

The Urban Book Series

Edmond Manahasa
Fabio Naselli
Anna Yunitsyna *Editors*

COVID-19 (Forced) Innovations

Pandemic Impacts on Architecture and
Urbanism

 Springer

The Urban Book Series

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and Urbanism

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Chapter 1

Introducing the Implications of the COVID-19 Pandemic on Urban Design, Architecture, and Residents' Behaviour



Fabio Naselli and Anna Yunitsyna

Abstract The COVID-19 pandemic marked a threshold in everyone's life, consequently generating new spatial-social (forced) innovations in the spheres of both architectural and urban thinking. The relationship between humans—and space—and humans became a major subject of interrogation on a kind of new normality. The pandemic context required distant communication, remote working/learning, and physical/social isolation. Considering the possibility that similar kinds of events might repeat, the process revealed naturally certain lessons from which we must learn. First, it revealed the role of public spaces as an essential place of spatial quality, which became quintessential in such a circumstance. Their design and reconceptualization, especially in spatial-functional terms, ask to be reconsidered. Especially in mass and multifamily housing developments, their presence quantitatively and qualitatively needs to be reconsidered starting from the real human scale. Interestingly the remote working and teaching processes were also tested during the pandemic, from what we learned there are a lot of pros as well as criticalities in the distance working/learning process, not only in professional aspects but also in relationships and people interaction aspects. Although it pushed toward more virtual reality, the pandemic worked as a “live” experience to understand the potential and the extent of digital technologies in making such a reality possible. Last but not least, the lesson was related to the personalization of space through isolation, to avoid the spread with preventive reasons. In this respect, several experiments have been proposed; however, the nature of this operation on its own is featured by ontological limitations. Finally, it can be said that these lessons should rapidly be reflected in architectural and design pedagogical processes aiming to train the next generation of architects/urban planners toward a new normality, foreseeing that the reflections should be implemented in the curricula and courses of architecture/engineering programs, to forerun future similar situations with adequate approaches.

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Keywords COVID-19 · New normality · New design paradigm · Forced innovation · Architectural adaptation

1.1 Preamble

In September 2020, Nabil Mohareb, a colleague from the Beirut Arab University, published a very reflexive paper titled “Has an Urban ‘new normal’ become necessary following the coronavirus pandemic?” (Mohareb 2020). It was the starting point, just once we were in the first steps of re-opening our lives to a post-new normal. In the subsequent two years, the many months we spent in lockdown and the several spent in a state of limitation in both physical and social dimensions have questioned the well-consolidated models of habitat and spaces in which we daily live and act. Then the pandemic has even stressed all critical issues globally, highlighting city limits, infrastructure, architecture, urban and local spaces, facility provision, and human lifestyles (Armondi et al. 2022), characterized by archetypes and paradigms that appear now as obsolete or, at least, need a review. However, whether we experienced those strong social-physical limitations, on the one hand, we faced a huge enlargement in the digital non-physical dimensions, on the other hand. As an early result, we are now struggling in the search for a suitable new equilibrium between “real” and “virtual” lives. Between the Human City and the Digital City. This meant that the cultural debate—in the fields of Architecture and not only—took place oriented on the importance of planning, investment in research, and the need to activate open innovation dynamics, highlighting the social, economic, and environmental impact of innovative, sustainable, neo-anthropocentric, and eco-centric measures.

1.2 Introducing the Implications of the COVID-19 Pandemic on Urban Design, Architecture, and Residents’ Behavior

The Global Event that affected the world in early 2020 left some extended effects in many design fields, from urban to architectural scale, from engineering to industrial design, forcing designers to rethink some consolidated codes and familiarize themselves with the old conceptual approaches. By observing this manifestation from the given short-time post-viewpoint, we can see that some of those changes have been temporary and predestined to be retrieved back to the old normal in a short time; basically, once the “innovative” motion is passed away. Differently, some other of these changes look fated to become more permanent and able to challenge or change our individual and social mindsets as designers and end-users, as well as influence the whole set of old-normal “consolidated” codes, perhaps forcing us toward a general advancement in architecture and urban planning.

Furthermore, those “forced” changes have even more stressed the sense of trans-disciplinary interaction among the diverse fields of knowledge—not only in the design approach—acting as an upward cross-cutting set of “innovations” able to answer more focused inquiries about pandemic post-time approaches. Innovations that affected people’s real-life entire realm at a global scale suddenly left us the legacy of new normal traces to follow up (Hughes and Armstrong 2020).

The book aims to provide deep “think tank” momentum (dated November 2021) by arguing and remarking—in a large arena and through many contributions—how we have been challenged and what we are earning in the switch between the new and the old normal post-2020. Picking up among the fringes of the experienced period—as it ripened almost two years and a half later than the beginning of the pandemic era—the book strives to explore what was and is going on in the after-pandemic era of designing in both practice and research.

The topic of the subsequent new normality became an emerging trend that influenced all spheres of private life and work. The new restrictions are applied at different levels, starting with the spatial division of the countries into colored zones, cities into districts, and spaces that are limited by the social distance rules. The issue of post-COVID architecture is nowadays relevant, and every country must find the best strategies to mitigate the disease (Just and Plöbl 2022). It brings together socio-economic, ethical, health, design, and cultural aspects. Since the nature of pandemics is the same all over the world, this research is a source of information and inspiration that is applicable in various cultural and economic contexts. There are few studies on the New Normality that have been published since the end of 2020; therefore, this book fills the gap with awareness by bringing the latest research in the field of architecture and urban design.

This book gives an overview of the shifting paradigm from the traditional design techniques and standards to the new values and methods that occur for tackling the global pandemic rules. However, whether we experienced those strong social-physical limitations, on the one hand, we faced a huge enlargement in the digital, not-physical dimensions. As an early thought, worldwide thinkers are now struggling in the search for a suitable new equilibrium between “real” and “virtual” lives, between public, private, and collective open spaces, between the Human City and the Digital City. The theoretical studies of the phenomenon of the New Normality in architecture, urbanism, and the social sciences are a source of adaptive inspiration for researchers, professors, and students in the fields of architecture, urbanism, and interior design (Montoya et al. 2022; Gillen et al. 2021). On-site applications of the post-COVID structures, indeed, can be interesting for students, practitioners, developers, and city managers. The issue of online design teaching and learning provides a set of practices that can be applied both by educators and trainees. The book is also useful for readers who are interested in recent trends in architecture and interior design, since it provides a deep analysis of the recent changes in architecture aiming to make the environment disease-free and to make the space habitable during the long period of the lockdown. In the last two years, the many months we spent in lockdown and the several spent in a state of limitation in both physical and social dimensions have questioned the well-consolidated codes and models of habitat and spaces in which we daily live.

Then, the pandemic has even stressed all critical issues globally, highlighting the city limits—infrastructures, architectures, urban and domestic spaces, facility provision, and human lifestyles—characterized by archetypes and paradigms that appear now as obsolete or, at least, in need of revision.

In the most acute phase of the health emergency, the crisis of Western cities (but not only) has been of such magnitude as to lead many scholars to hypothesize the overcoming of the prevailing urban models, both in structural aspects (types of private dwellings and public spaces, distribution of services and road systems, and so on) and in the ways of working and being together (UNESCO 2020). That is to say, several scholars from different disciplinary perspectives wondered early on whether the health emergency might constitute a prompt to change the characters on which urban development has been based in recent times, and many sociologists, planners, geographers, and policymakers, on the one hand, investigated emerging social needs (through surveys and qualitative research); on the other hand, in their reflections, they expressed caution in assuming radical change, arguing instead that time would tell whether the then-recorded social need to pursue the goal of achieving a proper balance between urban economy, nature, and health would be stable and enduring. At the present stage, strong skepticism prevails that from the health emergency, politics first and foremost, but also society and the economy have learned lessons aimed at correcting social behavior, economies, and organizational models, even though the health crisis has not come to an end (at most it has been ‘hidden’) and continues to overlap with the well-known environmental crisis, primarily that resulting from global warming. Despite the more than well-founded skepticism, it is incumbent on those who study these issues to insist on the need to “radically” change the approach.

1.3 Book Presentation

The main objective of this book is to learn about the emerging transcultural (and trans-contextual) approaches as they were raised—unsystematically and suddenly—to provide the first resilient answers to the unexpected shock.

The several arguments raised from the arguing of different study cases, diverse theoretical approaches, and the tests and solutions put in place in a short time and various of the world’s contexts enriched the ranges of this book by stimulating an interesting intrinsic debate that crosses through the pages of it.

By exploring and hearing about the last case studies, the growing new theoretical approaches, and, finally, those collective experiments and practices, even informal, often spontaneous, and usually not codified, which took place in the “first hour” of the event, the book is a medium to reflect on how design-thinking evolves in special circumstances, like the pandemic, in the effort to rebalance and update consolidated “praxis and experimentation” to fit the better quality of life. As well as a growing motion to expand both concepts and meanings of “places and spaces”—fitting those concepts of proximity, such as those that emerged from the recent experiences of “living spatial limitations” and “social isolation”.

This book is divided into three parts; the first focuses on urban planning and design challenges; the second explores design and building typologies; and the third part opens to the post-COVID effects on cultural, educational, and social aspects as well as the citizens' well-being. An introduction section by Naselli and Yunitsyna specifies the sense of the whole book and the added value of connecting the different parts, topics, and themes in one text. Also, in the ending section, an afterword by Manahasa tries to outline the real achievements of that cross-cut narration through all the contributions.

In more detail, Part I deals with those COVID-19 challenges and post-pandemic reflections on the urbanism field. What happened and what are the positive as well as negative effects in terms of the blue environment within our cities is the topic treated in the first chapter by Naselli et al., focusing specifically on the city of Tirana by referring to the related UN-SDGs. Calace et al., in the following chapter, lead readers to a problematic condition where the theme of distancing raises new questions about density, regeneration, and the need for new spaces within every urban context. The concept of proximity in post-pandemic urban planning is also treated in the fourth chapter by Geropanta and Porreca, exploring the topic through the 15-min city and the Superblocks concepts and practices. Franchino and Frettoloso, in Chap. 4, explore the opportunities for urban space to become, on the one hand, an important reserve of space, and on the other hand, to mitigate the issue of social distancing and enhance the ideas of the New Normality. The sixth chapter gives room to Antonio Acierno, with the chapter, European coastal areas and opportunities for sustainable transformations in post-COVID Society exploring the value of ecological planning for national and international coasts and trying to analyze whether contemporary cities are effectively managed and designed to meet the economic and socio-recreational expectations of the users. Concludes the first part an interesting opening to the inland areas in the resilient countryside, raised as better places to spend the limitations and often considered as a shelter for the pandemic and other shocks. This chapter brings us to the process of sustainable revitalization of inland areas by Angrilli and Ciuffreda. It focuses on the Green Communities and Ecosystem Services answers in the post-COVID era.

In the second part, the induction of changes in design strategies and building typologies due to COVID-19 is the focus theme. The chapter opens with an exploration of the opportunities for the use of digital tools for "distant" participatory design and their practical implementation; Kim et al. share their practice in South Korea. Following this, Sicignano et al. deal with the rethinking of the design parameters of the schools, which should satisfy the limitations caused by the pandemic. In Chap. 3, Ibraimi and Saliu set out a proposal for new design guidelines to transform learning environments, based on the observations of 12 schools in North Macedonia. The Pandemic brought into use new building typologies, such as testing units. Pietrogrande and Dalla Caneva tell us about a study for a mobile medical testing unit and the possibility of installing such small mobile services in historical areas of the cities. In the fifth chapter, Yunitsyna and Fallanaj develop a series of housing typologies with the use of shipping containers, which are zero-energy, transportable, and easy to mount in remote areas. They can easily face different types of crises. A new model

for the organization of the coworking space in post-pandemic conditions is presented in the competition proposal illustrated by Yunitsyna et al. in Chap. 6. Rashed et al. focus on the reorganization of world-famous tourist attractions, taking Luxor, Egypt, as a case study.

The third part is aimed at understanding the social issues that emerged during and after the pandemic, the post-COVID effect on cultural, educational, and social aspects, and citizens' well-being. The holistic approach toward the well-being issue during the post-COVID period, with a special emphasis on the aging time is given in a collective paper written by Dantas et al. Hernández and Fernández contribute to the same topic by investigating the possibilities of the use of AI to investigate and prevent older people's social isolation. In Chaps. 3 and 4, Ozturk proposes the digital deconstruction of architecture as a new education model for teaching in architectural schools after COVID-19, while Lameiro shares his experience with the changes tested in the practical teaching of graphic design during the pandemic. The fifth chapter is about the complex relationship between the city–sea interface and urban coastal society after the COVID-19 crisis, written by Pistone. Bayoumi and colleagues open a new room—in the fifth chapter—shifting attention to current (past?) architectural code aspects related to the usability of a big international urban facility, the Bibliotheca Alexandrina. Questioning themselves: Do the standards created by this library meet the global social and political changes and limitations that have occurred since the spread of the COVID-19 epidemic? The establishment of social distancing caused changes in the use of the urban environment. The transformation of the Greek cities during the crisis is explained by Manika and Zervas.

The conclusions are outlined by Manahasa in a final afterword that aims to sum up—in a holistic synthesis—the lessons learned from the COVID-19 pandemic through different experiences, theories, experiments, and practices. These lessons should work as starting points to reflect in-depth on the redesign of indoor and outdoor spaces, on the reshaping of remote professional and pedagogical processes, and on the redefinition of disciplines' personalized spaces in the new reality of the post-pandemic context.

References

- Armondi S et al (2022) Cities learning from a pandemic. towards preparedness. Routledge, Abingdon. <https://doi.org/10.4324/9781003240983>
- Gillen N et al (2021) RETHINK design guide. Architecture for a post-pandemic world. Routledge, RIBA Publishing, London. <https://doi.org/10.4324/9781003137078>
- Hughes R, Armstrong R (2020) The art of experiment: post-pandemic knowledge practices for 21st century architecture and design. Routledge, Abingdon
- Just T, Plöchl F (2022) European cities after COVID-19. Strategies for resilient cities and real estate. Springer, Cham. <https://doi.org/10.1007/978-3-030-89788-8>
- Mohareb N (2020) Has an urban 'new normal' become necessary following the coronavirus pandemic? Arch Plann J 26(2) (Article 5). <https://doi.org/10.54729/2789-8547.1065>

Montoya MA et al (2022) COVID-19, and cities: experiences, responses, and uncertainties (the urban book series). Springer, Cham. <https://doi.org/10.1007/978-3-030-84134-8>
UNESCO (2020) Creative cities' response to COVID-19. UNESCO, Paris

Part I
COVID-19 Challenges and Post-pandemic
Reflections on Urban Design

Chapter 2

Density, Regeneration and the Need for New Spaces



Francesca Calace, Alessandra Rana, and Chiara Vitale

Abstract In cities and metropolitan areas, marginal and degradation conditions can be found everywhere, even in the most central spaces. In fact, the concept of periphery based on the distance from the center seems outdated, associating the term with the deprivation of rights, like the “right to the city” and the opportunities it offers. Moreover, nowadays taking care of the existing city seems to be an unavoidable necessity to restore quality, accessibility and safety completely neglected in decades of development; this need becomes even more urgent when events like those experienced in past years require to rethink ways and spaces of living together. Lastly, we can consider that the place-based approach for the transformation of “internal areas” can be related to an inter-urban scale to strengthen social cohesion and promote local development even in interstices and marginal areas inside the city. From these reflections, among the urban environments to be rethought, here we suggest to deepen the theme of the historical peripheries, in which there are typical and peculiar conditions that make them paradigmatic of a contemporary condition, complementary to the dispersion and loss of urban form: high degradation of the building stock, which has reached obsolescence in many parts, combined to the persistence of historical and environmental values; high density corresponding a chronic underdevelopment of services and collective spaces; a social unease caused by a combination of poverty conditions, subculture non-integration of immigrant communities; all situations in which the “right to the city” seems to be denied. Today, in a problematic condition where the theme of distancing raises new questions about density as a value, the theme of inner peripheries, as symptomatic of the city unease as its complementary phenomenon of urban sprawl, requires a specific, place-based approach, attentive to material and immaterial characters, as well as the urban form and living conditions.

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2.1 Introduction

The etymological meaning of the word “periphery” as outline, edge, thus the most external and marginal part of a physical space, as opposed to the center (Trecani 2022), now betrays the complexity of these spaces whose existence reason is not limited to the geographical remoteness from the core. The periphery has a social and physical dimension, which can be understood as the spatial manifestation of social problems of the city, such as isolation and degradation (Waquant 2007). However, we face the risk of falling into the trap of territorial stigmatization if we refer to it only in these terms. For this purpose, it may be useful to define the periphery by the complex of its identity and characteristics as well as its components—environmental, social, historical, cultural and of the settlement—and not by looking at just one of these aspects (Druot et al. 2007).

Moreover, while it is commonly perceived that the peripheral areas in cities were invested by a degenerative process in response to the ever-growing urbanization phenomenon, not all of them faced the same destiny. Indeed, the concept of periphery itself can be declined in different ways (Tabasso 2016). We can go from areas at the margins of urban centers, which do not experience the same autonomy and centrality as the principal one, to those that suffer from the lack of services and facilities essential for a quality urban life, through those areas degraded due to the obsolescence of the building stock or to the distance from the infrastructure (Boeri 2016; Tabasso 2016).

These types of peripheries, old and new, share in most cases the absence of spatial quality, reflecting in the formal precariousness a more intimate condition of the urban spaces in terms of accessibility, social discomfort, and levels of effective and perceived safety. Such aspects were often overlooked during the transformation process that invested the city in the past half century for a more convenient economic return. For example, in this timespan due to socio-political changes parts of the city was transformed both morphologically and functionally to make room for places of mass consumption. This produced a contraction of the “traditional” public space (Ischia 2012) and as a consequence, the loss of urban uses and proximity functions. In this sense, the city generates injustices—social, economic, spatial—(Prisco 2013) such as ghettoization, escalating poverty, spatial fragmentation, inadequacy of public services, decline of urban centers and gentrification. For this reason, in places like historical peripheries, the lack of “urban democracy”, precisely the increasing presence of inequities caused by the proliferation of urban models built on conflicts and divisions—real or metaphorical—(Olmo 2018), makes even more clear how certain rights must be considered as inseparable from “democratic urbanism” (Amin and Thrift 2001). This calls for action on the socio-economic imbalances originating

such urban phenomena in order to intervene on a structural level on issues such as the spatial justice (Soja 2010) and the right to the city (Lefebvre 1968).

2.2 Historical Peripheries: Critical and Arising Issues

From these considerations, the contribution focuses on a more elusive declination of the periphery, difficult to recognize because of its continuity with the consolidated city of which doesn't own the same urban qualities (Gibelli 2005). Considering these many meanings of the periphery and given the intention to explore the city beyond its center, we intend to investigate an urban dimension often forgotten in favor of more pressing and visible issues. It seems essential to address this matter by trying to develop a reflection on the context of the historical peripheries and, in particular, on the "minor" urban heritage of the dense city which, however, constituted a significant part of the *extramoenia* urban development of Italian cities.

By historical peripheries, we mean those neighborhoods or city parts established in Italy at the end of the nineteenth century and shaped the way they are today until the first fifty-ish years of the twentieth century. They were then involved in the systematic expansion process of the contemporary urban development that peaked in the years of the "Italian economic miracle". Such processes caused the historical outskirts to be "absorbed" into the growing city and downgraded as transit areas, from and toward the most central ones, or to reach the main infrastructural network for territorial mobility.

The historical peripheries, whether generated through spontaneous or planned processes, are frequently constituted by recognizable urban settlement, with distinctive morphological and architectural features, often of great value, even if not protected or subject to regulatory constraints. Over time they become more and more peripheral in terms of life quality, services availability and accessibility, despite being no longer distant in spatial terms. The working-class and *petit-bourgeois* nature, which characterized their development, transformed over time into an increasingly and significant presence of building decay combined with social discomfort, together with the function impoverishment and a general sense of "emptying" of the neighborhoods. This perception may be linked to the loss of public space in its widest sense, due to the ongoing disappearance of commercial activities, local services, relational spaces and all those places that had made the neighborhoods vibrant and dynamic centers over time.

The combination of these aspects can lead to the recognition of some typical traits of a condition, the urban shrinkage, which is becoming more evident even in South European countries like Italy.

Although the phenomenon is usually associated with very conspicuous manifestations, as in cities like Detroit, Tokyo, Leipzig, due to the collapse of the productive system or to natural disasters, if the causes are different, as in the Italian context, urban shrinkage manifests itself in a more silent and crawling way. The main problem is seen in the erosion of the economic structure in a certain territory, which generates

the crisis of traditional urban models and affects the social and spatial structure of the city. This means that the perceived sense of emptiness in historical periphery, even if not actually backed by the “typical” demographic decline, can be related to other forms of loss.

The loss is the most obvious trait related to urban shrinkage and therefore more widely recognized. It manifests in different ways in relation to its intensity: from the emptying of neighborhoods of their regular users with loss of resident population in favor of temporary inhabitants because of the presence of territorial attractors or of the strong touristic fluxes, to the displacement of activities in more attractive areas, up to the replacement of essential services more profitable and, all this considered, to the negation of the right to the city.

This recent but relentless ongoing metamorphosis translates into a clear loss of the city’s identity along with its historical stratification and the erosion of the supporting urban structure.

The attentive eye of the observer can see how in these places the human value is getting poorer, despite the high population density and the strong presence of identifying and symbolic values as cultural, social, architectural, which make even more necessary to restore these parts.

2.3 Bari (IT), the Case Study

To explore these aspects, it is introduced the case study, specifically the City of Bari (IT) with its historical peripheries, with a spontaneous genesis that defined over time recognizable, distinguished but now poorly conserved settlements.

The south area of Bari’s central railway station (Fig. 2.1), recognizable today in the Carrassi, San Pasquale and Picone districts, was not born through specific, organized and detailed planning, but has spontaneous origins. Over time, these origins defined recognizable and distinct settlement units, although not protected today, becoming, in the course of urban transformations, increasingly peripheral in terms of quality of life, availability of services and accessibility, but not in terms of space. Historically, the large agricultural area of the Bari countryside was characterized by the planting of olive trees and the presence of exclusively rural and agricultural buildings.

At the beginning of the 20 s of the nineteenth century, close to the railway, the first signs of urbanization were born: this will develop throughout the century with a series of production plants of the rising local industry. Later, in the first years of the twentieth century, the first specialized buildings of a scholastic, military and religious nature also begin to pop up; the latter will be decisive for urban development. The construction in 1914 of the Orthodox Church of San Nicola in the Carrassi district marked a profound transformation, strengthening the distinctive character of the historic connection route between Bari and Carbonara and Ceglie, and becoming a reference and a recognizable element of the neighborhood. Another important religious event was the construction of the Catholic Church of San Pasquale in 1919. Over time, this element of the urban fabric has increasingly assumed a central position



Fig. 2.1 Permanences of the historical urban fabric, case study area, Bari (*source* authors)

in the neighborhood, both in spatial terms, generating an urban development around it, and in terms of social and cultural recognition.

The first 20 years of the twentieth century were a time of strong transformation of the area: in 1920 the first houses were built, through private land concessions, in the southeastern quadrant of the Carrassi district. At the same time, the San Pasquale district is also affected by the construction of the first residential cluster of the district, adjacent to the railway line, organized in large blocks on a regular grid.

The first half of the twentieth century is characterized by a strong transformation of the area and the construction of specialized structures, but above all sees the area affected by a strong growth of residential buildings. In the Carrassi district, the building logic appears to be disorganized, like a sum of pieces, through subdivision processes that gradually extended along the main axis of the district, now known as Corso Benedetto Croce. Its development was dictated by the historical matrix route of extra-urban connection, which connected Bari with Carbonara and Ceglie del Campo, branching off toward the east with a series of small residential nuclei resulting from unitary projects: such as the rare example of a garden city of the “Postelegrafonico” village (De Robertis 2021)—20 four-family liberty style villas for post office workers—and the IACP public housing complex—so-called Ciano due to the shape of the buildings.

The San Pasquale district, born as a residential area, has over time sporadic presence of industrial buildings along Via Amendola. Its residential function arose from the need to provide accommodation for all workers employed in the factories present above all in the Carrassi district. The residential fabric developed in continuity with the first housing unit, in an almost compact form, through a regular grid with an orientation defined by the two historical radial routes connecting with the inner centers: now known as Via Re David and Via Amendola.

The Policlinico, the bigger city's hospital, built in Picone in 1937 and the University campus built in San Pasquale in 1951 brought back life to neighborhoods and its infrastructures.

Their presence and the consequent formation of new structures and services has generated at the time an increasingly wide flow of city users, diversified but above all transitory, that have characterized the area modifying the inner social structure as well.

At the beginning the area was inhabited by the middle class, due to the high workers' presence; today this character has almost been lost in the entire area. The original population is now concentrated in the first historical residential areas, while there is a strong presence of people who live in there for a short time, especially students, healthcare workers and university staff. This condition can be underlined by the rate of non-resident housing which is calculated between 11 and 22%.

The new industrial district built outside the city in 1960 and the consequential desertion of the area's industrial facilities. This abandonment brought to an uncontrolled growth of the residential settlements, underlined by the increasing Carrassi urban density, today around 2300 ab/km². A massive transformation of the area was carried out by Via Unità d'Italia realization in 1970, after the demolition of part of the historical and architectural heritage. The massive fracture created by the new urban axis between Carrassi and San Pasquale was caused by its central position and width, defining a clear division of the two areas, in terms of urban continuity as well as of social diversity.

Urban policies and the various urban transformations applied through the years, brought to a services and functions impoverishment. These services and functions are embraced into Bari's urban transformations, but declassified as crossing areas, bringing to a high urban density and to a human relation's drop.

The uncontrolled construction characterizing the districts since 1960 defined a public space limitation. This has generated the total absence of places and green areas for the community, but sidewalks.

This condition forced the inhabitants of the neighborhoods to move to other areas in the daytime and evening, limiting the use of the area only at night, making these areas dormitory.

A key factor of degradation within the districts is the total absence of policies on preservation of the historical buildings. In fact, Carrassi and San Pasquale districts show an identical and recognizable architectural remain, which are the vanishing core of area's development.

There are still some cases of historical housing buildings, which appears strongly degraded, dilapidated and in some cases totally abandoned. Furthermore the industrial nature, which gave rise to the Carrassi district, completely disappeared.

The urban and social condition of these areas are due to the lack of protection and valorization policies. This makes them increasingly peripheral, in terms of usability of public space, quality of life, services and infrastructure, despite being immediately next to the central areas of the city.