ORIGINAL ARTICLE

Covid-19 pandemic and public spaces: improving quality and flexibility for healthier places

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Abstract
The current Covid-19 pandemic has interested the whole word, changing habits and use of places and cities. In the lockdown period, cities and public spaces became completely empty and new urban landscapes substituted the previous ones, transforming the private in public. Children, young and elder people were those who mainly had problems: to them, real life was negated at the time of their life in which this is more important. In Italy, the second country after China which was interested by the Covid-19 pandemic lockdown, the reopening of all the public spaces happened after 2 months of closure. This allowed again "in presence" social interactions, although in respect of the physical distance, confirming the importance of these places for all people. Starting from these premises, the aim of this paper is to present the results of a study carried in the framework of the Horizon 2020 research project Urban Maestro, New Governance Strategies for Urban Design, of the ISMed-National Research Council post Covid research, and of the INU Community *Public Space,* the last two initiatives coordinated by the author. The objective is to identify the relationships between theory and practice of the Charter of Public Space after 10 years of its creation, and verify its validity, in particular, in this Covid-19 emergency period. The Charter of Public Space was adopted during the second Biennial of Public Space held in Rome in 2013 and presented at the Quito Habitat 3 Conference in 2016. In those events many principles were used for the New Urban Agenda discussion concerning quality of public spaces. To achieve the goal of the research, an original method of analysis was created and about thirty case studies were collected, nine of which will be illustrated in this paper. The cases were selected because they follow many principles of the Charter and are then characterized by quality of design and flexibility of use. Accordingly, the update of some principles of the Charter was necessary to meet the new Covid-19 pandemic needs.

Keywords Public spaces · Post Covid-19 urban solutions · Sustainability · Urban quality · Flexibility · Urban design

Introduction

The Covid-19 pandemic emergency has interested the whole word and, although in different manner and measure, changed habits and use of people of places and cities (Abusaada and Elshater 2020; Babalis 2019; Carmichael et al. 2012; Carmona et al. 2010; Gehl 2010, 2016, 2020; Mehaffy et al. 2019). In many countries public spaces became completely empty and new urban landscapes have substituted the previous ones, transforming the private in

public (Friedmann 2010; Francis et al. 2012; Zelinka and Brennan 2001). Houses and balconies were used as the work and study scene, allowing people to go inside the private life (Carmona 2019; Madanipour et al. 2014). Children and young people have interrupted the education in presence to start that by internet; adults started the smart work; elderly begun to meet their son on the video of the computer (Karsten 2003; Zhai et al. 2018). Children, young and elderly people are those who mainly have had problems: to them, real life was negated in the time of their life in which this is more important. In Italy, the second country after China which was interested by the Covid-19 pandemic lockdown, the reopening of all public spaces happened after two months of closure. This both allowed again "in presence" social interactions, although in respect of the physical distance, and confirmed the importance for all people of these places.

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Starting from these premises, the aim of this paper is to present the results of a study carried in the framework of the H2020 research project Urban Maestro, New Governance Strategies for Urban Design, of the ISMed-National Research Council post Covid research and of the INU—Italian Urban Planning Institute—Community "Public Space", the latter two initiatives coordinated by the author. The three research studies—although carried out in different scientific contexts—have in common some objectives which constitute the general framework of the study illustrated in this paper.

The Urban Maestro Project—coordinated by the UCL and in partnership with UN-Habitat—"looks at the ways European cities are being designed and financed, focusing on innovative ways of generating and implementing urban spatial quality". One of the objectives of the project is the comparison of the experiences in Europe to international practices. Accordingly, the author, as a member of the Advisory and Support Group, shared thirty Italian case studies which represent good practices in the public space field.

The ISMed-National Research Council research "Analysis and design of contemporary territory: identity, health and liveability for resilient and sustainable places, directed by the Author, is aimed at identifying the factors and elements making healthy and liveable a place, through ad hoc methodologies of urban analysis and design. In this context, the original method QPS-D@taC +—Quality Public Space D@ta Collection *plus*—was created and both Italian and international case studies were analysed.

The Community *Public Space* has the objective to collect best practices of public spaces in Italy, starting from the Charter of Public Space which was adopted during the second Biennial of Public Space held in Rome in 2013 and presented at the 2016 Quito Habitat 3 Conference, during which many principles were used for the New Urban Agenda discussion concerning quality of public spaces. The author of the paper has cocreated the Charter (UN Habitat 2013; Garau et al. 2015) and contributed to the Italy's Presidency of the Council of Ministers Habitat III Italy's National Report (Sepe et al. 2016), which, together with the other United Nations Reports, constituted the base for the UN-Habitat New Urban Agenda (http://habitat3.org/wp-content/uploads/NUA-English.pdf).

Indeed, as reported in preamble, the Charter "constitutes the contribution of the Biennial of Public Space to a process of further definition on the same subject that will be conducted at the global level in collaboration with the United Nations Programme on Human Settlements (UN-Habitat), in order to make a significant contribution to the preparatory process of the third Conference of the United Nations on Human Settlements to be held in 2016".

The Charter is composed by 50 principles that are a sort of guidelines for liveable and sustainable public spaces. All the principles are related to the achievement of the urban quality: "Public spaces are a key element of individual and social well-being, the places of a community's collective life, expressions of the diversity of their common natural and cultural richness and a foundation of their identity. The community recognizes itself in its public places and pursues the improvement of their spatial quality" (principle 7).

Objective of the present study is to comprehend the relationship between theory—the principles—and practice—the public spaces—and verify the validity of the Charter after 10 years of its creation and in particular in this Covid-19 period, updating it if necessary. To achieve this objective, an original methodology was created and about thirty case studies were collected.

Accordingly, Sect. 2 is devoted to the UN-Habitat New Urban Agenda principles which mention the commitments related to the quality and flexibility of the public spaces meant in their wider meaning, Sect. 3 is devoted to the methodology, Sect. 4 presents the case studies, and Sect. 5 proposes the updated Charter. Of the thirty Italian case studies, those selected to be presented in this paper are of particular interest for two reasons: the first is that they follow many principles of the Charter of Public Spaces testifying their quality; the second is that, due to their characteristic of flexibility of use and quality of design, they are frequented also after the lockdown period by all kind of people, by adopting suitable distance and avoiding crowding situations. Finally, Sect. 6 draws the conclusion.

People and public spaces in the Quito New Urban Agenda

The Nua—New Urban Agenda—was adopted in Quito in 2016 during the Third Habitat Conference and "represents a shared vision for a better and more sustainable future" (http://habitat3.org/wp-content/uploads/NUA-English.pdf).

As mentioned in the Introduction, after its adoption in the second Biennial of Public Space (Rome 2013), the Charter of Public Space was presented at the Quito Habitat 3 Conference during which many principles were used for the New Urban Agenda discussion concerning quality of public spaces.

In the following, the principles 37, 53, 113, 134, 155 and 156—related to the quality and flexibility of the public spaces meant in their wider meaning—are reported.

"37. We commit ourselves to promoting safe, inclusive, accessible, green and quality public spaces, including streets, sidewalks and cycling lanes, squares, waterfront areas, gardens and parks, that are multifunctional areas for social interaction and inclusion, human health and well-being, economic exchange and cultural expression and dialogue among a wide diversity of people and

cultures, and that are designed and managed to ensure human development and build peaceful, inclusive and participatory societies, as well as to promote living together, connectivity and social inclusion."

"53. We commit ourselves to promoting safe, inclusive, accessible, green and quality public spaces as drivers of social and economic development, in order to sustainably leverage their potential to generate increased social and economic value, including property value, and to facilitate business and public and private investments and livelihood opportunities for all."

In the above two principles, the quality and flexibility of the public spaces are related to the presence of multifunctional, healthy and green areas, inclusivity, accessibility, social interaction and inclusion, dialogue between all people, and participation. The safe and healthy factors are furthermore explained in the 113, 134 and 155 principles.

"113. We will take measures to improve road safety and integrate it into sustainable mobility and transport infrastructure planning and design. Together with awareness-raising initiatives, we will promote the safe-system approach called for in the Decade of Action for Road Safety, with special attention to the needs of all women and girls, as well as children and youth, older persons and persons with disabilities and those in vulnerable situations. We will work to adopt, implement and enforce policies and measures to actively protect and promote pedestrian safety and cycling mobility, with a view to broader health outcomes (…). We will promote the safe and healthy journey to school for every child as a priority."

"134. We will support appropriate policies and capacities that enable subnational and local governments to register and expand their potential revenue base, for example, through multipurpose cadastres, local taxes, fees and service charges, in line with national policies, while ensuring that women and girls, children and youth, older persons, persons with disabilities, indigenous peoples and local communities, and poor households are not disproportionately affected."

"155. We will promote capacity-development initiatives to empower and strengthen the skills and abilities of women and girls, children and youth, older persons and persons with disabilities, indigenous peoples and local communities, as well as persons in vulnerable situations, for shaping governance processes, engaging in dialogue, and promoting and protecting human rights and antidiscrimination, to ensure their effective participation in urban and territorial development decision-making."

In the above three principles, the attention to the needs of women, girls, children, youth, older persons and persons with disabilities or in vulnerable situations is particularly outlined, in order to support specific attentions and policies to them.

"156. We will promote the development of national information and communications technology policies and e-government strategies, as well as citizen-centric digital governance tools, tapping into technological innovations, including capacity-development programmes, in order to make information and communications technologies accessible to the public, including women and girls, children and youth, persons with disabilities, older persons and persons in vulnerable situations, to enable them to develop and exercise civic responsibility, broadening participation and fostering responsible governance, as well as increasing efficiency. The use of digital platforms and tools, including geospatial information systems, will be encouraged to improve long-term integrated urban and territorial planning and design, land administration and management, and access to urban and metropolitan services."

In this latter principle, the attention to the ICT as a tool to improve responsible governance for all and access to urban and metropolitan services is specifically promoted.

The Agenda, although adopted four years before the pandemic, already contained many principles which, if followed, could support the Covid-19 period in the responsible and inclusive use of the public spaces. Accordingly, in turn these principles represent the basis of the current update of the Charter of Public Space.

Furthermore, the thirty selected case studies are in line not only with the principle of the Charter but also with the principles of the Agenda.

The method

The QPS-D@taC+—Quality Public Space D@ta Collection *plus*—original method is constituted by a database constructed by collecting the information, images and planimetries useful both in the phases of design and realization of a public space, and in the management ones. Information relative to the success of the space and its presence—where there is—on the social networks are also inserted. The data are collected by different sources, including information by the professionals or technicians who realized the spaces, internet, bibliographical references, and on-site visits. Thanks to the flexibility of the method, this was slightly adapted to allow the collections of elements useful

to comprehend changes of the spaces in the post Covid-19 phase (the "plus" addition is meant in this sense).

Due to the current pandemic event, public spaces were not used for months and then reopened, requiring suitable physical distance between people to avoid crowdy situations; accordingly, some information were added to the database aimed at verifying their changes in the post Covid period. These include—as it will be explained in the following—the fifth, eighth, ninth and eleventh collected elements.

The first element to collect is the year of realization. Although a project such as a public space is realized in a medium-long term, the year of realization indicates the moment in which it is inaugurated. If, as it happened in some cases, the spaces were realized in different years, these are indicated, giving the idea of the different steps. The second element is the planimetry or a drawn of the project that makes understandable the shape and/or the position of the public space with respect to the surrounding territory.

The third element is the city where the space is located and its address. The fourth element is the measure of the surface that covers the area. These data have the function to make comprehensible, together with its localization, the "urban weight" of that specific space in the context. It is a physical data but allows to comprehend the wideness of the project intervention.

The fifth element consists in the institutions which are involved. These data are useful to comprehend if and what public entities are involved in the process of realization of the space and if the private sector is involved. The presence of public entities makes it clearer the will of the administrations to realize a space that is public and is for the public and, in that case, in what phase of the construction the private sector contributes (namely, in the executive project or in its management).

Furthermore, these data are important to understand who manages or will manage the post Covid phase, which could require some changes in the organization of paths and sitting area of the place.

The funds are another useful data—the sixth element—and is connected to the previous one because it needs to indicate the whole amount—both the public and private ones—used to realize the public space. Furthermore, in the database it is indicated if the management cost is forecasted and what is the amount.

The presence of an urban planning project—the seventh element—which is the general framework for the realization of the public space, makes it comprehensible both the used planning tool and the wideness of the operation, namely if the public space is part of a greater project of regeneration, or if it is a project which only concerns the public space in object. The urban design tool and the name of the architects are also reported, if the project is realized by a private office. In line with this, specific public concessions are reported to comprehend all the urban planning tools used to realize the public space.

The eighth element consists in the policies which are carried out for the specific public space, but, as for the previous data, in the case that the space has been realized in the framework of a wider project of regeneration, these may concern a wider area. The database can comprehend new policies for long or short period adopted for specific needs, such as the pandemic.

The ninth element concerns both the kind of uses and fruition (Degen and Rose 2012; Moriarty and Honnery 2008; Porteous 1977; Sepe 2013). This is an important information that serves to frame what are the potential activities that are thought for the specific public space and what are those that have been really carried out, the kind and typology of accesses and activities. Furthermore, in this specific period, these data give information about the possibility to have different entrances and physical distance between the people during the different kind of fruitions.

These data may give information regarding the success of the project (the 10th element). The presence of many activities—and their easy and differentiated accesses and fruition—allows the use by people of different ages and ability and then greater possibility of attendance, safety and satisfaction.

The images (the 11th element) that are collected give the visual illustration of what is described in the database, while the data concerning the factors (the 12 element) which testify the success of the case study offer a diversified frame of the modality of use, attendance, cultural events and presence on the social networks. In particular, the data concerning the presence on the social networks, although not exhaustive, because the presence of that public space as a background of a picture does not guarantee that the space is agreeable and of success, offers in any case—within a wider framework of information—an updated indication on the typology and quantity of users and on their perception (trough the kind of hashtags, number of followers and likes, or numbers and kinds of comments). As an example, in this Covid-19 period, the images could be changed, illustrating people with the face mask or with the signs indicating the distances to be kept.

Finally, the database contains the main bibliographical and website references (elements 13–14) and constitute the sources from which information on the public space were collected. This information is collected together with those provided by the technicians and professionals who worked in different way in the realization of the cases in object (Sepe 2020).

The revision of the methodology and of the case studies allowed to update the Charter of Public Space as well. In the following, the nine emblematic public spaces and the updated principles of the Charter will be illustrated.

The case studies

The best practices of public spaces which were chosen are based on seven categories (Jacobs 1961; Jones et al. 2008; Kent 2008; Ravazzoli and Torricelli 2017; Sepe 2017, 2019) and the description of the spaces is realized through the QPS-D@taC+—Quality Public Space D@ta Collection plus—original method.

The cases include: waterfronts (in Pescara, Genova, San Benedetto del Tronto and Palermo), squares (in Catanzaro, Trieste, Catania, Palermo, Siena, Aosta, Perugia, and Termoli), gardens (in Rome and San Donà di Piave), parks (in Milano, Torino, Lecce and Cagliari), transportation open-air hubs (in Scandicci, Napoli and Padova), nature paths (in Trento, Nera river and Val di Sella) and projects on larger scale (in Matera and in Bologna). Of these, nine case studies will be illustrated in the following. The general framework which emerges by the thirty collected case studies shows different design, planning, cultural, geographical, social and financial factors that can determine the quality of a public space (Buttimer and Seamon 1980; Carta 2007; Mehta 2013; Porfyriou and Sepe 2017).

For different reasons, these are spaces which, although designed years before the pandemic, still represent a point of reference for their city because already created in a both liveable and healthy fashion. The principles which will be described in the next section can be observed in all the nine cases.

The first three case studies concern waterfronts located in different geographical part of Italy. The Foro Italico of Palermo in Sicily (Fig. 1) region was realized in 2006. The surface is 4 ha and the involved Institution both in the creation of the space and its management is the Municipality of Palermo. The Urban project was carried out by Italo Rota Studio, while the urban planning tool of reference is the Variant to the PRG—General Regulator Plan—zoning table and restrictions on the territory.

The Foro Italico is a project intervention that is configured as a real functional and formal revitalization of an area for a long time not used by the city. The promenade is a space for leisure, for children to play, for sports or simply to read a book comfortably lying down while *feeling* the sea in front (www.balarm.it/luoghi/foro-italico-palermo-2351). There is a ring cycle path that runs around the perimeter of the park made of green concrete, with white resin designs. The pathway allows, in addition to the circuit of the lawn, a bicycle path to the Sant'Erasmo harbour.

Furthermore, the space is fully usable for all and the wide space allows the physical distance. The success is testified by the vitality of this place; since before the area was completed, citizens have naturally started to "live" this space and have "adopted" the lawn of the Foro Italico. After the Covid-19 lockdown the place has started to be used again

Fig. 1 Foro Italico, Palermo. *Source* Photo by the Author

in respect of the physical distance. The lawn creates both tranquillity and a closer relationship with the sea and with nature. It also allows to view the city with the same image that appeared to travellers who came by the steamboat. The presence on the social networks is represented by the Instagram and twitter hashtag #foroitalicopalermo with 3.437 post. After the Covid-19 lockdown some images of people with the face mask have been posted.

The second waterfront is the Natural Park in San Benedetto del Tronto, which is located in the Marche, Central Italy (https://www.comunesbt.it) (Fig. 2). The park, of about 2700 square meters, was realized in 2007. The Institution which was involved is the San Benedetto del Tronto Municipality and also the funds which were used are municipal. A detailed plan of public initiatives for hotel accommodation and related concessions was carried out to realize the waterfront.

The main policies which were activated include: the free concession of private spaces for public use, the creation of an urban space for children and the creation of a space with a naturalistic–environmental matrix.

Many uses have been designed, including walking, running, cycling, observation and taking a break. The cycle path that runs along the promenade crosses ten theme gardens and relax areas furnished with seats and both visual and olfactory points of observation. In particular, the Country Garden—with small dunes and an agricultural cart of the Marche region under an arch—reconstructs a typical rural area of the Piceno countryside; the Children's Garden is used for educational games and amusements; the Healthy Garden is realized by medicinal plants which are used for their curative properties; the Citrus Garden, with trees of the Citrus family and a *Calamondino*, the Mediterranean Garden, with typical essences of the Mediterranean scrub, the Palm Garden, with 25 species of palms and a bright turf, the Arid Garden, with succulents and cacti, the Wet Garden, with a freshwater lake, a bridge and a small waterfall, and the Rose Garden, with 27 varieties of roses (including "La Sevillana", which has the characteristic of flourishing several times), have specific aesthetic and ornamental properties and activate the different perceptions. The gardens also serve as access to the bathing establishments; furthermore, in different periods of the year cultural and social events are there organized.

The fruition is of different types. The thematic gardens are all equipped with information guides, tactile maps and plates for each species of plants, which support its didactic function, and are usable by the blind as well. Also in this case, the organization of the space allows the physical distance.

The elements that testify the success of the public space include: the insertion in the network of blogs for opinions

Fig. 2 Natural Park in San Benedetto del Tronto. *Source* Photo by the Author

on the gardens of the Marche region; the Organization of periodic visits to the theme gardens during the summer period, although, due the Covid-19, with a limited number of people; and the organization of events of different kinds during the year, also in this case with a limited number of people. As a further element that testifies the success of this space, although there is no presence of it in the social networks, many web sites contain information about this waterfront and its activities.

The third case is the ancient port of Genoa (Fig. 3), which was realized between 1992 and 2004. In 1992, the realized projects include: the interventions between the Molo Vecchio and Ponte Spinala; the Piazza delle Feste; the recovery of the Cotton Warehouses transformed into a Congress centre; the construction of the largest Aquarium in Europe and the "Bigo" with the panoramic lift (www.urbancenter.comune.genova.it). In 2000 the project which were realized include: a multifunctional complex; a new location of the Faculty of Economics and Commerce in the Scio district, an underground parking and public spaces that complete the main promenade. In 2001, the realized project interventions include: the marina; a cineplex; the Antarctic Museum; the City of Children and the Biosphere. In 2004 the recovery of the historic centre adjacent to the port area and the Museum of the Sea and Navigation

were completed and the public spaces of the Harbour were entirely reopened to the public.

The whole surface is 230,000 sqm, while the Institutions that were involved include: the Municipality of Genoa; Porto Antico di Genova S.p.A.; Marina Porto Antico S.p.A; Costa Edutainment Company; Liguria region; University of Genoa; Banca San Paolo and Carige; Palazzo Ducale SpA; and Mobility and Transport.

The total amount of funding was about 5 billion euros and the regeneration process is based on the co-planning of several tools, namely: the Port Master Plan, the New Puc—Commune Urban Plan; the complex programs activated by the Municipality for the Historic Centre: the Urban Program for physical interventions and economic and social revitalization actions in the historic centre, the PRU—Urban Redevelopment Program—of Porta Soprana-Darsena, the "Contratto di Quartiere"—Neighborhood Agreement—for the Via Giustiniani area, the Prusst programme for sustainable development for the recovery of the municipal dock and Ponte Parodi, and the PRU—Urban Redevelopment Program.

The activated policies are of different types and concern: the updating of the urban plan in terms of sustainability; the creation of both integrated forms of mobility of people and mobility of goods; the creation of new communication

Fig. 3 The waterfront of Genova. *Source* Photo by the Author

strategies; the inclusion of education, culture and tourism activities for a constant use of the place in different hours and periods of the year and the creation of new jobs.

The port, in addition to be a meeting place, is used for various both cultural and social functions and events, which in this Covid period were reduced in the number of participants or cancelled. The main events include: the "Science Festival"; "Palco sul Mare Festival: concerts and cabaret"; "Cine & Comic Fest". Furthermore, three paths have also been created: an educational, a natural and a sport one.

The port of Genoa, due to the many attractions, is, also in this pandemic period, widely used by residents, visitors looking for places for leisure, and tourists, demonstrating its success. The physical distance, because of the wide space, is respected.

The popularity on social networks is testified by the presence on Facebook and Instagram: https://it-it.facebook.com/portoanticodigenova/; https://www.instagram.com/portoanticodigenova/; hashtag #portoanticodigenova, 5770 post. Within the #portoanticodigenova, some photos with people with the face mask were posted.

Among the gardens, two are illustrated here. The Sensory garden at the Rupicole Park in Rome was realized in 2012 in a surface of 4000 square meters. The property is public and the Institution that is involved in the creation of the space is "Roma Capitale"—Department of Social Services and Health Promotion. The Institutions involved in the management of the garden include: the Department of Social Policies of the Municipality of Rome and the Botanical Garden of Tor Vergata with some researchers and teachers, who carried out activities with the disabled (gardening courses and more); Cospexa social cooperative: Project 96, the Centre for Social Integration, Obiettivo Uomo, Iskra, Virtus Italia and the Istituto Sant'Antonio.

The funds for the construction of the space are public and were given by the Lazio Region—Rome Capital Program, and the funds for the management—also public—were given by the Municipality of Rome, Botanical Garden.

The urban planning tool of reference is the 2008 PRG—General Regulatory Plan—of the Public green and local public services, while the urban project was carried out by the Botanical garden in collaboration with a private studio of architecture (mtstudio). The urban policies and types of use are many, including: the garden is used two days a week by a nearby association of people with disabilities; gardening courses are organized, and participants can obtain a certificate. In this way, the garden is suitably maintained through the courses, without great expenses for the public administration. The goal is to create a space for all residents of the neighbourhood, where recreational activities, socialization, job placement and rehabilitation can be carried out. Other uses include: workshops in green areas for children, teenagers and disabled adults;

horticultural therapy and aromatherapy; the management and arrangement of the garden by guests of the community; integration between the guests of the housing community, the residents of the neighbourhood (children, adults and the elderly) and the institutions of the area. In particular, the Horticultural therapy is a rehabilitative method for discomfort and disability. It consists of encouraging, preparing and supporting the subject in the care and management of greenery, in the cultivation of flowers, vegetables and other plants. The project is for mentally and physically disabled people—between 20 and 50 years old—who have attitudes for this type of work. In the Covid-19 period the activities were reduced to allow the physical distance.

As regards the fruition, the garden is fully usable from all points of view. There is also a particular sensorial path, which, thanks to the help of a handrail and tactile paving for the blind, allows easy access for the visually impaired. The parking areas, located along the routes, are of great importance for the elderly, as well as for the people with motor and sensory disability (www.mtstudio.it).

With respect to the elements that testify the success of this garden, for the first time an interaction among the various social cooperatives that have taken part in the activities planned by Cospexa has taken place. Furthermore, for this project, in 2013 the public administration of Rome won the "Simonetta Bastelli" award.

As regards the social media, the garden is present on twitter with 703 likes and on Facebook with 2463 likes. There are no photos of people with face masks posted in these social media.

The second case of gardens is the Children's Park of Lecce in Puglia Region (Fig. 4), carried out in 2012. The surface is 10,000 sqm and the Institution that has been involved is the Municipality of Lecce with a cost of 650,000.00 euro.

As regards the urban project, the designers of the children's park are constituted by five architectural firms, selected by the Municipality of Lecce following a public competition, that have chosen not to participate in the draw and set up a temporary planning association, namely: Studio Brischetto—Amati—AtenaStudio, Studio Aut, Miglietta associated, Gruppoforesta, Studio Scrimieri Edmondo and Tafuro Architect (www.gruppoforesta.com).

The idea was to put the design of the urban open space at the centre of the project, conceived as informal, strengthening internal relationships with the neighbourhood, and opening the space of the park to the city to make it inclusive.

This is a playground with different functions. It is a park created with slight movements of the soil that construct five spatial areas connected to each other even if different: the road, the hill, the nest, the labyrinth and the woods aimed at defining a single space, full of differences. The "road", the leitmotif of the park, is a continuous surface, a space

Fig. 4 Children's Park of Lecce. *Source* photo by Gruppo Foresta

aimed at opening the park to the city to make it permeable and inclusive.

The "hill" is a vegetable volume that houses three slides drowned in the lawn. The volume, fully walkable, meets the need of safety of the playground and the fencing of public spaces. The "nest", for children from 0 to 6 years, is made by spheres and cylinders of various sizes, to stimulate the perception and mobility of children. The "labyrinth" is a space in which to "get lost" in the invented game. The "forest" is a tree-lined area in which simple and multipurpose play structures are arranged. In the current period, the use is not changed, and the garden represents an important point of reference for children and parents. The presence on the social network includes the Instagram hashtag #Parcodei-Bambini and non-official Facebook pages. Few images of people with face masks are posted.

Among the squares, the first case is Piazza Goldoni in Trieste that was realized in 2005 and has a surface of 8115 sqm. The Institution which was involved in the realization of the space is public, namely the Municipality of Trieste, while a private office of architects—Stefano Santabrogio—has participated to its design and artistic direction. The funds are public, and the project is part of the three-year program of works aimed at the redevelopment of Piazza Goldoni, expected by the current PRG—General Regulatory Plan. The Urban planning tool is the Recovery intervention plan of the City Council (https://www.santambrogiostefanoarchit etto.com). The policies which were activated, and the uses

are many: the project takes into account the difficulty of construction due to the impossibility of both fully close the square and preserve the road traffic and public transport. The formal unitarity of the square, made fragmented by the presence of the crossing roads, is sought through the design of the pavements to integrate the square into the urban context, enhancing the connections with the Scala dei Giganti stairs and the axis of Via Mazzini that connects to the sea.

The choice of enhancing the central pedestrian part and the sidewalks at the border not only avoids the interruption of traffic but also makes possible to concentrate the construction costs. In this way, if on the one hand the functional efficiency of the space is not reduced and maintains the current potential of access and use also in the post Covid time, on the other hand the architectural solutions will not lead to negative impacts on the management cost of the artefacts. As regards the elements that testify the success, the square is: part of the particularity of the urban context where the different historical fabrics of the city are present without binding and generate a plurality of orientations and directions; characterized by constant use for moments of both break and socialization by people of all age.

The presence on social media includes Instagram with the #piazzagoldoni hashtag with more than 500 posts and #piazzagoldonitrieste with about 100 posts. Photos of people with the face mask are not posted.

The second emblematic square is Piazza del Campo in Siena, in Tuscany region (Fig. 5). The first document

Fig. 5 Siena, Piazza del Campo. *Source* Photo by the Author

certifying the purchase by the Sienese community of the land dates back to 1169, which, until 1270 under the government of the 24 (1236–1270), was intended both for fairs and markets and for holding public parties. The pavement of the Campo begins in 1327 and ends in 1349, with the particular "knife" bricks. The division of the shell dates back to the early fourteenth century.

The surface is 11.510.38 smq and the Institutions involved in the creation of the space include the Twenty-four Government (1236–1270), the Nine Government (1287–1355) and the Municipality of Siena.

The urban planning tools of reference are different in the years. In the recent Town Planning Regulations (2011) the square falls in the Historic Centre. It concerns "emerging settlements and artifacts" and "mixed-function fabrics". The buildings around the square are part of the Colour Plan which has as its main objective the protection of the vertical planes of the historic centre of Siena, regulating the restoration of the facades, both overall and for homogeneous parts, as well as proposing the elimination of the causes of the existing degradation.

The functions housed in the buildings are generally of collective interest, such as large public facilities or offices of institutions representative of the identity of the city. The concession of public spaces for events of cultural and social interest made them available for initiatives of public and private clubs and associations.

The square, today as well as in the Middle Ages, is the centre of the city, a resting and socializing space where its main arteries converge, located on the border between the *Terzo di Città* and *San Martino*.

Piazza del Campo welcomed assemblies of people and was the scene of countless festivals and tournaments, from the ancient games of Elmora and Pugna to the race of the Buffaloes. Every year on 2th July and 16th August there is the Palio, the most famous event in the city, the horse race preceded by a historical procession, which finds its most important venue in the square, because the borders of the 17 districts stop there.

The square has always been a point of reference for every event that affects the public life of Siena, it becomes a sort of large stage, from the celebrations in February of the Carnival to the Festival organized in the last week of August by the Municipality that brings to the square music and dance, vitalizing Siena's nightlife.

Piazza del Campo is completely usable on foot and with vehicles, but with strong restrictions (It falls under "local roads" in the Building Regulations). It is also easily accessible by emergency vehicles in case of need.

The square is fully accessible on foot and by public transport, but with severe restrictions (it is part of the "local road network" in the Building Regulations). It is also easily accessible by emergency vehicles in case of need.

Among the elements that testify the success of the case study, the square is still the heart of the city centre, and many people uses it as a place to walk, sit on the floor, and observe its beauty. Its wide surface allows the physical distance between people. It is home of all the main events and attracts many tourists, in particular during the Palio horse race, although this year it was not realized. As regards the social media, the Piazza is present on Instagram with #piazzadelcampo hashtag and on Facebook with Piazza del Campo (place). Photos of people with face masks have not been posted.

Among the parks, the case study chosen for this paper concerns the Music Park of Cagliari in Sardinia, which was realized in 2014. The surface is of 27,000 sqm, the Institution involved is the Municipality of Cagliari and the cost is 4.7 million euro.

The urban project framework is the Cohesion Action Plan "Re-functionalization of the Music Park and the Lyric Theatre of Cagliari", carried out by the Municipality of Cagliari, while the executive planning was realized by the Italian Studio Speri (www.studiosperi.it).

The policies activated for the re-functionalisation of the Music Park and the Lyric Theatre of Cagliari include project interventions related to the safety and requalification of the whole public space. The project had the aim at creating a break in the insulation of the urban space, connecting it to the road network that define the area and making it crossable and permeable in all directions (Colavitti 2007). The project also redefined the surrounding area using the scenes of trees and bushes to limit the presence of unskilled construction, currently highly visible on the outline. The park is a multi-functional complex used as a meeting and socializing place, as well as a walking and stopping space. Another important use concerns the open-air performances of the opera house and the cultural events organized during the year, which were also organized in the post Covid-19 period, although with a minor number of participants.

The success of the park is demonstrated in different ways related to art, culture and tourism which include: the enhancement of the local lyric theatre productions and the internationalization and urban redevelopment of the whole area in collaboration with the Municipality of Cagliari. The open-air area of the Opera House and all the spaces and paths allow its use in respect of the physical distance. The presence on the social media is on the Facebook page with 1436 like and the hashtag #parcodellamusicacagliari with 104 post. Photos of people with face masks have not been posted.

The last case study of public space is the Bike path along the Nera river and the greenways of the Nera gorges which was realized in 2016 in Narni, in a surface of 11 km (Fig. 6).

The Institution which was involved is the Municipality of Narni and the funds come from the "Cycle path along the Nera river" (Narni—Nera Montoro—Oasis of San Liberato)—Por Fesr 2007–2013—Axis II—Activity b2, and the Project for the enhancement of the banks of the Nera and the greenways of the Nera gorges—Por Fesr 2007–2013—Axis II—Activity b1.

As regards the urban project, Narni municipal administration implemented the program. The interventions that led to the creation of the Greenways along the Gorges of the Black River were designed by a team of various professionals. The policies which were carried out are many. The intervention is configured within a complex program of enhancement of the gorges of the Nera river, aimed at: activating an economic process of sustainable development and requalification of the environmental landscape heritage; consolidating a territorial offer qualified in cultural and environmental terms; and stimulating local development and its insertion in the large regional tourist circuits. The goal is to develop a strategic line for the creation of greenways routes and demonstrate how these can be a tool for enhancing the territory and its resources and representing a potential means for alternative mobility for daily movements, recreational activities and tourism.

With respect to the type of use and fruition, the project is based on the environmental redevelopment of the area of the Nera River, where the infrastructures and services are concentrated, and runs longitudinally, taking advantage of the waterway and the complex system of paths that develop along the two sides. Furthermore, along the slopes, a series of specific elements of attraction lead the visitor to areas and artefacts of historical, archaeological and landscape interest. The park consists of an integrated system of spaces, places of community life and its collective memory and paths for cycle and pedestrian mobility capable of responding to the growing demand of meeting and non-systematic mobility, including tourism and hospitality and, furthermore, of respecting the physical distance. Among the elements that testify the success of the path, in 2017 there was a presence of up to 500–600 people passing through. A Temporary Purpose Association to manage the area was created for animation, provision of services, ordinary maintenance and promotion of the tourist itineraries of the Gorges with the spirit of enhancing the cultural, food and wine, music and sports activities of the area. With respect to the social network, Gole Del Nera is on Facebook with 3071 followers and on

Fig. 6 Bike path along the Nera river. *Source* Photo by Riccardo Guarnello

Instagram with 1,001 followers (Sepe 2020). No photos of people with face masks have been posted.

The updated Charter

The cases of public spaces which were illustrated represent emblematic spaces before and after the lockdown, because these were built with logics that can be defined of liveability and healthy, according with different needs of people. Now, in the post lock down period, some uses were actualized, allowing wider uses for all age groups. For these reasons, some principles of the Charter of Public Spaces, which were at the basis of these and the other selected case studies of the research, needed to be updated, allowing an actualization. In the following, the principles which were updated are reported, underlying in Italics the new parts. These represents a check for analysis and/or design of quality public spaces, having in mind liveability and healthy concepts.

3. The Charter of Public Space aims at serving all those who believe in the city and: in its extraordinary ability for hospitality, solidarity, conviviality and sharing; in its inimitable virtue in encouraging social interaction, encounter, togetherness, freedom and democracy *in respect of physical distance when necessary*; and in its calling for giving life to these values through public space. At the same time, cities show the worsening of economic, social, ethnic, cultural and generational inequalities. Public space must be the place where citizenship rights of all age groups are guaranteed, and differences are respected and appreciated.

4. The Charter is based on a wide and inclusive concept of citizenship that goes beyond its legal definition. All in their capacity, as users, are "citizens" and have the same rights and duties with regard to the public space, *with particular attention to children, young, elder people and persons with disabilities*.

6. Public spaces are all places publicly owned or of public use, accessible and enjoyable by all for free and without a profit motive. Each public space has its own spatial, historic, environmental, *identity,* social and economic features.

7. Public spaces are a key element of *individual and social safety and well-being*, the places of a community's collective life, expressions of the diversity of their common natural and cultural richness and a foundation of their identity. The community recognizes itself in its public places and pursues the improvement of their spatial quality.

10. Public spaces, whenever safeguards of natural or historical value allow, must be made *accessible and safe* without barriers to the motorial, sensorially and intellectively disabled people.

14. Public spaces: (a) Are the physical web and support for the movement and the *safe stationing of people and*

means of transport, from which the vitality of the city depends; (c) Offer *precious and healthy opportunities* for recreation, physical exercise and regeneration for all (parks, gardens, public sports facilities); (d) Help promote education and culture (e.g. museums and public libraries); (e) Are places of individual and collective memory, in which the identity of the people is mirrored and finds sustenance, growing in the knowledge that they are a community; (f) Promote conviviality, encounter, and freedom of expression, *all in respect of the physical distance when necessary;*

16. Every public space should be designed with full consideration for diversity *of different age groups and people abilities.*

21. The urban public space system requires a unitary view capable of bringing out the features to maintain, enhance and communicate. It is therefore advisable for local governments to adopt a specific strategy for public *space networks with different and flexible functions which can welcome people also in pandemic periods.*

25. Design must pay full attention to maintenance and management costs using simple solutions and materials that are durable, simple, easily replaceable *or modifiable* and climatically adequate.

29. The creation, improvement and management of public spaces can provide an opportunity for new job creation and private investment, *also in relation to the ICTs.*

30. Interdisciplinary and participatory approaches to public-space design are an exciting opportunity for planners, landscape professionals*, psychological environmentalists*, architects, technicians and designers to express fully their social roles.

31. The following can be considered constraints on the creation, management and enjoyment of good public spaces:

   f. Design choices that ignore *multifunctional and healthy* criteria and structural connections;
   k. The absence of wireless networks that can widely support new uses of the public spaces;
   l. The absence of directions and references, which may cause a condition of deep disorientation in users of urban space *in both normal and pandemic situations*.

33. Reducing private automobile traffic in cities is a primary condition for improving environmental conditions, enhancing public spaces *and making them more liveable and healthier.* Favouring zero-energy consumption mobility, like walking and cycling, improves the environment and enhances the quality of public spaces and urban living.

34. Education in a responsible use of public spaces is the least expensive of all form of maintenance and management. It is useful to conduct awareness campaigns in schools, through the media, on the web to educate citizens to a virtuous and *safe use of public spaces.*

39. In terms of the area they over, streets, squares and sidewalks constitute the overwhelming portion of the urban space used by the public. It is therefore important for their use to be disciplined to reconcile the *different and* healthy functions they are to perform, granting priority to pedestrian and non-motorized mobility *for all age groups.*

40. Both temporal and physical limitations to the use of public open space due to safety reasons should not unreasonably restrict the enjoyment by the public *or its place identity.*

44. The participation of citizens and in particular of communities of residents is of crucial importance for the maintenance and management of public spaces, particularly in situations of poverty and limited public resources, such as those in the developing countries. Partnership arrangements between citizens, local governments and private concerns are of relevant importance in all circumstances, *including Covid-19 emergency.*

49. The enjoyment of public space is intimately linked to its civil, respectful and responsible use. The quality of public-space enjoyment is therefore tied not only to the availability, quality, mutability, adaptability and maintenance level of public spaces, but *also to the suitable behaviour* of individual citizens.

50. The good use of public spaces is closely linked to their mutability and adaptability in relation to the changing needs of citizens, environmental disasters *and pandemic emergencies*.

Conclusion

The paper has illustrated a study which was carried out in the framework of the Urban Maestro. New Governance Strategies for Urban Design Horizon 2020 research project, the ISMed-National Research Council post Covid-19 research and the INU Community Public Space, the last two coordinated by the author.

The three research—although carried out in different scientific contexts—have in common some objectives which constitute the general framework of the study illustrated in this paper, namely: to comprehend the relationship between theory—the principles—and practice—the public spaces—and verify the validity of the Charter of Public Space after 10 years of its creation and in particular in this Covid-19

period, updating it if necessary. To achieve this objective an original methodology was created and about 30 case studies were collected.

The selected cases concern waterfronts (in Genova, San Benedetto del Tronto and Palermo), squares (in Trieste and Siena), gardens (in Rome and Lecce), parks (in Cagliari), and nature paths (in Val di Sella and Nera river). These are particularly focused on the social—with attention to the different age groups, economic and environmental sustainability. In all these public spaces, many of the principles of the Charter of Public Space were followed. On the other side, some of principles required an update due to recent pandemic needs.

The general framework of these case studies shows different design, planning, cultural, geographical, social and financial factors that can determine the quality and sustainability of a public space. The most important characteristic is the flexibility of these spaces which has determined a success before and after the pandemic.

The cases confirm that a quality project is resilient to any crisis: a public space characterized by beauty and quality design can offer pleasant perceptions also if people have to maintain some restrictions in their use.

Indeed, all the case studies which were analysed after the Covid-19 lock down there were no specific needs or changes in the spaces because of their wide surface and these were used again with success by people. The only differences that were noticed include: some events or activities were reduced because of the problem to maintain the physical distance; in few cases some photos of people with the face mask were posted.

In the first cases of waterfronts, the success of the Foro Italico of Palermo is testified by the vitality of this place. Since before the project was completed, citizens have naturally started to "appropriate" of this space and had "adopted" the lawn of the Foro Italico. The lawn gives tranquillity and creates the relationship with the sea and nature.

For the Natural Park on the Waterfront in San Benedetto del Tronto many uses have been designed, including walking, running, cycling, observing the nature and taking a break. The cycle path that runs along the promenade crosses ten theme gardens and relax areas furnished with seats and both visual and olfactory points of observation.

In the Genoa new port area many uses are carried out: the activities of quality services to citizens; integrated forms of mobility and new perspectives for the mobility of goods; the inclusion of activities aimed at education, culture and tourism for a constant use of the place for many age groups.

In all these waterfronts, the wideness of the spaces and their design allowed a use by many people in observation of the physical distance, although some cultural events were cancelled or reduced in the number of participants. After

the Covid-19 lockdown some images of people with the face mask has been posted in the Palermo and Genova Port area.

As regards the squares, in the Piazza Goldoni, the unity of the square is sought through the design of the pavements to integrate the square into the urban context, enhancing the different connections with the crossing streets. In Piazza del Campo, the choice of enhancing the central pedestrian part and the sidewalks at the border avoids the interruption of traffic and not reduce the functional efficiency of the space which maintains its potential of access and use. Piazza del Campo is completely usable on foot by people of all age; it is also easily accessible by emergency vehicles in case of need. The square still is the heart of the city centre, there are many people who continue to use it as a place to walk, sit on the floor and observe its timeless beauty. The two squares constitute important example of flexible use and are currently lived in plenty way by people in respect of the physical distance. No photos of people with the face mask have been posted.

With respect to the garden cases, in the Rupicole Park in Rome, also in the post Covid-19 period activities for all residents of the neighbourhood are carried out—although with a minor number of participants. These include: recreational, socialization, job placement and rehabilitation activities, such as gardening training courses for people with different forms of disabilities; workshops in green areas for children, teenagers and disabled adults; horticultural therapy and aromatherapy; and integration between the guests of the housing community, the residents of the neighbourhood (children, adults and the elderly) and the institutions in the area. In the other case, that of the Children's Park of Lecce, the idea is to put the design of the urban open space at the centre of the project, conceived as informal in the definition of the furnishings and playful equipment, strengthening internal relations with the neighbourhood, opening the space of the park to the city to make it permeable, inclusive and safe also in the post Covid-19 period.

As regards the art park, the Music park is a multifunctional complex space used as a meeting and socializing place, as well as a walk and stop area. An important use also regards the open-air performances of the opera house and the numerous cultural events organized during the year. In particular, the open-air area of the opera house and all the spaces and paths allow its use for all age group in respect of the physical distance.

In the last case, the Cycle path along the Nera river, policies were promoted to activate an economic process of sustainable development and requalification of the environmental landscape heritage to consolidate a territorial offer which are qualified in cultural and environmental terms and stimulate local development and its insertion in the large regional tourist circuits. These policies are particularly useful in this

period of post Covid, allowing a wide use always in respect of the physical distance.

These public spaces which were illustrated are mainly realized with public funds, in the framework of wider urban planning tools, and have all activated urban policies that allow resilience, flexible uses and an overall and sustainable success.

Beyond the common uses, what it is emerged by the study of some of these spaces is the potential to welcome educational and artistic activities, which could be particularly important in this period of difficulty to find the spaces for the schools, for the artistic performances or for many other activities that cannot be realized in the closed spaces, because of the lack of the suitable physical distance.

Finally, although the validity of the Charter of Public spaces was confirmed, due to the current pandemic, some principles were updated and reported. As the Principle 50 declares: "the good use of public spaces is closely linked to their mutability and adaptability in relation to the changing needs of citizens, environmental disasters and pandemic emergencies". Indeed, the Covid-19 should represent an occasion to rethink places and spaces to allow a more liveable cities for all, widening their use in a healthy way.

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