes have created new forms of public space design according to community needs. The preservation of waterfronts and its cultural heritage must promote design for new living spaces and new urban conditions and opportunities that should be created. The making of sustainable waterfront environments with green, paths cycle ways, spaces for relaxation areas, playgrounds and entertainment must be further explored. However, the nature in the city, the strengthening of various urban activities with respect for the environment are the main themes that waterfront design suggests. The various typologies of intervention are important to plan and design ecologically and sustainably the historic city and its waterfronts. In a transforming historic waterfront environment it is necessary to design waterfront public spaces to: Create new places that are distinguished by high urban and social quality; Enhance waterfronts urban contexts by adding value to their cultural value; Protect urban landscape to meet a community's needs; Create new living conditions of great social inclusion. Furthermore, it is also needed to define a 'pocket park' intervention to create urbanity and quality of small waterfront urban spaces in the city and along waterfronts.

Chapter 6 – *From River to Riverfront. Sustainable Masterplans and Connected Waterfront Urban Spaces Along the Southside of the River Arno in Florence* attempts to establish concepts and methods on urban change for a new dynamism on waterfronts and the creation of new urban scenarios. The Methodology undertaken is to propose a Waterfront Master Vision that should consider the importance of waterfront regeneration of sites in accordance of their location, historic, cultural and environmental values. The waterfront regeneration addresses the issue of core elements such as sustainability, urban quality, environmental improvement.
The River Arno in Florence is a fascinating example of designing with an edge, which in the past was a route of great importance but also a great risk for the City and people The riverfronts therefore offer an exciting opportunity to revive the contexts and reinstate the historic relationship with water and the City. The focus is on defining the new role of the River and urban strategies for the creation of new urban spaces with a combination of high quality forms and uses. It is taking into account that the latest City Plan did not set a comprehensive vision for the River Arno while UNESCO urgently calls for a re-consideration of riverfront's risks and the need for detailed site-wide strategies that underpin re-connection with the Florence city centre. In this respect, the proposed Waterfront Master Vision should highlight potentialities and risks, improving waterside environment and reviewing emerging nodes that can add value and aware for a successful land-side design process. Many of the concerns should be relating to the waterfront facilities, well-being, spatial and safety issues. At the same time, the re-connection, accessibility, pedestrianisation and use of green and temporary structures to control rivers' risks can guarantee quality of urban life.

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Pocket Parks
for Changing Times
and Urban Uncertainties

In recent years new forms of public open spaces are designed to meet community needs while new urban uses and rules have been emerged. The regeneration of small-sized urban spaces in historic environment such as small green strips, community gardens, courtyards, waterfront spaces and so on can create places of great urban asset. Spaces for play, relaxation, socialisation and physical activity, in fact, are vital for individual and community well-being; yet at the same time issues such as landscape protection and urban security can create challenges for designers.

This chapter examines how 'pocket park design' can be an inspirational idea to when set into a well-coordinated strategy for a city's small and sensitive spaces with a greater awareness, self-sufficiency, flexibility, capacity and adaptation to both climate change and people needs. The use of the comparative method of analysis of examples drawn from across Europe it seeks to define characteristics, types and variety of 'pocket park design'. Notably, it is argued that in the Historic City is necessary to establish concrete concepts and design guidelines for the creation of a new typology of pocket parks that can produce more successful spatial relationships and new urban conditions at the societal level.

Overview

In the last decades, Contemporary City has saw great changes in terms of urban structure and image.

However, in the past planning attitudes and processes have created urban and environmental risks, damage of natural ecosystems and biodiversity that contributed significantly to related problems such as heat islands, flooding and so on. In recent years, the economic global crisis generated also a deep social crisis that urban governance has struggled to address. New strategies and policies to tackle social inclusion/exclusion, urban security and environmental awareness have become a key issue. Environmental and urban resources need protection to meet community needs without compromising those of future generations as made clear by the theory of sustainable development and its succeeding amendments.

To this end, the future of the city and its transformation depends not only on the ability of those who design and manage its urban fabric but also on the participation of local people. Notably, small spaces could be of great opportunity for urban change such as to bring people together, create places for community cohesion and address broader issues (biodiversity, environmental damage and so on).

Furthermore, wider city's derelict and abandoned small spaces can be transformed either on a temporary or permanent basis to bring back urbanity. If a city park, or public square, can positively influence urban environment, a network of many small urban places, or many parks, actively can increase enjoyment, socialisation, health and well-being.

London - City Hall Area: relax pocket park (image: D. Babalis).

Particularly, it is argued that attention should be paid to the potentiality of small space regeneration. Innovative strategies and designs should be explored and new models of urban transformation should be considered. A new typology of small urban spaces may usefully be created, especially to satisfy needs of historic environment.

The pocket park conception

PETERSON (1969) discusses that the pocket park conception was born in New York during the first half of the 1960s, with a pilot project. Peterson reported on the experience of the three small parks, built in Harlem and outlined all the practical difficulties associated with their design and maintenance. He argued that where local support (through associations) was appeared, was easier to find people to work on it. Between 1964 and 1965 a New York a network of pocket parks were placed and today, the City has a variety of pocket parks. The 'Paley Park' is one of the most well-known of New York's pocket parks which is located within the Midtown Cultural District, surrounded by skyscrapers. The Paley Park was designed by ZION and BREENE ASSOCIATES, for the William S. Paley Foundation and was completed in 1967. The Park is one of the smallest urban parks in the City and is considered as a key meeting point for relaxation. It is accessible and directly connected to route ways while a waterfall is clearly visible from the entrance creating a pleasant urban environment.

SPINELLI (2010) outlines the original definition of the 'vest pocket park' as open public space placed within an urban block and it is defined as a mini park with natural elements. SPINELLI also argued clearly about the differences between the New York pocket parks and those in Europe, specifically these of Lyon and Copenhagen. He sustains that the European cases are well-planned and often included within urban planning.

BLAKE (2013) defines pocket parks as urban spaces of a very small size that should be distributed and embedded in public urban fabric, accessible to people and suitable to different local needs. BLAKE underlines pocket parks can be created on small free lots or abandoned small spaces and are often designed to a concept of local groups, associations or private organisations that have reclaimed abandoned spaces. Pocket park projects with no ongoing community support and public management can often fall into a state of deterioration.

SURMA (2013), argues that the pocket parks in Europe are small green oases, located in both core urban areas or in highly urbanised areas. They are often designed as part of a wider urban regeneration plan. Many are placed on single lots corresponding to abandoned buildings or small irregular plots of leftover land, while some are close to historic cores, monuments, markets and so on. A network of pocket parks can add value to a city's green infrastructure and therefore important for increasing biodiversity. Moreover, pocket parks have a broader role in terms of improving the viability of an urban environment by providing job opportunities and creating places for creativity and entrepreneurship, as well as health and well-being (SIMON 2010). According to NORDH ET AL. (2009) there is no commonly accepted definition of pocket parks. Although generally they are small-scale parks which respond to local needs and have natural elements. Their character and design vary considerably from a context to context. NORDH ET AL. have developed a significant research taking into consideration a number of small parks within Scandinavian cities in an attempt to identify parameters such as size, design, green components.

The research data are subsequently used to make a definition of a 'pocket park typology' including the following key elements:
• The dimension not less than 3.000 m2
• At least one side oriented towards a public road to facilitate accessibility
• The equipment and services available freely and free of charge for local people
• To be considered with a pocket park design the private-owned spaces such as outdoor bars or restaurants.

In summary, there is a variety of types of pocket parks of a specific urban configuration according to a number of urban dynamics and social needs: from playgrounds to places for relaxation and socialisation; from small green spaces to small temporary spaces for creativity; from small commercial spaces (market places) to small spaces for sport and well-being.

Pocket Parks and their key structuring elements

The main goal of the research study[1] undertaken at the University of Florence on which this paper is based represented an attempt to understand the key structuring elements of a pocket park.

The investigated issues reflected the concerns of a wider comparative study on pocket parks schemes within different urban contexts. In exploring these issues, the author was encouraged to reflect on the pocket park structuring elements that are debated as follows:

Form and function - A pocket park as a meeting place for socialisation, relaxation, sport and well-being has to be designed with a diversity of functions for local people (SPINELLI 2010). Pocket parks are developed for special functions such as events, particularly for neighbourhood activities, playgrounds and recreation but also as lunch break areas (BLAKE 2013). However, pocket parks are designed for everyday living, playing, sporting. Being small spaces their design requires much attention in order to create specific form and urban configuration, cultural balance, suitable use and function for residents and visitors that they should properly use them.

Location - A pocket park location has to be flexible and can be found anywhere in the city both in inner and outer urban areas. A key element of its setting is the direct access to the road to attract pedestrians, residents, tourists or workers. However, pocket park can be networked, placed along greenways, pathways and cycleways. Networking becomes a necessity, even a priority, otherwise the risk is to create isolated and 'weak' places, especially with a historic environment. (BLAKE 2013). BLAKE confirms SEYMOUR's opinion (1969) that presence of pocket park is needed to each urban lot.

Dimension - The size of a pocket park varies according to the location, typology and design requirements. NORDH ET AL. (2009) report, that the type of the pocket parks they are studying have to occupy one to three lots and cannot be smaller than 3,000 square meters.

This size is, definitely, larger than the first New York's pocket park. However, it is important to note that the size of the most recent pocket parks, designed and created in Europe, has grown significantly. Indeed, if the initial aim was to reclaim small degraded urban areas in the Harlem district with a surface not larger than 250 square meters, there is a remarkable dimensional variety that makes difficult to accurately define the typical dimensions of a pocket park. For sure, the variety of the dimension is closely linked to the urban context in which are located. In central urban areas, where residual spaces are mostly small, they could be of a smaller size. In outer urban contexts, where the residual spaces are many, they could have a bigger size. (CLÉMENT 2005).

Natural elements - Pocket parks are covering small-size spaces that should offer services and facilities for the community and they may be designed as small green areas with strips of vegetation. Nature within pocket parks, in fact, can help control micro climate of a place. Pocket parks designed and located within historic city can have an important environmental behaviour as well. However, they can increase an amount of permeable surfaces in urban environments and could also help to increase biodiversity.

London - *St. Paul's Cathedral: focal point pocket park (image: D. Babalis).*

London - *City Hall Area: green Strips for relaxation and well-being (image: D. Babalis).*

Pocket parks in historic environments, certainly, are of a great environmental benefit against air, noise and traffic pollution. Spread the city of small green spaces, can allow residents to play and enjoy by foot or by bicycle.

Natural and equipment components - There are no specific rules for the beautification of a pocket park. Its configuration and the use of materials must be taken from the neighbourhood areas and the place should have local character and identity. NORDH ET AL. (2011), pointing out the importance of natural elements such as: trees, bushes, grass cover, flowers, water feature.
In their specific research studio, the authors, highlight that the grass is a key component of a pocket park, followed by trees that can increase the value, while bushes are the elements of less importance. They confirmed that the use of natural elements within a pocket park, mostly appreciated by users and should be further considered within the design process.
Further, NORDH ET AL. (2013: 12-17) confirm that pocket parks should be designed with natural components and they must provide seating for relaxation beyond to fulfill social exchange as meeting places. It has been, therefore, recognised that parks and natural elements in general are important components for human health and well-being as they offer experiences of psychological refreshment, physical activity and social interaction (HILLSDON ET AL.2006; SCHIPPERIJN ET AL., 2010; MAAS ET AL., 2008; NILSSON K., ET AL., 2011). Moreover, NORDH and ØSTBY (2013) identify how natural elements within pocket parks can influence the psychological condition of users. Specifically, the authors have analysed images of 74 small parks and put a questionnaire to a number of 58 Oslo University students. Students were asked to evaluate in what terms the pocket parks in the images could guarantee their psychical relaxation and refreshment.
In detail, the following categories of elements they are analysed:
(a) *Nature* (natural elements)
(b) *Design* - (structural elements of the park)
(c) *Surrounding* (park outline elements)
(d) *Management* (maintenance and maintenance of the park)
(e) *Disturbance* (disturbance elements).

The elements that are most perceived as positive ones for more attractive environment from the refreshment perception point of view are those of the category (a) 'nature' (fields, plants, trees and flowers, water). On the contrary, the elements that negatively can affect the perception of refreshment in a pocket park are those of the category (c) 'surrounding' (traffic, lack of noise protection, presence of derelict buildings around the park). Respondents' descriptions shown that the most suitable activities to be done within a pocket park are psychological relaxation and refreshment. Other responses included reading and writing activities, eating or drinking and physical activity, social exchange, sunbathing and listening music. In summary, the authors suggested that pocket

parks should be structured with natural components, protected from disturbance elements (e.g. traffic) and equipped with seats for relaxation, rest and social exchange.

Space Security - Regular and volunteer users, who have contributed to the creation of a pocket park, usually guarantee good urban security within the space and proper control conditions expecially for those located in sensitive historic environment. For the recovery and enhancement of pocket parks areas, linked by safe paths (paths away from main roads and heavy traffic), a well-designed sport equipment for physical activities can guarantee both urban vitality and people's protection.

Benefits - DE LOTTO ET AL. (2014) suggest benefits of an urban pocket park that should be included in three macro-categories as follows:
• *Environmental benefits* - Increasing environmental awareness and promoting biodiversity / Reducing pollution, traffic and natural resources consumption / Improving air quality and absorbing carbon dioxide through planting / Contributing to the management of rainwater;
• *Social benefits* - Improving the quality of life and psychological health and well-being of users / Offering children spaces for play, adult's space for sports and leisure for elder people / Allowing organisation of events to the neighbourhood / Reducing crime by encouraging volunteering and controlling places by the residents / Reinforcing relations between local authorities and local communities;
• *Economic benefits* - Supporting local economy and attracting investors / Supporting business and other activities / Increasing value of neighboring properties / Creating high quality public spaces with added values.

KRAGSIG PESCHARDT and KARLSSON STIGSDOTTER (2014) investigate on benefits of appropriate design and use of a pocket park. Specifically, authors posed research questions on how local users can contribute to a better pocket park design and on how the users can perceive the design before and after the re-design. Research findings demonstrated that the re-design of a small open space can be more attractive to the local users. The new design can attract new users to the area for a restorative experience and in relation to a busy working life. The experience and the variation within the new design in terms of

'terrain', 'planting', 'sun / shade' and 'surface cover' can positively been received. In other words, well-designed small spaces and of green appearance can be more 'fascinating' areas, which according to KAPLAN (1995) this is one of the four characteristics that should be presented in a 'restorative' environment.

From pocket parks and mini-parks towards to urban acupuncture. The European experience

The specific research study[2] on pocket parks was undertaken by examining in a comprehensive way the contemporary context for a pocket park creation, its current spatial configuration and use in Europe. According to the used comparative method some case studies of pocket parks have been considered in order to identify urban design processes, public space schemes, characteristics and urban strategies, while demonstrating how sustainable, flexible on urban adaptation and change this type of public space is. Accordingly, the conception of a pocket park developed throughout European cities has become an opportunity to create a network of a series of planned places of different uses, characteristically included within a larger development and/or regeneration.
This was certainly the case for Lyon *jardin de poche* creation, which variously related to a wider regeneration strategy. The city-wide strategy for greening is the case of Copenhagen with the *lommepark* creation relating to well-defined regeneration schemes. The urban strategy is essential for London *100 Pocket Parks,* by introducing facilities and green in the city and all forms of partnership to give rise to the schemes of different small spaces. The urban transformation within the historic environment for urban acupuncture design is the main aim for Bordeaux with *Bordeaux [Re] Centers* Project.
The participative urban planning is important for *Asti pocket parks* with a clear accordance between designers and local authority for the upgrading of a range of small spaces.

Lyon - Jardin de poche project was developed in the late Nineties in the framework of a wider urban transformation within the different districts of the city and under the initiative of the City's Mayor.

Lyon: pocket park for relaxation and socialisation. (source: http://www.40ans.grandlyon.com).

Copenhagen - Odinparken: pocket park for climate adaptation and protection (source: 48782_Odinparken, forside_copenhagen).

London - Bethnal Green: Derbyshire Street Pocket Park to replace car parking lot @ Greysmith Associates Ltd (source: https://www.eastlondonlines.co.uk/2014/01/pocket-park-to-replace-car-parking-lot-in-bethnal-green/).
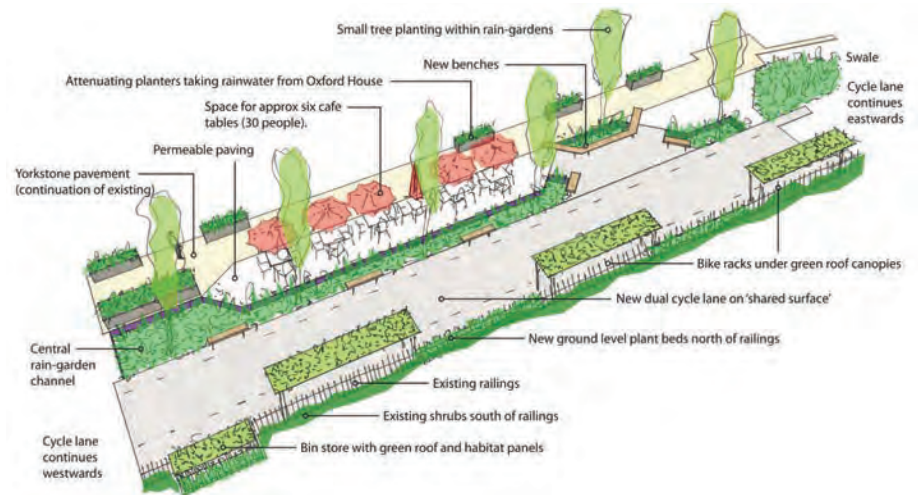
[2] The specific research on pocket parks within the research study mentioned in note 1 was fully coordinated and conducted by DIMITRA BABALIS. Particularly, the findings on pocket parks' key structuring elements and pocket parks' types have been identified by the author following an accurate comparative study of a number of case studies in Europe and USA.

Amsterdam - Westerpark: Playground pocket parks (image: D. Babalis).

Amsterdam - Westerpark: urban farming (image: D. Babalis).

London - Crossbones: urban farming (image: D. Babalis).

The City of Lyon set the 'Pocket Park Strategy' within a well-coordinated urban planning. Lyon, at that time, was in progress with a rapid growth of immigration together with a dynamic commercial vitality. The new social condition had convinced Local Authority to create public open spaces and streets more suitable to new functions for more social integration and urban quality (SPINELLI 2010).

Within the 'Grand Lyon Development Plan'[3] and following the New York's pocket parks experience, the Local Authority confirms how a small space could be more welcoming than a large one; How small spaces regeneration could create diversity and quality across different small urban areas; How the creation of a well-coordinated network of pocket parks could be a more widespread resource for people's benefit. The *Lyon's Jardin de Poche* Strategy main objectives can be summarised as follows:
• Planning the City Centre to increase urban quality for social life and well-being
• Returning back to 'live' the neighbourhoods and designing small sustainable areas, places for community and nature in the city and pocket parks for all
• Improving quality of life within the neighbourhoods' core areas.

Lyon took into account both the City's urban planning and preservation of context identity. Each micro-design of small places was properly studied with proper actions. Local decision-making was not limited to the regeneration of an abandoned small space but to a comprehensive urban management with new functions, smart solutions and greening. It was clear, that the main intention was to create urban and social quality but also to increase values for the public open spaces been involved in such inventive transformation.

Copenhagen - Lommeparks. The City of Copenhagen within the '2009 Climate Plan' introduced the purpose for pocket parks creation to enhance the urban environment for a more livable city. The 'Pocket Park Program' (City of Copenhagen, 2009), has planned 14 pocket parks, *lommeparks*, that are developed as small urban spaces for healthy, and livable urban environments not essentially all with green elements.[4]

Specifically, the structuring elements of a *lommepark* can be summarised in the following key points:
• Dimension
• Visible green components
• Opening and visibility
• Delimitation and protection
• Identity and local community.

More, a *lommepark* can be located between existing buildings with a clear distinction on three sides. The dimension should be less than 5.000 squarer meters, green elements should be a priority with 'long term solutions' and should be well-lighted for urban safety.

The surrounding buildings should be equipped with photovoltaic panels or other smart devices for energy efficiency. Green spaces within *lommeparks* also can improve urban environment thus reducing traffic and air pollution in the city. Fundamental is considered the local people participation for the creation, implementation and maintenance of a pocket park. Unlike other European experiences, *lommeparks* are connected as a network by ecological and naturalistic routes to provide environmental responses to climate change.

London - 100 Pocket Parks Strategy has been adopted as a tool by the local government to solve some critical issues of the city's urban landscape. Pocket parks inspiring project, in fact, are part of London's Great Outdoors[5]. The Plan sets the goal of developing 100 Pocket Parks in 26 London's districts between 2012 and 2015. The main aims were both the introduction of new jobs and the collaboration of the local authority with local communities for urban quality. However, the initiative to shape 100 new small neighbourhood green oases within vacant areas and / or abandoned ones was of great inspiration. The purpose was mainly to provide residents' relaxation, serenity and make them escape from the stressful city's life. On the other hand, creating lands where to promote urban farming (organic cultivation of fruits and vegetables) seemed to be an innovative urban design strategy. The small green spaces, more or less large as a tennis field, were designed to improve urban environment, especially to the most deprived areas and the quality of life of residents. Undoubtedly, the City of London policy attempted to:
• Activate social involvement and stimulate sense of belonging
• Attract and encourage people to live and relate to qualified open space
• Contribute to the conservation of biodiversity and green in the city
• Create a landmark, meeting place and relaxation
• Create cultural hotspot for local community.

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[3] Lyon Project: see: http://www.40ans.grandlyon.com.

[4] The 'Climate Plan' states that: "Pocket parks are small green spaces which help cool the city on hot days and absorb rain on wet days, and which at the same time open possibilities for fun and sports activities to the benefit of Copenhageners and their health. Pocket parks create synergy between buildings and green spaces. (...) These oases will be placed in the midst of the concrete, tiles and asphalt and between skyscrapers, in alleys and side streets (...) to establish pocket parks of high landscaping and architectural merit, at least two new attractive pocket parks for Copenhageners each year. Variations in plants, functions and elements must allow different experiences, atmospheres and uses – in the course of the day and through changing seasons. Rainwater must be an integral part: water that flows, water that freezes, water that cools. As we make the city greener we'll optimize water absorption. In that way we'll buffer the flows to sewers during heavy rains, and enhance green areas with stored water for warm and dry days. We could choose from various adaptation approaches. We favour the green one. In many ways it's the cheapest solution while being an investment in a more beautiful, healthier and better city, allowing us to combine environment with city life and play. It is the most enjoyment to us all." (City of Copenhagen 2009:28).

[5] 'London's 100 Pocket Parks': Mayor of London, London's Great Outdoors, sd, pdf available at: https://www.london.gov.uk/sites/default/files/pocket_parks_prospectus_1.pdf

Pocket Park Project was developed as an innovative action for environmental management to the creation of a network of small parks such as urban acupuncture[6]. The transformed spaces, in fact, have generated a process of economic benefits by adding greater land value. For sure, the sensitive and innovative urban strategies were based on environmental sustainability and energy management.

Some of the designed pocket parks have a range of greening components for drainage, such as planters catching rainwater and using permeable flooring. Further, cycle paths with pop-up cafes to foster integration, connectivity and recreational activities were created. In an international scenario, the London's initiative has produced a number of pocket parks that improved the image of the sites and social life as well. It is important to point out that London has undertaken such actions to encourage people to live and relate to qualified open spaces but also to attract new economic and cultural forces. Finally, the conservation of biodiversity and greening in the choosing sites and contexts is well-recognised within the design process.

Bordeaux: Bordeaux [Re] Centers Project has been developed as an 'urban acupuncture strategy' and projects aimed at transforming the city centre and the quality of city-life. In 2013 with the Local Plan of Urbanism, (PLU)[7] Bordeaux has started towards innovative programming guidelines aiming at a more sustainable and participatory governance. Such governance is mainly based on people's direct involvement, on urban quality, on development and implementation of sustainable projects. Bordeaux [Re] Centers Project[8] acts with a sustainable and participatory renewal of the historic center, strongly supported by a dynamic local programme process.

The key aim was to encourage urban resilience in a city center recognised as an UNESCO heritage site. The entire strategy was mainly based on the 'Projet d'Aménagement et de Développement Durable', (PADD) (part of the PLU 3.1 of the City of Bordeaux)[9] aiming to create an attractive Metropolitan Area well-integrated with urban landscape and its natural environment. The PADD[10] main strategy was towards an urban quality to preserve cultural heritage and local identity.

The main guidelines for Bordeaux [Re] Centers included:
• Regeneration of public spaces with targeted and coordinated actions

Bordeaux [Re]Centres Project to create an attractive Metropolitan Area, well-coordinated within urban landscape and its natural environment (source: Bordeaux 2030: vers le grand Bordeaux e Livret Bordeaux [Re]Centres).
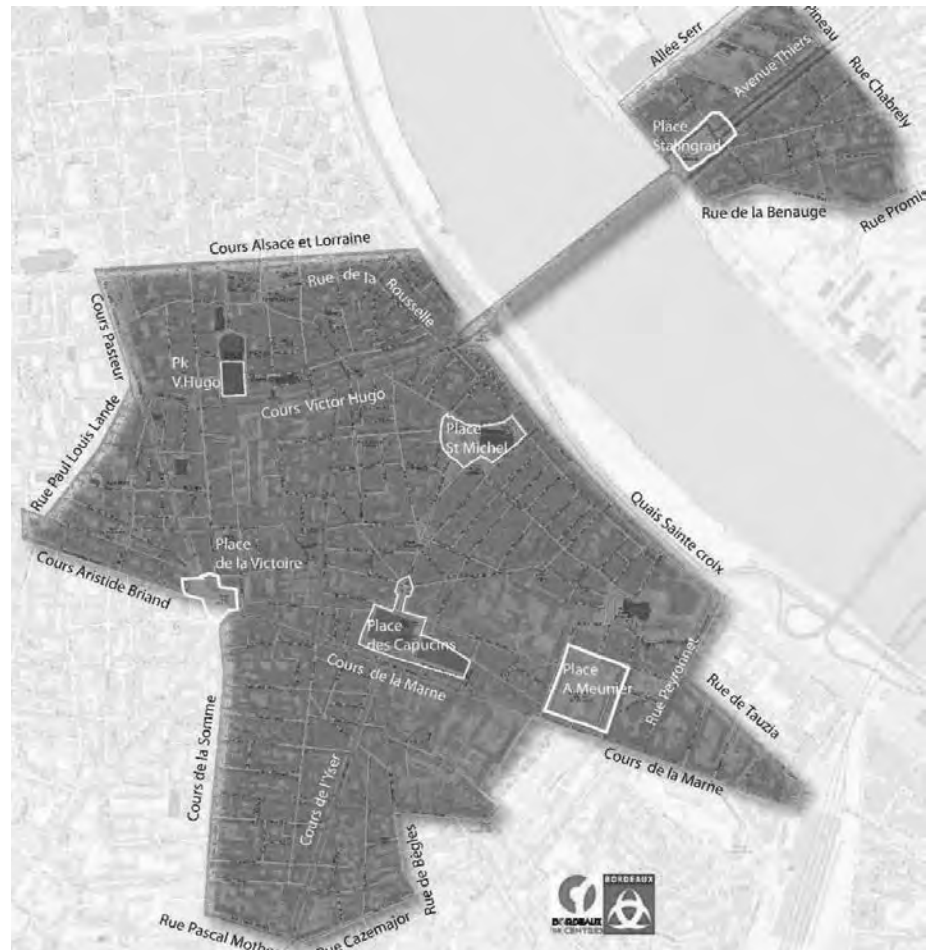
Bordeaux [Re]Centres Project - Marne-Kléber: a network of regenerated small spaces with trees and vegetation carried out by local community (source: Bordeaux 2030: vers le grand Bordeaux e Livret Bordeaux [Re]Centres).
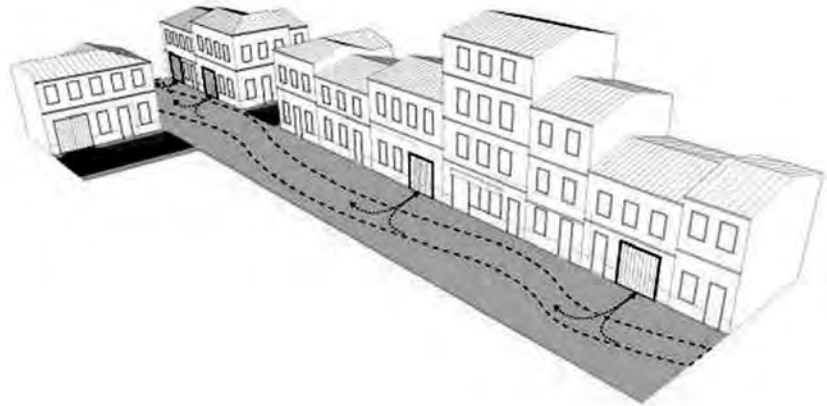
6 The term of 'Urban Acupuncture' has been developed by Finnish architect Marco Casagrande. This theory introduces a design thinking with the development of local innovative projects for extensive participatory transformation projects. Urban Acupuncture is likely presented as a sustainable urban regeneration method that highlights a long-term planning and design, especially in existing and sensitive built environment. See: BABALIS D., (2017) From River to Riverfront. Sustainable Masterplans and Connected Waterfront Urban Spaces along the Southside of the River Arno in Florence, pp 19-21.

7 'Bordeaux Metropole, Plan Local Urbanisme', PLU 3.1 (2015), pdf available at: http://www.bordeaux-metropole.fr/plan-local-d-urbanisme-plu/planlocal-d-urbanisme-plu

8 'The Bordeaux Plan [Re] Centers' has been launched by the 'Bordeaux Commune' in collaboration with the 'Communauté Urbaine de Bordeaux (CUB)' and thanks to a state contribution that co-finances targeted actions under the National Program of 'Réunion des Quartiers Anciens Dégradés' (PNRQAD).

9 The PLU 3.1 of the City of Bordeaux is structured as follows: (a) *Rapport de présentation*, an introductory report, (b) *Projet d'Aménagement et de Développement Durable (PADD)*, the project for sustainable planning and development, (c) *Orientation and Action Program* (POA), which outlines the guidelines and regulations for the implementation of Metropolitan area planning policies (PLH) and Mobility (*Plan des Déplacements Urbains*, PDU), (d) *Proportion pour les quartiers*, complementary to the 'Rapport de Présentation', which includes several brochures prepared for some districts with particular attention in preliminary studies and pre-operative reflections/'Règlement' which defines the general and particular rules of land use.

10 PADD's aims also to: (a) respect and preserve natural resources of the Bordeaux Metropolitan Area, (b) to develop sustainable mobility, (c) to enhance urban quality of the built environment.

• Creation of new public facilities
• Re-organisation of degraded homes and the development of new social housing
• Re-revitalisation of abandon buildings with direct financial support from the owners.

[Re] Centers covers 148 ha of historic fabric including the neighbourhoods of Saint Eloi, Victor Hugo, Sainte Eualie, Victoire, Capucins, Saint Michel, André Meunier, Sainte Croix and part of the Benauge Rive Droite neighborhood. All neighbourhoods involved were previously evaluated and based on urban and building degradation and social and economic 'fragility'.
The Project is considered a well-coordinated development to restore neighbourhoods including their public spaces for people to socialise and integrate. The different types of actions can be summarised as follows:
• The development of a green network to put nature into the city with sustainable urban design
• The (re)design of public spaces with the direct participation of residents
• The creation of urban acupuncture interventions such as the 'hidden potential' within the core UNESCO area.

The regeneration of small public spaces, under the private sector involvement has shown ability to improving accessibility, urban mobility and sustainability, recovery of historic gardens, courtyards, roads, main squares. The key idea, however, was to build a sustainable and resilient city by preserving its history and cultural heritage, offering a number of integrated activities and creating a network of resilient urban spaces with green areas for relaxation and leisure.
The bottom-up method used within the design process was important to specify each area identified and the adoption of urban design principles. The regeneration of such residual spaces are designed on their spatial and social potentiality, the aesthetic value of the urban landscape.
The ability to achieve the above goals, [Re] Centers developed processes to be combined within a clear typological variety of the project such as:
• *Urban*: concerning small spaces whose transformation or enhancement creates new urban condition such as a network of urban sites that can encourage the creation of other spaces. This criterion is adopted for: Sainte Croix Dormoy axis (Sainte Croix Dormoy / Santé Naval / Place

André Meunier / Sainte Croix), Capucins / Saint Michel axis;
• *Social*: creating conditions for better use and mobility among the involved different neighbourhoos while new services and new links are added. This criterion is adopted for the sites: Halle des Douves; Garden Remparts;
• *Human*: involving the participatory process with residents and associations. The process started with the design of the Piazza André Meunier;
• *Heritage protection*: preserving the historical heritage with referring to the case of Remparts Island with its conversion and the construction of new homes, the re-organisation of green spaces with services as added value;
• *Nature in the city*: re-building the green network or re-organising green and shared roads such as the Kleber regeneration.

The urban acupuncture intervention aimed at restoring sustainably mobility and accessibility through the regeneration of squares, urban parks, and small spaces. This intervention introduced new urban shortcuts, alternative to vehicular mobility and opens up to reveal important historical and cultural sites. Bordeaux [Re] Centers has operated with effective and coordinated interventions. The actions engaging a design commitment that can overcome the simple concept of urban renewal. The current interventions of urban acupuncture have re-evaluated the city's urban image and life and have, significantly, contributed to the protection of cultural heritage.

Asti - The Asti Project[11] in regenerating public open spaces has to be considered an important initiative and an experiment to urban acupuncture project that involved the Chamber of Architects of Piemonte Region. The 16 selected projects put together 40 young architects *under 40* of the City of Asti and its Province. The choice of small spaces, all public spaces, have been done in order to improve city's image and urban quality.
Asti's Project is of great importance based on the involvement of young designers to consider people's needs.
The way of designing good small spaces with minimal and low cost intervention has to be considered of great opportunity. All proposed pocket parks are designed respecting location and protection of local and surrounding environmental resources. The young designers had as a main objective to improve small spaces in a well-coordinated network.

Florence City Centre: Pop-up café pocket park (image: D. Babalis).

11 Asti Project : Report available at : http://www.astifest.it/it/progetto-Architetture-Sottili (accessed March 2017), and http://www.ilnuovocantiere.it/tag/asti/.

Utrecht: Pop Up activity - parking (image: D. Babalis).

Paris: Rue Wilson: Pop up activity - parking (image: D. Babalis).

The adopted participatory method was to evaluate sites and at the same time to create new opportunity sites. The selection of the sites was based on the lack of urban quality, identity and lack of social integration. The design of the pocket parks with the new functions and configuration were designed as a network of small spaces for bike sharing, smart spaces, car parking areas and bus stops and so on.
Further, spaces for relaxation and play with green spaces were proposed, especially greenery was designed along the roads of big traffic. A well-accessible pedestrian and cycle network was proposed with specific smart lighting and pocket parks for all. The Asti experience has to be considered a good experiment on designing small urban spaces as a network with the involvement of young architects.

The 'Contemporary Pocket Park' and its definition

According to the above mentioned comparative method and within the first phase of the research study[12], an early notion of definition of a pocket park was given by the author as follows:
A pocket park has to be considered as a type of public open space of small size, accessible to the public with an influence at a local level. A pocket park is often designed into small urban plots or within empty urban blocks. A pocket park can be created within inner and outer urban areas, in public or private grounds. Despite being of a small size, pocket park can have a diversity of spatial and functional configuration.

A pocket park should be of an easy accessibility to the roads or to the surrounding buildings. It may be created under a community's initiative to meet local needs or on the basis of a well-defined urban strategy prepared by local authorities. A pocket park can be a place for social interaction, for spatial diversity and flexibility that can be planned within transformation process.

Within the research study is clearly understood that the best purpose for a pocket park design is the regeneration of a public open space to new opportunities under an appropriate and well-coordinated urban strategy. It is important to satisfy local community by identifying suitable spaces and providing potential functions in a safe and enjoyable way. Is important to underline that it is not easy to define a 'standardised' pocket park or serially designed spaces con specific physical pattern.

A further notion of definition has been stressed by the author[13]:
A pocket park has to be considered as an urban space of small size with variable dimension and with no specific location. It can be designed for social exchange and as a meeting space with green or no green elements. It can have cultural, leisure and sport activity characteristics. It has to be well-recognisable as a small-size public space with a proper equipment in accordance to the various types.
Further, the research findings led towards a re-thinking of the typological configuration of a pocket park in order to better define it. Reflecting the discussion so far, it is possible to give a more precise definition of a 'Contemporary Pocket Park'.

[11] Asti Project : Report available at : http://www.astifest. it/it/progetto-Architetture-Sottili (accessed March 2017), and http://www.ilnuovocantiere.it/tag/asti/.
[12] This early notion of understanding of a pocket park was developed by DIMITRA BABALIS within the funded research in note 1 after a comparative analysis undertaken throughout a various case studies in Europe and USA
[13] The later definition of a pocket park tries to identify a better interpretation of its contemporary spatial configuration.

In terms of 'hermeneutics'[14] a pocket park has to be defined as:

A small-scale urban design of an urban space, with public or semi-private character, for urban quality and social inclusion. In short, pocket parks can be designed as flexible urban spaces with community participation. They should be designed as places of expression of social integration and diversity.

But, in defining a pocket park in terms of 'exegesis'[15]:

It should be considered the typological variety in terms of spatial, functional, locational advances and design process diversity.

However, in an attempt to give a more articulate definition[16] of a 'contemporary pocket park', both from hermeneutical and exegetical point of view, it can be stated by the author as follows:

Pocket parks are well-designed small urban spaces with green or not green elements, for urban quality, and urban resilience[17], well-being, connectivity, diversity and flexibility of use, whose creation should follow urban distinctness, sense of community, and should respect local people needs as the privileged beneficiaries of such places. It is essential for a pocket park design to identify an urban strategy and design conception for both tangible and not tangible changing urban qualities. (Babalis 2018b: p. 21-24).

Focusing, specifically, to the later definition formulated of a pocket park and after an appropriate analysis of a number of case studies within the different European contexts, the opportunity to define a variety of types of a contemporary pocket park design is provided as follows:

• *Small urban gardens and mini parks* - (including green vegetation in an attempt to generate new living places of quality, socialisation, relaxation, leisure)
• *Green street strips / greenways* - (pedestrian roads or pathways with green elements to guarantee accessibility of users and the environmental benefits)
• *Playgrounds / Adventure playground* - (small spaces / fenced fields for play, creativity and wellbeing within green and relaxation areas
• *Street workout parks* - (micro street spaces or micro public open spaces, mini-park spaces equipped freely for gym activities)
• *Relax Areas / Parklets / Sunset parklets* - (relaxation areas equipped with benches, picnic spaces, water features)
• *Street charge / smart areas* - (small spaces with smart equipment to improve quality of life and urban environment).

• *Smart energy gym areas / fitness* - (Innovation allows users to produce clean energy to illuminate public roads and parks).
• *Pop-up cafe & restaurant / Pop up activity-Parking* - (small spaces with food related places for relaxation and enjoyment)
• *Public art* - (small places for pop-up events, temporary installations, exhibit panels to play an active role within the cultural and social dynamics of a place)
• *Urban Farming* - (small spaces for a productive activity of food within courtyards, roofs, abandoned land and free spaces by creating small businesses and working opportunities).
• *Street food parks* - (micro parks offer spaces for food venders for a simple and fast solution to eating meals during the day).
• *Flood protection parks / flood control parks* - (stairways, trees, floating pathways, tanks and so on). (Babalis D., 2018b: p. 27)

Discussion

In the today's city there are many small spaces without a specific configuration and use that can be transformed for urban quality, especially when transformability is linked with an integrative planning. A well-planned urban strategy can generate places of great quality and can promote sociability and urban resilience. On the other hand the presence of green elements can improve micro climate and produce environmental benefits to the community and its wider context. A network of pocket parks can create connectivity points such as accessibility, soft mobility and pedestrian traffic management. The smart use of small spaces can create value and improve local people's lifestyle. Surely, contextual factors and historic urban pattern can somewhere influence design processes and contemporary place-shaping. (Babalis, 2018a, 21).

The research reveals that for the creation of a pocket park or of a network of pocket parks, it is necessary to develop concrete design guidelines that encompass a variety of urban strategies and decision-making skills. Notably, main aspirations and goals for specific design strategies can engage community participation, identify major research to identify pocket parks types, introduce an added smartness in the city. A main purpose in the contemporary city, in fact, is to reach a number of small smart areas with specific technological requirements for better social and economic benefits, improving quality of life and expecially in sensitive historical context.

[14] 'Hermeneutics': the term comes from Aristotle's philosophic thought. In this context, it is considered a conceptual approach of interpretation, an explanation of a definition for a first understand of the meaning.
[15] 'Exegesis': the term comes for Aristotle's philosophic thought. In this context, it is considered a conceptual approach of interpretation with a more critical and deeper understanding of the meaning.
[16] This is a more articulate notion of definition of a 'Contemporary Pocket Park', formulated by the author within the research mentioned in note 1.
[17] In this context the 'urban resilience' for a social context has to be understood as the capacity to face transformation without losing identity; to face social difficulties without precluding transformation but maintaining the proper local distinctness, history, social integrity that supports community. see http://www.resilientcity.org/index.cfm?pagepath=Resilience&id=11449.