Prosuming Public Space: the UNPark project

The role of urban infrastructures in the regeneration of the in-between spaces

Paolo Carli

with contributions by Francesco Bruschi, Matteo Clementi, Davide Crippa, Luigi De Nardo, Barbara Di Prete, Carol Monticelli, Giulia Procaccini, Agnese Rebaglio and Patrizia Scrugli

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Prosuming Public Space: the UNPark project illustrates the experience of the Urban Nudging Park research project, funded by the social responsibility program of the Politecnico di Milano through the competitive call Polisocial Award 2019. The book returns the complexity that characterised UNPark: a research by design project, in the wake of tactical urbanism, on the theme of the role that urban infrastructures could have in the regenerative processes of the in-between spaces.
Indeed, UNPark has been a transdisciplinarity effort which took shape through a temporary urban tactical intervention and a study about the possibility of transforming the current parking under the Serra - Monte Ceneri Overpass, in Milan, into a multifunctional space equipped for social activities, including street sports.
Prosuming Public Space: the UNPark project is a monographic book, with thematic chapters by the members of the work team, that proposes, in addition to recalling the research work phases, reflections on the city during the pandemic, on the co-design, on the multifunctional regeneration of the urban infrastructures, and about the needed transdisciplinarity in any urban design intervention.

Publishing Series POLITECNICA

The text was subjected to the double-blind peer review *process*

ISBN 978-88-916-5582-0

DOI: 10.30448/UNI.916.55820
https://doi.org/10.30448/UNI.916.55820

Published by Maggioli Editore February 2023
Copertina: Asia Gallorini
Progetto grafico e impaginazione: Asia Gallorini

Maggioli Editore is part of Maggioli S.p.A
ISO 9001 : 2015 Certified Company
47822 Santarcangelo di Romagna (RN) · Via del Carpino, 8
Tel. 0541/628111 · Fax 0541/622595
www.maggiolieditore.it
e-mail: clienti.editore@maggioli.it

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VIII. UNPark/Freestyle: an Experimental Open Square

Carol Monticelli and Patrizia Scrugli

The final act of the UNPark research coincides with the implementation of the Pilot Project and, specifically, with the public event UNPark / Freestyle, as the outcome and validation of a long process of design and investigation tested out on the field. This contribution deals with the final phase, i.e. the temporary redevelopment of some spaces currently used for parking under the Serra - Monte Ceneri Overpass, through sporting events, demonstrations and public events related to the themes of the project. UNPark/Freestyle is configured as an "Experimental" Open Square, a challenge not only for the research group but also for the Public Administration. The experience of UNPark/Freestyle has shown that even the most neglected and abandoned space, with the involvement of the inhabitants, can find its redemption and, above all, that it is essential to challenge consolidated paradigms and practices with a view towards multi-scalar and multidisciplinary innovation, in the cases of complex urban spaces such as those linked to infrastructures, that can become "multi-systemic".

The implementation of the Pilot Project and, specifically of the public event UNPark / Freestyle, held between the 18th and 26th of September 2021, represent the final act of the UNPark - Urban Nudging Park research, as the final outcome of a process of design and survey tested on site and organized according to the following timing and events:

- phase I (test) - Furnish[1]: November 2020 - December 2020;
- phase II (metadesign) - Participation / Co-design: January 2021 / April 2021;
- phase III (design) - Drafting of the UNPark Pilot Project: April 2021 / July 2021;
- phase IV (implementation) - Implementation of the UNPark Pilot Project for Piazze Aperte (Open Squares)[2]: July 2021 / September 2021.

The Phase IV, or implementation, is deeply based on the previous phases: it is during the Co-Design process, shared with citizens and stakeholders, in fact, that the metadesign - understood as a set of desires, of spatial constraints - came to life and of the organization and set-up proposals.
Various technical round tables have been set up in consultancy with the Public Administration which allowed the drafting of the final project and, therefore, the creation of UNPark/Freestyle.

[1] FURNISH (Fast Urban Responses for New Inclusive Spaces and Habitat), is a European competitive tender funded by EIT Urban Mobility, for the creation of prototypes of mobile urban furniture (MUE - Mobile Urban Elements), produced in digital fabrication, and aimed at exploring the theme of socialization in public spaces in compliance with the physical restrictions imposed from the pandemic (for further information, see paragraph XX or consult the web page www.furnish. tech/results

See also I and IV by Di Prete

[2] "Open squares" is a project of the Municipality of Milan, created in collaboration with Bloomberg Associates, National Association of City Transportation Official (NACTO) and Global Designing Cities Initiatives, based on the idea of public space as a place for meeting and socializing (https: //www.comune. milano.it/aree-tematiche/ quartieri/piano-quartieri/ piazze-aperte).

VIII.1 PROJECT'S DEVELOPMENT

The metadesign, as the outcome of the co-design phase, embodied many constraints: contextual constraints, linked to the presence of traffic, pollution and noise, and material constraints, dictated by the budget allocated to the initiative and the available workforce. However, some of the founding initial as-

sumptions have undergone important compromises, which led to various alterations in the final design, aiming to achieve authorization criteria and safety requirements.
The latter were particularly restricted in relation to the project's location, below an overpass and, above all, in the middle of a high-speed boulevard with three lanes on each side, with access permitted only at the pedestrian crossing.

The use of the space dedicated to the U-turn and the change of gears between opposite carriageways near via Bartolini was certainly one of the most important changes.
This relatively small space would have been useful for the project not only to allow the interconnection between the pedestrian accesses at the intersections of via Plana and via Bartolini, but also to give more entry / exit solutions to the event area in compliance of the regulations related to exodus routes and physical distancing and, finally, to decompress the spaces for the various activities foreseen in the draft program. It was difficult to acquire this small portion of the road surface as of local mobility. This change, apparently a secondary detail, actually had a significant weight not only within the formal agreements with the Public Administration, but also in terms of the feasibility of the intervention: Freestyle could in fact count only on a single access gate / outflow on the side of the pedestrian crossings of via Plana[3].
Other two initial design choices, subject of complex discussions and important reinterpretations, concern the structure delimiting the sports field and the perimeter protection system of the area intended to accommodate the Pilot Project.
The net wrapping structure, designed to allow the ball game safely (below the Overpass and between

[3] The presence of a single access and outflow passage was a major critical issue for the project as it was an exception to the Guidelines of Directive no. 110011/1/110 of 07/18/2018 (Organizational and procedural models to ensure high levels of security during public events) which prescribe no less than three removal gates, even in open-air situations.

the two avenues) was design as a self-built element supported by concrete new jersey and suspended from the viaduct by hooks and steel strands (thus making use of the intrados of the Overpass as a ceiling closure). But during the definitive project stage, it has instead been transformed into the rental of a self-supporting cage in American beams covered with a net mesh on all sides, including the ceiling, in order to avoid any physical interface with the road construction. The perimeter protection system has in turn undergone a considerable thickening, justified by the safety requirements imposed by the Local Police. In the metaproject it was initially hypothesized the double row of potted plants: they are the typical equipment of the set of furnishings for the Open Squares provided by the municipality, but they became difficult to move for a short period of time.
This solution was in fact replaced by a double casing of anti-panic steel barriers on all the two sides, coupled externally to new jersey in shatterproof concrete for containing any accidental collisions of cars out of control.

The public event UNPark / Freestyle took place from the 18th to the 26th of September 2021. Two significant moments characterized the event:

- Paint with us: a weekend of painting with volunteers and citizens of the neighbourhood, aimed at repeating the colour of the tactical urban planning intervention of December 2020 carried out in conjunction with the installation of the urban furniture modules created by the digital fabrication for the tender Furnish.
- Participate with us: four days - reduced to three - of initiatives and meetings including sports presentations, music, dance, scientific contents in the form of workshops and conferences, a

theatrical reading and the awarding of the pri ze-giving to the school children who have won competitions organized into the UNPark framework program.

In the days before and in-between the two events, the following activities took place:

- making the area safe, with the intervention of the Rapid Intervention Unit (NUIR) and the Local Police;
- sanitation, by AMSA;
- preparation, with the installation of a self-supporting cage in American beams by the rental company, and the placement of the Furnish wood modules by Ideas Fab Lab; at the same time, the exhibition of the works of the students who participated in the competitions promoted by the research group was also set up on site.

Finally, at the end of the event, the disassembly of the temporary furnishings and the removal of the heavy protections followed, allowing the restoration of the typical normal conditions and the return of the area to its original use, i.e. as a car park.
The only still visible signs of the passage of UNPark under the Overpass are the colours on the ground and the murals, now faded, and the bicycle rack, obtained at the Furnish installation.

Before detailing the precise description of Freestyle, it is worth telling the reflections underlying the schedule of the organized activities. One of the founding characteristics of UNPark is the mix of urban regeneration interventions and social inclusion actions, on the assumption that, in order to transform a complex place such as the Overpass, it is not enough to act “on the container” but it is essential to “activate the content”. Regarding this, it is useful to start from

FIGURE VIII.1 - UNPark/ Freestyle’s activities calendar, 2021 (Source: UNPark)


unpark
urban nudging park
POLITECNICO MILANO 1863
FREESTYLE // STILE LIBERO
18 / 26 SETTEMBRE 2021
VIALE MONTE CENERI, ANGOLO VIA PLANA // MILANO
L'evento rientra nelle attività di divulgazione, inclusione e partecipazione del progetto UNPark, finanziato dal programma Polisocial Award 2019
>> L'INGRESSO E' SEMPRE LIBERO PER TUTTI GLI EVENTI!
FREESTYLE
>> In collaborazione con il progetto Volontari per Milano del Comune di Milano con Csv Milano
18/19 settembre 10.00-18.00
// COLORA E STAI CON NOI!
Weekend di urbanistica tattica aperta al pubblico. Iscriviti al form presente sul sito www.unpark.it > freestyle > colora con noi
23/26 settembre 10.00-23.00
// PARTECIPA E STAI CON NOI!
Quattro giorni di eventi culturali e sport aperti al pubblico. Iscriviti al form presente sul sito www.unpark.it > freestyle > partecipa con noi
Qui di seguito il programma sintetico, per i dettagli: www.unpark.it > freestyle > programma
23 settembre
24 settembre
25 settembre
26 settembre
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00
17.00
18.00
19.00
20.00
21.00
22.00
23.00
arena
campo sportivo
Auser Prealpi //Sportello informativo
UNPark / Marathon // Conferenza con esperti
UNPark / Starting whistle (Fischio di inizio) // Inaugurazione e saluti istituzionali
Saulbasket // Pilates basket
Saulbasket // Tonic gym basket
Bendy dance // Tip Tap
ARCI L'impegno / FreeMusic // Serata lounge (barmusica)
Laboratori dal vivo UNPark: /MacramèLab // Il tessile per lo spazio pubblico /Pertezioni acustiche Lab // Come circoscrivere il rumore
Saulbasket /Basket // Giochi per bambini dal 2010 al 2006
Saulbasket /Basket // Torneo 3c3 bambini dal 2010 al 2006
ARCI L'impegno / FreeMusic // Serata lounge (barmusica) Dj set w/ LaRochelle
Laboratorio dal vivo UNPark: / PMZeroLab // Come si fa a monitorare la qualità dell'aria?
Auser Prealpi / Il ponte della Ghisolfa
Ass. G. Testori / Reading teatrale
Saulbasket /Minibasket // Giochi per bambini dal 2011 al 2016
Saulbasket /Minibasket // Torneo 3c3 bambini dal 2011 al 2016
ARCI L'impegno / FreeConcert // Musica dal vivo di Cutiell e, a seguire, Il Cairo
Disc Golf / Evento dimostrativo // Frisbee acrobatico
Sera Gué / RicidiAMO!: laboratorio per bambini 6/13 anni
UNPark / Premiazione concorsi scuole
UNPark / ESO & il riciclo creativo
UNPark / reGen Infrastructure // Come si rigenerano le infrastrutture nel mondo?
UNPark / End whistle (Fischio finale) // Saluti e ringraziamenti
SkateMi / Evento dimostrativo // Skate
Saulbasket /Minibasket // Giochi per bambini dal 2011 al 2016
Saulbasket /Minibasket // Torneo 3c3 bambini dal 2011 al 2016
Bendy dance // Hip Hop
ARCI L'impegno / FreeMusic // Serata lounge (barmusica)
NOTA BENE: il simbolo giallo F-Freestyle indica che il campo sportivo in quel momento è a disposizione di tutti. Segna il tuo nome e quello dei tuoi amici in bacheca, portati i tuoi attrezzi e vivi con noi questo spazio!
UNPark Urban Nudging Park | Polisocial Award 2019 | via Ricardi 3, 20133 Milano | 0223995419 | unpark.polisocial@gmail.com | www.unpark.it | www.polisocial.polimi.it
TEXTILESHUB
OPEN4CITIZENS
skate MI
auser Prealpi
Giovanni Testori
MediaWorld
Radio Popolare

VIII.1

the palimpsest and the events' agenda and a brief description of their structure. For choice, the two significant moments of the event (Paint with us and Participate with us) were concentrated on weekends, allowing for greater public participation.

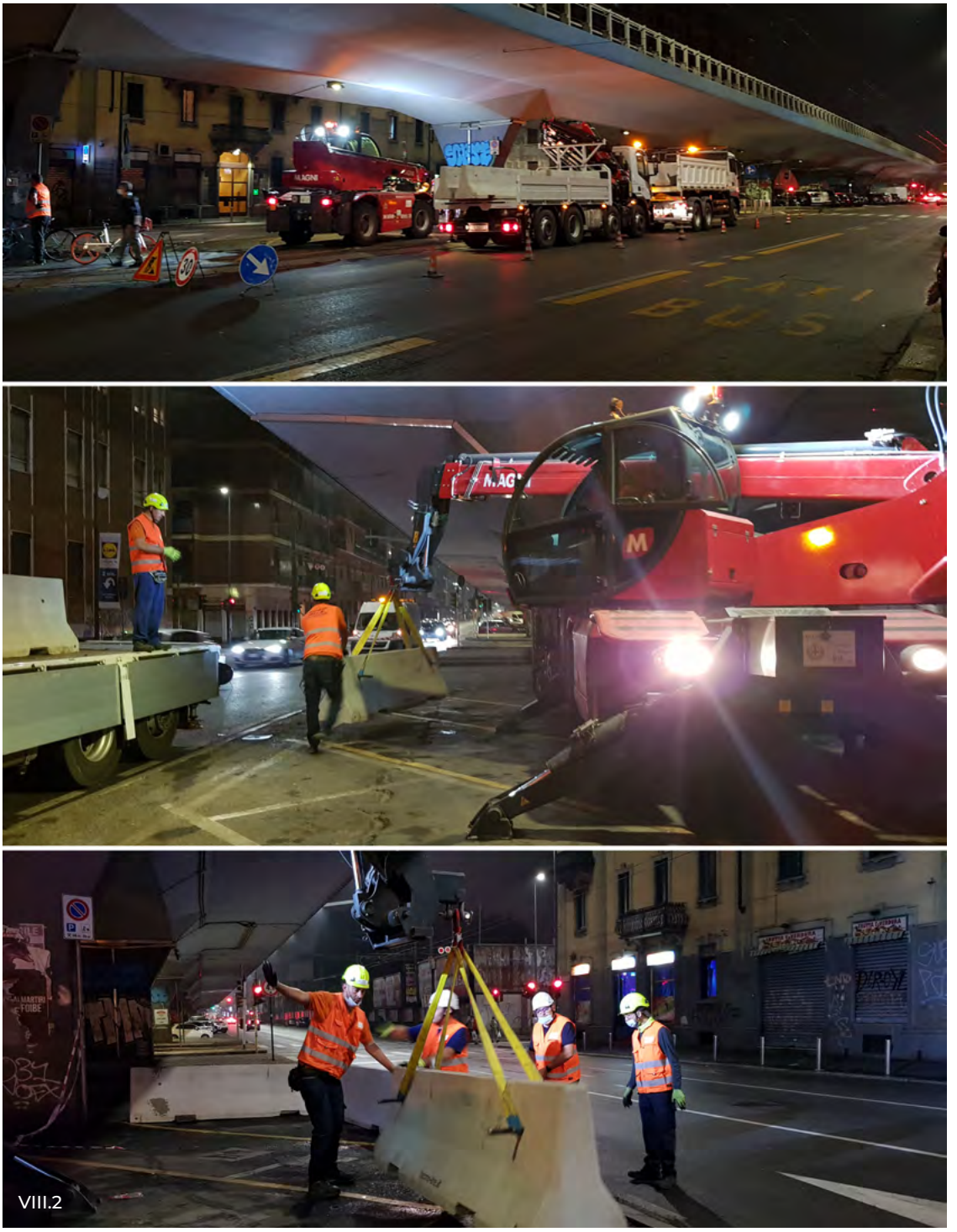
On the weekend, in the morning, at a time when school children are by definition freer, it was decided to include workshops and activities designed for them; the space of the sports field also offered a greater number of free accesses into this time schedule. In general, cultural or educational events (workshops, readings, conferences) were scheduled for mid-afternoon while, in the late afternoon, the playground was always available to children and teenagers coordinated by instructors affiliated with partner associations of the initiative. In the evening, however, with the help of ARCI l'Impegno (co-organizer of the event), the space under the Overpass was animated by people and music: in these moments of leisure, the parking place was transformed into a collective arena for all those who wanted to chat, listen to music or have a drink and therefore experience a new place in an alternative way.

VIII.2 SEQUENCE OF THE PLANNED ACTIVITIES

14th- 17th September 2021

During these days, in the area under the Overpass interested by the pilot project, NUIR first installed the concrete barriers in new jersey at night (essential for delimiting and protecting the work area from the vehicles circulating on the adjacent carriageways), the cleaning of the project area and the installation of anti-panic barriers to complete the double protective casing.

FIGURE VIII.2 - New jersey barriers positioning by NUIR, 2021 (Source: UNPark)



VIII.2

FIGURE VIII.3 - "Colora con noi" tactical urbanism activities with volunteers, 2021 (Source: UNPark)

18th-19th September 2021: UNPark/Freestyle, Paint with us

During these two days the free painting activities, mentioned above, took place together with volunteers and citizens; the colour of the large yellow circle with the UNPark logo was repeated in the initial part of the project area, at the pedestrian crossing of Via Plana. On the occasion, the smaller blue circle was also revived, corresponding to the bicycle rack. At the same time, the street-artist Spino started the preparation of the murals on the pillars of the Overpass near to the provisional sports field; the artist wanted to interpret the themes of climate change and the impact on humanity with the image of a man-machine who, after being jammed, returns to produce in an eco-sustainable way, reuniting with nature.

20th-21st September 2021

During these two days, backstage work was mainly carried out, with the completion of the materials for the press and the web, with the installation of posters promoting the event on site, at the neighbouring exhibitors and the stakeholders of the district,

and at the shop MediaWorld, partner of the initiative, also making available during the event several parking places in its parking equal to those temporarily occupied below the Overpass.

22nd September 2021

The day was dedicated to the main set-up activities of the area: - the assembly of the structure in American beams with a square base and a module in order to delimit the area dedicated to the various sporting demonstrations (dimensions of the field: 10 m x 15 m) ; - the assembly of the gazebo for the storage of materials on the traffic island near the crossing of via Bartolini; - the relocation of the eight urban furniture modules, with the related plug-ins, created by Ideas Fab Lab within the Furnish project. At the same time, the preparation of the exhibition of the posters of the students, participating in the competition, was also carried out; the drawings, grouped in large format tables, were exhibited on mobile site barriers set up with tensioned polyester/pvc fabrics supplied and installed on a project by the Textiles Hub, a laboratory belonging to the Architecture Built Environment and Construction Engineering Department of the Politecnico di Milano, as supporter of the UNPark project.

23rd September 2021

In the morning, secondary installations were completed (positioning of the decorative plants of Soul Food Forest Farm and informative graphics) while the official start of the Freestyle works, scheduled for the afternoon, was postponed to the following day. The activities planned in the schedule have been deleted due to the following reasons: the check carried out in the morning by the Municipal Supervisory Commission (CCV)[4] and aimed at verifying the feasibility of

VIII.4

VIII.5

the design presented and approved at the Sportello Unico Eventi (SUEV) of the Municipality of Milan, gave a negative result for some discrepancies that could be resolved. The CCV is responsible of the technical assessment aimed at issuing the usability license for public entertainment venues and temporary events; the checks are typically not intended to be mandatory for any type of event. In fact the regulations mean that they are excluded for "premises and / or activities with a capacity of less than / equal to 200 people", as in this case. However, the criticality of the place and the uniqueness of the organizers (formally the presence of the club Arci L'impegno into a project with a declared academic origin) convinced the CCV to carry out an inspection. The assessment highlighted some discrepancies that forced a temporary suspension of activities pending integration. Two types of integration were required:

- integration into the set-ups, with protection of the sharp edges of the steel structure for sports and provision of special signs indicating the escape routes, in case of emergency;
- integration of the documentation related to the static testing of the structure and to the declarations of conformity of the products used with respect to reaction and resistance to fire.

24th-26th September: UNPark/Freestyle, Participate with us

- Starting from the morning of Friday 24 September, the space under the Overpass was animated by an information activity organized by Auser Prealpi, an association of pensioners in the neighbourhood, a reference point for social issues in the area, which was repeated in the following mornings.

[4] For further information, please refer to the "Regulations of the Municipal Supervisory Commission (CCV) on public entertainment venues" approved by the Municipal Council resolution no. 109 of 1996 and modified with the Municipal Council resolution n. 40 of 24 May 2021 (https://www.comune.milano.it/servizi/commissione-comunale-di-vigilanza).

See also XI in Part 3

FIGURE VIII.4 - Space in progress with protective barriers, sports equipment and Furnish modules, 2021 (Source: UNPark/ Claudia Reati)

FIGURE VIII.5 - The CCV's survey, 2021 (Source: UNPark/ Claudia Reati)

- Following the verification meeting with the CCV and the resolution of a last problem related to surveillance with fire fighting experts, the event started with the didactic laboratories headed by the Textiles HUB:
- *MacraméLab/The textile fabric for the public space*: visitors were able to get to experiment with self intertwining and weaving to crate textile furniture and to understand the important role of textiles in street furniture as simple and flexible means for environmental mitigation;
- *Acoustic preceptions' Lab/How to contain the noise*: by putting the head in three cardboard "helmets" coated with various sound-absorbing materials, it was possible to experience the difference between materials that prevent sounds from coming out of the box and materials that allow, on the contrary, to exclude external noises in-

FIGURE VIII.6 - MacraméLab and AcousticPerceptionsLab, 2021 (Source: UNPark/ Claudia Reati)

See also IX by Procaccini and Monticelli

VIII.6

side the environments; contextually to the practical test a small survey was submitted based on the following questions: "*Which do you consider the main problems of this area? Do you think the noises would prevent you from spending time in this area?* "; And then again: *"do you think that carrying out some activities under the flyover can create problems from an acoustic point of view?"*. The outcome of the survey was used to infer possible design actions in the urban area relating to the issue of noise abatement, which were developed after the Pilot Project.

- In the sports field, the Soul basketball instructors taught younger children some basics of basketball: the joyful cries of children and the bouncing of the balls replaced and almost annihilated the annoying noise of traffic for some time. The space of the arena at dusk was transformed into a lounge area by ARCI L'impegno, which enlivened the space with a little music and a bar corner: the space, normally occupied only by parked cars, it came to life and was easily transformed and adapted to the different function. On the following day, Saturday 25th September, the boys of the MI20 Italian Catholic Guides and Scouts association filled the free space of the sports field with their activities and games. Later it was the turn of the demonstration of the sports association Il Disc Golf that explained the rudiments of acrobatic Frisbee. In the afternoon the live workshop *PMZeroLab* gave the floor to a researcher of the UNPark team with a detailed illustration of one of the research activities of the UNPark project related to air quality monitoring, with the aid of a mobile sensor and a mobile app; a short communication was also held here aimed at describing the stages of construction of a self-ma-

de dashboard, installed for the occasion under the flyover, and dedicated to displaying the AQI index derived from the data collected by some control units installed at the homes of volunteers who reside near the Overpass. Subsequently, the Auser Prealpi association presented a conference entitled *"Il ponte della Ghisolfa"* together with the students of the Dante Alighieri schools: a particular moment of historical review and telling those present of the vicissitudes that only the "oldest" of the neighbourhood know. Then the turn of the Giovanni Testori Association in which two of Giovanni Testori's[5] most famous stories were presented through the formula of theatrical Reading. The two stories chosen for the occasion and masterfully read by the theater actor Andrea Carabelli were: *"Il ponte della Ghisolfa"*, taken from the 1958 collection of short stories of the same name; "La Gilda del Mac Mahon" taken from another collection of short stories from 1959 where the character of the Gilda takes its name from via Mac Mahon, the first street you meet coming from Ghisolfa, where Gilda worked to keep love of his bitter life. Another important moment of the schedule animated the evening: the live music concert by ARCI L'Impegno and with the participation of two emerging groups, *Cutie8 and Il Cairo*. Even in this case, that of electric guitars replaced the noise of cars for a couple of hours and, for one evening, a repulsive place like this expressed a potential that had never been investigated.

Sunday the 26th of September, the last date of UNPark Freestyle, was an intense day of scheduled appointments. In the area dedicated to sport, SkateMi, an association of the Amateur Sports Association of Skateboarding, followed one another, accompanying

[5] A prolific writer, playwright, painter, art historian and Italian critic (Novate Milanese 1923 - Milan 1993), Giovanni Testori can be counted among the most important Italian intellectuals of the twentieth century. Skilled novelist of the life and miseries of the Milanese suburbs during the years of the economic boom, it was his Ponte della Ghisolfa that inspired Luchino Visconti for the masterpiece film "Rocco and his brothers" (1960).

VIII.7

VIII.8

VIII.9


VIII.10

FIGURE VIII.7 - Public lecture held by Auser Prealpi Association in collaboration with the Dante Alighieri school students, 2021 (Source: UNPark/ Claudia Reati)

FIGURE VIII.8 - Concerts on Saturday night, 2021 (Source: UNPark/ Claudia Reati)

FIGURE VIII.9 - The crowded space under the Overpass on Sunday morning, 2021 (Source: Lorenzo Masotto Ph.)

FIGURE VIII.10 - SkateMI, 2021 (Source: Lorenzo Masotto Ph.)

children to discover this street sport with the help of a temporary ramp, and Soul basketball. The morning of the arena instead started with Sara Gué "RicicliAMO"'s workshop, open to children between the ages of 6 and 13, in which the little artists were able to try their hand at some jobs with recycled material, a theme dear to the UNPark search. In the late morning the awards ceremony for the competitions for schools was held. At the end of the award ceremony, the Councilor for Participation Lorenzo Lipparini also spoke, underlining

FIGURE VIII.11 - RicicliAMO by Sara Gué and the awards ceremony for schools competitions, 2021 (Source: Lorenzo Masotto Ph.)

FIGURE VIII.12 - The schools competitions award event, 2021 (Source: Lorenzo Masotto Ph.)

the support of the Municipality of Milan for the project. In the late afternoon Nicholas Meletiou, director of ESO Ecological Services Outsourcing, one of the partners and supporters of the initiative, talked about the link between ESO and creative recycling, illustrating how it is possible to start from the used soles of rubber shoes and bicycle wheels and to recycle the material and produce a flooring suitable for sports tracks and / or anti-trauma mats for playgrounds. Then, the contribution *reGen Infrastructure* with the illustration of a re-

VIII.13(1)

FIGURE VIII.13(1)(2) - The final evening event held by Bandy Dance School and the lounge atmosphere of ARCI L'Impegno, 2021 (Source: Lorenzo Masotto Ph.)

view of international case studies took place, and was useful to understand the actual tendencies on the issue of infrastructure regeneration. In order to conclude the event, the spectacular joint performance of Hip Hop and Tip Tap by two masters of the Bendy Dance School, a prestigious reality in the area: once again the Overpass proved to be the ideal set for unthinkable practices but which could become the practice, in terms of a future regeneration.

27th-28th September 2021

The last two days were devoted to dismantling and supervising the complete removal of the installations. At the end of these activities, the space returned to its usual use and, already the next morning, the parked cars regained their spaces.

VIII.3 THE STRENGTHS AND WEAKNESSES OF THE EXPERIENCE UNPARK FREESTYLE

It is impossible to sum up a project like UNPark and give a univocal judgment; the points of view for its evaluations are many, some internal to the research and

others external. This is even more true for the UNPark / Freestyle Pilot Project which encountered considerable formal difficulties, but also a lot of bottom-up approval. With respect to the strengths, the first certainly concerns the number of citizens who attended during the event: many were residents in the area, many were people who happened to be passing through those parts by chance; different subjects by ethnicity, social background, profession and age, which allow us to say that the goal of social inclusion and transversally has been achieved. There was also considerable interest in the initiative: several people defined themselves intrigued by the temporary set-up, but also well disposed towards a more radical change with a view to regenerating the entire Overpass. It is appreciable that what the suggestions of the Pilot Project stimulated debate and the desire for renewal. The UNPark project, within the limits of this brief experience, has set itself the goal of opening a way towards a possible improvement of the urban space linked to infrastructures, leveraging sport as a universal communication tool, and express to the many realities they live in the shadow of these bulky artefacts. In more internal terms of the research, a positive effect of UNPark and, in particular, of Freestyle, was certainly that of highlighting the possibilities on the local government front, forcing various actors of the Public Administration to face a very complicated problem and to also unwelcome traits such as that of the Serra - Monte Ceneri Overpass, on which positions often tend to become radicalized.

With respect to the weaknesses, the first, and perhaps also the most evident, concerns the number of people actively involved in the co-design process: although there was adhesion by citizens and stakeholders, it was not the desired numbers. The pandemic and online meeting have certainly influenced participatory

dynamics much more than was imagined at the beginning of the project. Fortunately, it must be said that the "hard core" of supporters was proactive until the end, really contributing personally to the success of the event. Compared to Freestyle, environmental and, above all, noise pollution was in some moments a real handicap: at certain times of the day the noise generated by traffic was so high as to make some spoken activities complicated such as, for example, reading, theatrical. Hygiene conditions are also worth mentioning among the various negative environmental effects: despite the cleaning campaigns by Amsa, in the days preceding the event, in fact, it was not possible to erase the effects of decades of decay and dirt in few days.
The dates themselves at the end of September (a compromised choice linked to the administrative timing of the project and matured together with the Public Administration) were not always helpful. The use of outdoor spaces depends a lot on the weather conditions and bad weather days greatly affect the dynamics of use. During *"Paint with us"* and *"Participate with us"* the bad weather has certainly discouraged participation in some initiatives. Among the weaknesses of the project, it has to be mentioned the temporary stop linked to the suspension of the Municipal Supervisory Commission (CCV) which cost a day of scheduling. In this regard it must be said that UNPark Freestyle was born as one of the Piazze Aperte projects; these projects do not envisage any show activities and related public, but only set-ups of the space. The temporariness of Freestyle meant that the event was configured as an "Experimental" Open Square where, not being able to last for a long period, attention was shifted from the arrangement of the space to the schedule of activities, inserting the UNPark Freestyle project in the field of outdoor shows, subjected to specific authorization at the Sportello Unico Eventi SUEV

(Office for the Milan Events). The particularity of the location and the heterogeneity of the organizational group (association of the territory and university) have attracted the attention of the appropriate control commission. This forced the organizers to deal with a series of rules and requirements that are difficult to comply with for a non-profit project that has the peculiarity of being born from the citizens with a strong component of laymen, mostly unfamiliar with the world of entertainment, and with the related practical and bureaucratic problems. Looking this adventure in a positive path, the errors and superficialities committed have also become the collective heritage of the employees in charge of the offices, who are already working on an experimental simplification of the organizational procedures for events with a social purpose, as demonstrated by resolution no. 813 / 2022 of the Municipality

FIGURE VIII.14 - UNPark/ FREESTYLE, 2021 (Source: Lorenzo Masotto Ph.)

VIII.14

of Milan in favour of PIDS (Small Widespread Initiatives with a Socio-cultural Character)[6].

See also XI

Last in order of exposure but perhaps first in terms of impact was, finally, the weakness on the communication front. The lack of dedicated skills within the team and the absence of a targeted communication project, at certain times made partially this dissemination and promotion of the various initiatives complicated.

Beyond the outcomes and possible judgments on the Pilot Project, we can conclude that UNPark was not only a privileged field of study of temporary regeneration processes, but also a courageous experimentation that wanted to turn on a spotlight on a stalemate no longer acceptable in a framework of the city of Milan. The hope is that this process, now triggered, will not stop and that there is an interest from the Public Administration to carry out an active and constructive dialogue on this portion of the city: the citizens are waiting a long time for some answers.

[6] https://www.comune.milano.it/servizi/sportello-unico-eventi-suev

IX. Implementing urban infrastructures through Themed-Design responses and Time-Based Design scenarios

Giulia Procaccini and Carol Monticelli

With the evolution of the needs of the city and the current re-appropriation of abandoned and disused urban spaces, it follows the necessity to intervene on those urban infrastructures that hide a great potential for the cities behind their mere function of physical connection. Representing at the same time a visual and a social barrier, the aim is to achieve such a transformation of an urban element whose presence has sedimented on the collective imagination. To do so, it is necessary to intervene with an incremental approach that, starting from the bottom, aims at gathering the local population for achieving at first small transformations and, gradually, increase their extension both in terms of time, space and type of intervention. This chapter collects different approaching strategy for dealing with this type of transformation. The scenarios of use and imple-

mentation have been based on the concept of the *Time-Based Design*, valuing the temporal aspect as a fundamental requirement that encourage to think and install architectural elements that are adaptable to the incremental process of appropriation of the place. The *Themed-Design Responses* have been thematized with respect to the main constraints of the area, such as the environmental comfort, the production of energy and the acoustic requirements. Additionally, spatial requirements and the flexibility of use of the space over time contributed in the adoption of an incremental approach, based also on the gradual integration and implementation of the functions.The fallout of this design process in the technological and material choices focused both on low-cost and easy to assemble solutions as well as on the use of innovative materials as light / ultralight components. From the re-use of waste materials to the integration of technical textiles for architecture, this chapter aims at presenting different punctual scenarios of intervention, that could easily be reproduced in similar urban contexts.

IX.1 INTRODUCTION

Modern cities are characterized by the presence of huge urban infrastructure, born with the aim to facilitate the connection between different parts of the cities. Nevertheless, with the evolution of the urban needs and the ones of their citizens, these spaces lost their primary function in favor of a worse image which sees these infrastructures as social and physical barriers rather than a connection between different parts of the cities (Bauer et al., 2015). Within this frame of urban infrastructures in need of requalification, it is possible to fit the Serra - Monte Ceneri Overpass in Milan which still plays an important role within the urban scenario although its relevance has decreased over the years. Indeed, despite its original objective was to connect two parts of the city in a longitudinal direction, the Overpass turned out to represent a physical, visual and social barrier, currently separating the city in a transversal direction and marking what is beyond it as "periphery". Hosting mainly parking lots and being characterized by unused pedestrian crossings, the space under the Overpass is marked as an unpleasant space, even characterized by an unsafe feeling during the evening and night hours when the area is completely abandoned and not appropriately illuminated. Unfortunately, despite its bad current condition and the feeling that the inhabitants have about this infrastructure, at the same time the numerous car parks located under it represent a resource that most citizens are not willing to lose, consequently preferring to sacrifice the quality of life of their neighborhood rather than - the much sought - carparks. It follows that, despite the urgency of intervention in this area, any transformation can't happen just suddenly, but it is necessary to gradually intervene in the area, working at the same time both on the space and on the citizens' opi-

nion. This chapter about possible scenarios of project implementation for a sustainable future aims precisely to represent possible solutions of intervention in the context of the Serra - Monte Ceneri Overpass, with the aim to open up to further considerations in similar contexts. The scenarios have been thematized according to two main typologies of intervention, *"Time-Based Design Solutions"* and *"Themed-Design Responses"*: while the firsts are driven by the time and length of intervention for just gradually achieving a radical changeover of the area, the seconds aim at taking advantage of both the positive and negative characteristics of the area for developing scenarios of intervention based on the current existing elements. The goal of this chapter is to display multiple design parameters on the basis of which it is possible to foresee different strategies for transforming this kind of infrastructures. The division between *"Time-Based Design Solutions"* and *"Themed-Design Responses"* has the purpose to exhibit two different but complementary types of action based on a new design concept: to take advantage of the existing for achieving a transformation exploiting the existing possibilities rather than imposing anything new from outside.

IX.2 TIME-BASED DESIGN SCENARIOS

The area under the Serra - Monte Ceneri Overpass perfectly represents one of those abandoned and neglected space of the city of Milan, exhibiting at the same time a high potential of transformation for the consequent re-development of the neighborhood. The intervention under the Overpass has the aim to give back both to the city and to the citizens such an extended public space: in order to do so, it is necessary to establish both temporary and permanent functions

able to transform the area from an abandoned one into a catalyzer of "open-air" activities. Consequently, by attracting citizens and locals to the area, it would be possible to achieve the opposite: to create a visual and physical connection between the two sides of the street, in place of the current barrier. For intervening in such a peculiar context as the one below the Overpass, the design scenarios have been conceptualized taking in consideration the time and length of intervention: the approach of the *"Time-Based Design Scenarios"* foresee to gradually intervene on the area with increasingly permanent solutions and with an incremental process of appropriation of the place, from an initial flexible and temporary use to a more permanent and defined one. Indeed, with both the physical and digital revolution of mobility, the concept of time has invaded the design field, leading to the conceptualization of "temporary architectures" which, due to the rapid and increasing changes, are becoming increasingly crucial in these times. Therefore, it is possible to affirm that, up to date, it is the *Time-Based Design* that gives shape to places rather than the reverse (Barbara, Paoletti, 2020). Consequently, designing for time is becoming a task not unrelated to architecture and urban planning, which majorly needs to be considered when planning such an urban transformation.

Therefore, considering that the area under the Overpass is currently entirely dedicated to parking lots, which are valued as fundamentals by most of the citizens, it follows the necessity to intervene with a gradual approach, transforming at first just small but pivotal areas and consequently let this transformation root on the surroundings, valuing that short-term actions could be the base of long-term changes (Lydon, Garcia, 2015). The *Time-Based Design* approach adopted for the definition of scenarios of implementation of

the area under the Serra - Monte Ceneri Overpass considers five phases of intervention, exploiting at first the areas close to the zebra-crossing at the sides of each lot, for later connecting all the portions together. The driving concept of the project consisted in keeping as long as possible the services and parking lots present in the area, intervening at first on those spaces completely abandoned and unused, and gradually, with the involvement of the citizens, in transforming the entire area under the Overpass through the establishment of more permanent functions. Therefore, five different timespans have been defined, with shorter periods of time hosting more temporary activities and more frequent changes.

Phase I concerns the period from 1 day to 1 week and consists in a temporary intervention that takes place in the abandoned portions close to the zebra-crossings, exploiting unused spaces without interfering with the existing parking lots and the current function of the area. At the same time, the choice of the location is driven by the higher visibility of the crossing corners. Given the temporariness of the intervention, in this phase everything is conceived for being easy to install and to be (re)moved, with all the furniture consisting in recycled elements: the easiness of collection and placement of the elements mark this phase of a very short-term transformation, easy to be realized by the citizen themselves.

Phase II spans from a period of 1 week to 1 month: although the type of activities that could be established in the area are similar to the ones of the first phase, it is possible to organize them in a way to attract more visitors and not only local people. Consequently, more durable components could be employed in the design, whose realization could be led by specific figures

through small local workshops. Additionally, considering hosting longer activities, a limited use of acoustic structures starts to be acknowledged in order to improve the noise of the area.

The *Third Phase* of the project consists of a seasonal phase, characterized by quite a long period of time, for sure long enough to have more permanent installations. In this phase, specific modules could be integrated: specialized figures could be involved for the design of modular structures, realizable for hosting various activities, allowing at the same time for an easy reconfiguration of the space over time. Additionally, these modular elements would serve not only for the configuration of the space but could also be designed as a solution to some specific problems such as, for example, the noise through the integration of acoustic insulators.

Phase IV has an extension that goes from 6 months to 1 year, aiming at starting to affect at a long-term the transformation of the area. Therefore, this phase includes more permanent activities for citizens and employs the use of prefabricated structures and the exploitation of a wider area.

In the *Fifth Phase*, which consists in the transformation of the entire area, through the use of fixed and durable elements are considered for the use and an appropriate and specific design of the space is expected. The outcome of this last phase should be a quite permanent transformation of the area with an achieved perception among the citizens of the integration of the new concept within the urban space and the everyday life of the citizens. In conclusion, within the *Time-Based Design* Scenarios an incremental process of appropriation of the place is proposed.

In parallel with this strategy, an incremental use of resistant materials is employed, with the design of adaptable architectural elements for complying with different requirements over time. The approach aims at achieving a gradual transformation of the area, adapting it on the basis of citizens' response to the transformation and its changes.

IX.3 THEMED-DESIGN RESPONSES

In the definition of incremental scenarios of implementation of the project, the concept of *Time-Based Design* is supported by the one of *"Themed-Design Responses"*: appropriate solutions conceptualized for dealing with specific design problems and/or taking advantage of the elements that could represent a design opportunity. Urban infrastructure par excellence, in the context of the Serra - Monte Ceneri Overpass these responses have been thematized in relation to (I) the low air-quality, (II) the energetic aspect and (III) the acoustic noise that widely affects the area. The following analysis aims at presenting possible methods for dealing with the above-mentioned topics, presenting possible solutions of interventions in urban contexts such as, but not only, the one of the Serra - Monte Ceneri Overpass.

IX.3.1 Monitoring and improving the air quality in urban areas

Intervening in a scenario such as the one of the above-mentioned Overpass, it consequently comes the necessity to deal with a low air-quality of the area, affected both by the numerous vehicles crossing it, as well as the configuration of the area (confined in between tall buildings and covered by the Overpass itself), additionally characterized by the lack of green

elements and the difficulty of air recycling. Therefore, two main subsequent strategies need to be adopted in such a context: at first, the monitoring of the air-quality itself, for gaining knowledge about the real situation in the different parts of the entire area of more than 2 km of extension; subsequently, the installation of either traditional or innovative technologies for capturing the CO_2 and increasing the air quality of the area, at the same time providing citizens with new urban furniture. The solutions presented below works as temporary solutions able to improve the air quality during events or specific periods, without compromising the existing configuration of the area.

Given that half of humanities lives in cities, where the air is particularly polluted, and the verified importance of the air quality, its monitoring is spreading worldwide, especially at a municipality level, in relation with the weather and environmental conditions. In parallel with the urban monitoring, new technologies are emerging for locally controlling the

IX.1

FIGURE IX.1 - GreenCitySolutions "CityTree" (Source: ©greencitysolutions.de)

air quality and, eventually, improving it: it is the case, for example, of the urban bench designed by two polish miners, M. Kaczorek and M. Szyszkowski, which monitors the air quality through an internal filter and changes its color according to it, therefore suggesting or not if to rest in the area according to the air quality; additionally, the installation of an air purificator under the bench contributes to the improvement of the air quality. Exactly with the aim to create living conditions that enable everyone to breath cleaner air, especially in urban areas, the german company *"GreenCitySolutions"*[1] focuses on developing innovative technological products for the improvement of the air quality: among them, "CityTree"[Fig. 1] is the world's first biotech fine dust filter which cleans and cools the surrounding air of up to 2.5 °C, taking advantage of the natural filter power of the mosses.

[1] https://greencitysolutions.de/en/

FIGURE IX.2 - "PhotoSynthetica Curtain" by ecoLogicStudio at Dublin Castle, Dublin, 2018 (Credits: ©NAARO)

The Italian architecture and design innovation firm *"ecoLogicStudio"*[2] is one of the firms and companies which is focusing on the rising concept of Nature-Based Design Solutions, *"Solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions"* (Nature Based Solutions, European Commission[3]).
Specifically, it is specialized in biotechnology for the built environment, focusing on biophilic sculptures, living architectures and blue-green masterplans for the re-development and improvement of urban areas. Among their products, it is worth to mention "PhotoSynthetica", a photosynthetic building cladding system which, combining the aesthetic and material qualities of ETFE claddings with the natural ability of micro-algae in capturing the solar radiation, is able to capture and remove CO_2 and pollutants from the atmosphere [Fig. 2].

[2] https://www.photosynthetica.co.uk

[3] https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en

IX.3.2 Urban infrastructures as active sites for the production of renewable energy

The Serra - Monte Ceneri Overpass shows up as a crossing elevated road of a length of more than 2 km, made up entirely in reinforced concrete. Consequently, extensive use of asphalt combined with the lack of green elements contribute to the urban heat island phenomenon. Nevertheless, the large-scale infrastructure could be considered as an opportunity for capturing the solar energy striking the ground, therefore transforming the Overpass in an active site for the production of renewable energy. In recent years, roads, as strategic places for the exploitation of

solar energy, started flanking this new function to the traditional one of connection, taking advantage of both their large extension and their proximity between the networks of transport and places of life: in 2018 in China the world's first photovoltaic highway was consequently inaugurated as a three layers road (the transparent surface one, the one hosting the modular photovoltaic panels and the basic one absorbing the stresses), extended for 1 km.

Multiple solutions are recently being developed worldwide for exploiting the solar energy striking the roads (Natalicchio, 2021): in 2006 in the US the "Solar Road Panels" company was born focusing its production on hexagonal-shaped photovoltaic panels, resistant to the passage of vehicles and wirelessly connected to various devices; the WattWay product, presented in France in 2015, is instead a photovoltaic road covering (protected by a layer of transparent resins and polymers) which can be applied to car parks and cycle paths, powering public lighting and signs. Another experimented technology in France, the "Power Road" realized in 2012, focused instead on the collection of the solar thermal energy accumulated in the asphalt during the hot season, for storing it underground thanks to a complementary geothermal system and making use if it during the cold season. In addition to the above-mentioned opportunities, what is under experimentation now is the possibility to recharge electric vehicles in transit: in 2020 in Sweden, the DWPT (Dynamic Wireless Power Transit) technology was employed making use of copper plates embedded both in the asphalt and under the vehicles; the same technology has just now in 2022 been implemented and employed for experimentation on a 1 km length of the highway Brebemi in Italy. In conclusion, the above-mentioned examples

represent solutions for re-imaging the Serra - Monte Ceneri Overpass and similar urban infrastructure as multifunctional elements, able to comply not only with their primary function of connection but also with additional and new ecological requirements.

IX.3.3 Confining and absorbing the noise in urban areas

An additional element to take into account when planning an intervention on an urban infrastructure, crossed by high-speed vehicles, is the sound. Indeed, the entire area of the Serra - Monte Ceneri Overpass, as well as similar urban areas of high-speed, is characterized by an excessive noise, which determine some difficulties in imagining the placement of any possible function in such a context. Additionally, in the case of the Serra - Monte Ceneri Overpass, a double concern rises in relation to the sound when considering the transformation of this urban infrastructure: on one side, it is necessary to consider the noise coming from the surrounding streets and affecting any activity that could take place in the area; on the other side, the noise deriving by the activities in the area could, on the contrary, affect the surrounding residential buildings. If any intervention wants to take place in this area, it follows the necessity to work with acoustic barriers, in order to isolate the site and its activities. When working with the sound, both the materials involved and their design play a crucial role, in order to reduce the reverberation but also to avoid other acoustic phenomena such as the echo. Among the acoustic barriers that can be placed outside, it is possible to categorize them into three main solutions: acoustic ceilings, acoustic floor treatments and urban transportable devices acting as barriers. Suspended acoustic ceilings can be used in urban contexts with a natural covering, such as the area un-

der the Overpass. While fabric panels are frequently hung horizontally or flush to the ceiling, acoustic baffles are suspended vertically from a ceiling or a nearby support structure, both dealing with the reverberation and echo of sound within a space: baffles, like panels, are comprised of insulation covered in acoustically transparent fabric with a mounting strip along the length of the baffle itself; the core material used for tiles or panels, instead, is often hard stone wool or fiberglass covered with fire-rated acoustically transparent fabric, which helps to reduce impact noise and reflection from above. In terms of floor treatment, cork is used as a natural, long-lasting and environmentally responsible way to reduce impact, echo, and reverb sounds. Indeed, when sound waves enter cork, they are broken down and diffused. Absorbing the sound, rather than reflecting it, the cork works as a perfect material when excessive noise is produced by directly in contact with the ground, and therefore need to be absorbed, as for the case of any noisy sport, which most presumably is one of the activities that could be integrated in the UNPark project. Lastly, urban transportable devices must be mentioned as one of the ways for achieving sound barriers without interfering at all with the existing elements. Indeed, these devices could be designed ad hoc, in relation with the activities that could take place in the specific site, in order to work not only as sound barriers, but also to comply with a different function. In order to achieve an urban transportable device which could represent also a sound barrier, its design should be implemented with a sound absorber material. There is not a specific design that could comply with requirements, but this solution is worth to mention as it contributes both the reduction of the noise and to the temporary transformation of the area by the placement of innovative urban furniture.

IX.4 PROJECT IMPLEMENTATION

In the definition of scenarios of project implementation, the design responses have additionally been catalogued between 'low-skilled' and 'high skilled' solutions, to which the use of different materials correspond: on one side, easy and fast assembly materials, able to be employed without the need of a specific knowledge and to be found locally, also by the citizens, such as waste products and low-cost materials; on the other side, light and innovative materials, such as technical textiles for architecture, could be employed for realizing high-skilled solutions by taking advantage of the potentialities of lightweight materials such as their flexibility of use and easiness of installation.

IX.4.1 'Low-skilled' and 'High-skilled' solutions

The definition of incremental scenarios of implementation for the project implies the use of different types of materials according to the extension of the project in terms of time-length: as it is possible to imagine, more durable materials and tailored-design solutions could be employed for longer time of periods, while for shorter ones it is possible to foresee the re-use of waste products and the employment of low-cost materials. In addition, according to the design of Time-Based solutions it is possible to adopt an incremental strategy that combines short interventions with the use of low-cost materials and easy to realize solutions, while to longer interventions, not only the type of materials employed changes, but also the complexity of the intervention.

Low-skilled solutions through the use of waste products and low-cost materials. Considering the high impact of the construction materials in a life-cycle optic, a recent trend in the field of temporary constructions

takes advantage of the (re)use of daily life waste products such as fruit boxes, milk cartons, newspapers etc. for realizing urban furniture to be employed in the temporary transformation of public spaces. The idea beyond this application is to further exploit the characteristics and properties of specific materials that could still play an important role in a different context even when at the end of their first cycle of life. Additionally, the (re)use of waste and low-cost products has

FIGURE IX.3 - Transforming urban elements by pimping them out (Credits: ©Aude Frost)

FIGURE IX.4 - Transforming urban elements by pimping them out: "Plug a Seat, 2017" (Source: ©Teratoma Productions)

the advantage to avoid the need of a specific knowledge of expertise, therefore making possible to directly consider citizens able to realize by themselves different furniture, without the need of any specific figure. Within the frame of the low-skilled solutions, it is possible to fit four different incremental strategies for making use of waste products: (i) the pimping out; (ii) the upcycling; (iii) the recovery and (iv) the creative re-use. The strategy of the *pimping* out aims at looking differently at existing elements, exploiting them in a multi-functional perspective by the addition of simple or

FIGURE IX.5 - Upcycling of daily-life elements into furniture: "tire urban garden" (Source: ©Relab74015)

daily-life components, consequently giving a new function and a new appearance to unused spaces. [Fig. 3, 4]. Similarly to the pimping out, the upcycling strategy aims at reusing discarded objects in an implemented way in order to create a product of higher quality or value than the original: a large use of this approach could be recently found for decorating both urban or rural areas in a creative way, as testified by the products realised by the Smithers of Stamford or the tire urban garden project accomplished by the creative laboratory of recycling and reuse of materials "RELAB74015". [Fig. 5]

The recovery instead makes use of existing elements without working on it, but simply employing them in a different context and by taking advantage of a creative displacement of them in order to reproduce daily-life urban elements: the project of Basurama[4] "Autoparque de diversiones público" realized in Lima in 2010 works as a perfect example of how to re-generate an urban space with few resources [Fig. 6, 7].

[4] https://basurama.org

FIGURE IX.6 - Basurama, Autoparque de diversiones público, RUS Lima, 2010 (Source: ©Basurama.org CCBY-NC-SA 4.0)

FIGURE IX.7 - Basurama, Autoparque de diversiones público, RUS Lima, 2010 (Source: ©Basurama.org CCBY-NC-SA 4.0)

FIGURE IX.8 - Basurama, Tsunami de basura, RUS Santo Domingo, 2009 (Source: ©Basurama.org CCBY-NC-SA 4.0)

Lastly, the creative re-use strategy represents the more complex one as it requires a proper design for the reuse of waste products by their employment in such a way that daily-life objects can be transformed into construction elements for realizing temporary pavilions (Chart Art Fair, 2017) or art installations as a way to reflect about the topic of the excessive production of waste and their effective end of life. [Fig. 8 – 14]

FIGURE XI.9 - CUAC Arquitectura, Tetrabricks pavilion, Granada – Spain, 2010 (Credits: ©J. Callejas)

FIGURE XI.10 - Elise Morin and Clémence Eliard, Wastelandscape #1, Paris, 2011 (Credits: ©Y. Fradin)

FIGURE XI.11 - Factor Eficiencia & 5468796 Architecture, One bucket at a time, Winnipeg, 2017 (Credits: ©J. Florio)

FIGURE IX.12 - Tomè Capa, Mahjong, Braga – Portugal, 2016 (Credits: ©T. Capa)

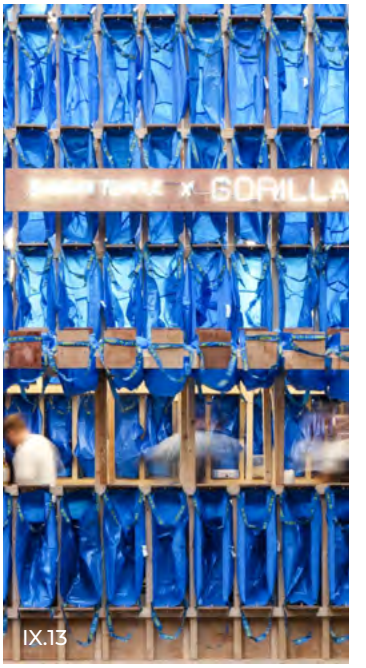


FIGURE IX.13 - Mia Frykholm and Astrid Gabrielsson, Sunday Temple (Credits: ©D. Hugo Cabo)

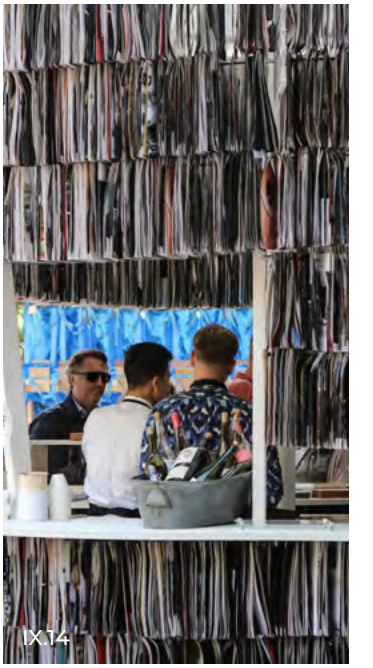


FIGURE IX.14 - Kazumasa Takada, Yuriko Yagi and Yohei Tomioka/ Paper Pavillon (Credits: ©D. Hugo Cabo)

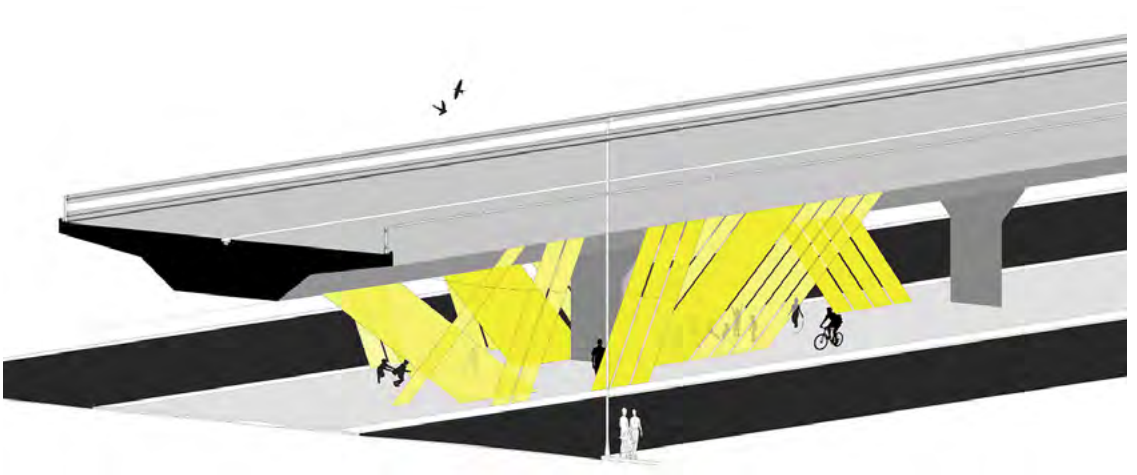
IX.4.2 High-skilled solutions and the application of technical textiles

With the definition of longer urban transformations, it comes along the need to design more durable and resistant solutions, able to comply with increased needs and requirements. Planning an urban intervention in a context such as the one under the Overpass, implies the necessity for example to provide acoustic barriers in order to be able to let different activities run there and to avoid being disturbed by external noise as well as, on the contrary, to cause disturbance from the site towards the surrounding. In order to do so, more structured solutions need to be designed in accordance with the advantages and demands of each specific site. Accordingly, the intervention of specific expert figures needs to be considered when designing and planning more specific and high-quality interventions.

Technical textiles, thanks to their intrinsic characteristic such as lightness and flexibility and the easiness and speed of installation and maintenance, perfectly fit in a scenario of high-skilled solutions, whose integrations could be specifically designed for the site and temporarily applied, with the idea to be mantled and dismantled very quickly.
Therefore, a lightweight textile solution has been appropriately designed for the area under the Serra - Monte Ceneri Overpass with the aim to provide citizens with a solution that could be applied for transforming and organizing the space according to the necessities, but also for contributing in the improvement of the noise-quality of the area. Additionally, through the employment of long vertical pieces of textiles, the idea is to attract visitors by marking the site with an iconic intervention.

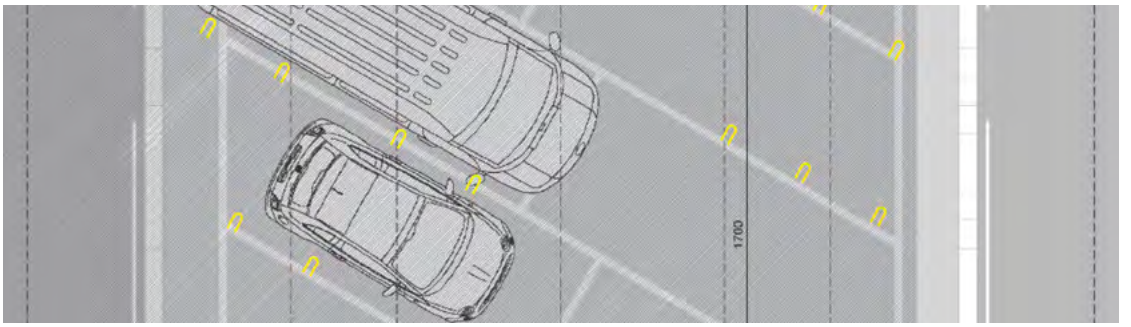
IX.4.3 A 'high-skilled' temporary solution: the project of a lightweight partition in the urban area of the Overpass

The use of ultra-lightweight materials in a context such as the one under the Serra - Monte Ceneri Overpass comes from the idea to develop an easy-to-apply and easy-to-transform solution, while at the same time marking the space with a dynamic image that could be easily changed according to its use. Working on an area covered by the infrastructure itself, the aim of the project was to create a movable skin, able to adapt its form over time according to the different activities, and that would work both as a visual and an acoustic barrier.
Therefore, the project focused on the definition of textile elements with different sizes, shapes and even transparencies in order to define the space in varied ways by simply playing with the positioning of the elements. The inclination and the different angles of the individual elements represent the answer to the need for a dynamic, flexible and above all reversible space, able to preserve its original function: by adapting the inclination of the elements according



IX.15

FIGURE IX.15 - UNPark – The different inclination of the elements contributes to creating a dynamic space (Credits: © J. Otxoantezana Fernández, I. del Pino, G. Fernandez Lombraña)



IX.16

IX.17

FIGURE IX.16 - UNPark – Different positioning of the hooks (Credits: © J. Otxoantezana Fernández, I. del Pino, G. Fernandez Lombraña)

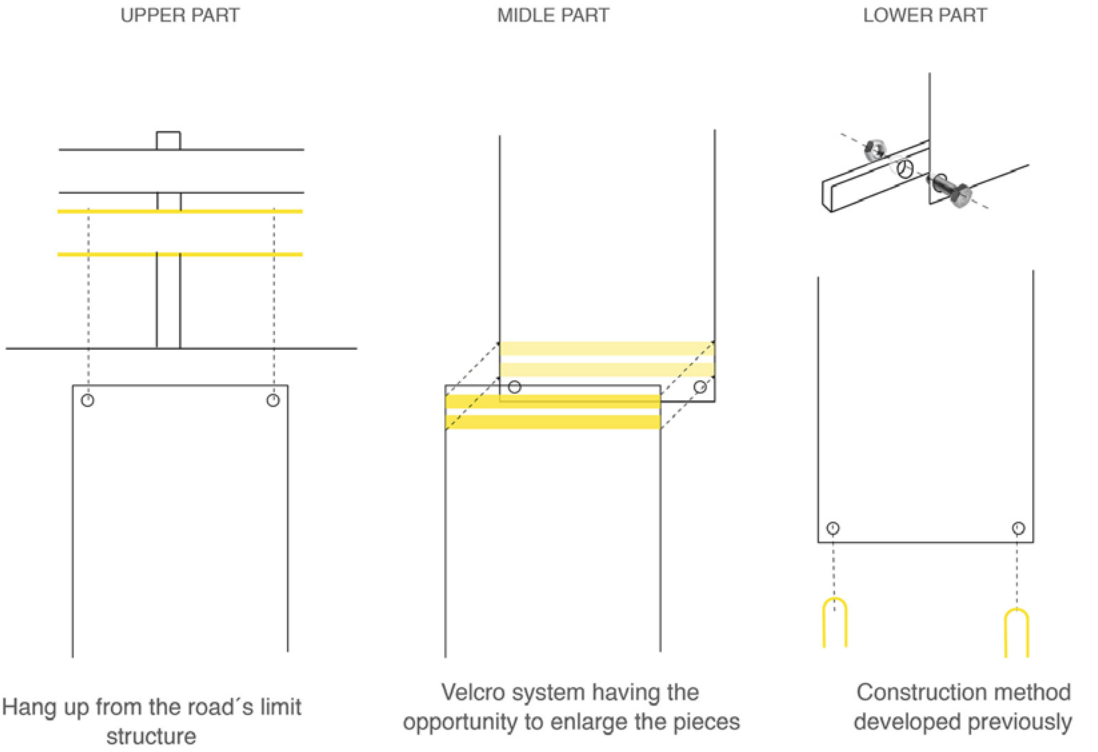
FIGURE IX.17 - UNPark – Double curvature system (Credits: © J. Otxoantezana Fernández, I. del Pino, G. Fernandez Lombraña)

to the direction of the car parks and playing with different angles through the positioning of the hooks, it is possible to generate a rotation of the single textile elements, determining a double curvature system that allows the passage of both air and pedestrians at street level [Fig. 15 – 17].

Starting from the constraints of the site and from the need to develop a temporary solution, the project focuses on the development of a reversible solution, limiting the damages to the existing in order to gua-

rantee a complete reversibility of the site to its original configuration. For this reason, all the connecting elements have been minimized and the anchoring points have been placed along the existing parking stripes. For the setting up of the project, an efficient method has been developed using simple elements and making use of the possibilities offered by the location of the project: the arrangement of the barrier or visual boundary have been studied in order to follow the directions of the railway track and the lower parking track. The oblique position of one with respect to the other is understood as an opportunity to offer an interesting visual effect while providing the necessary strength and stability to the enclosure. The installation process has been organized by starting

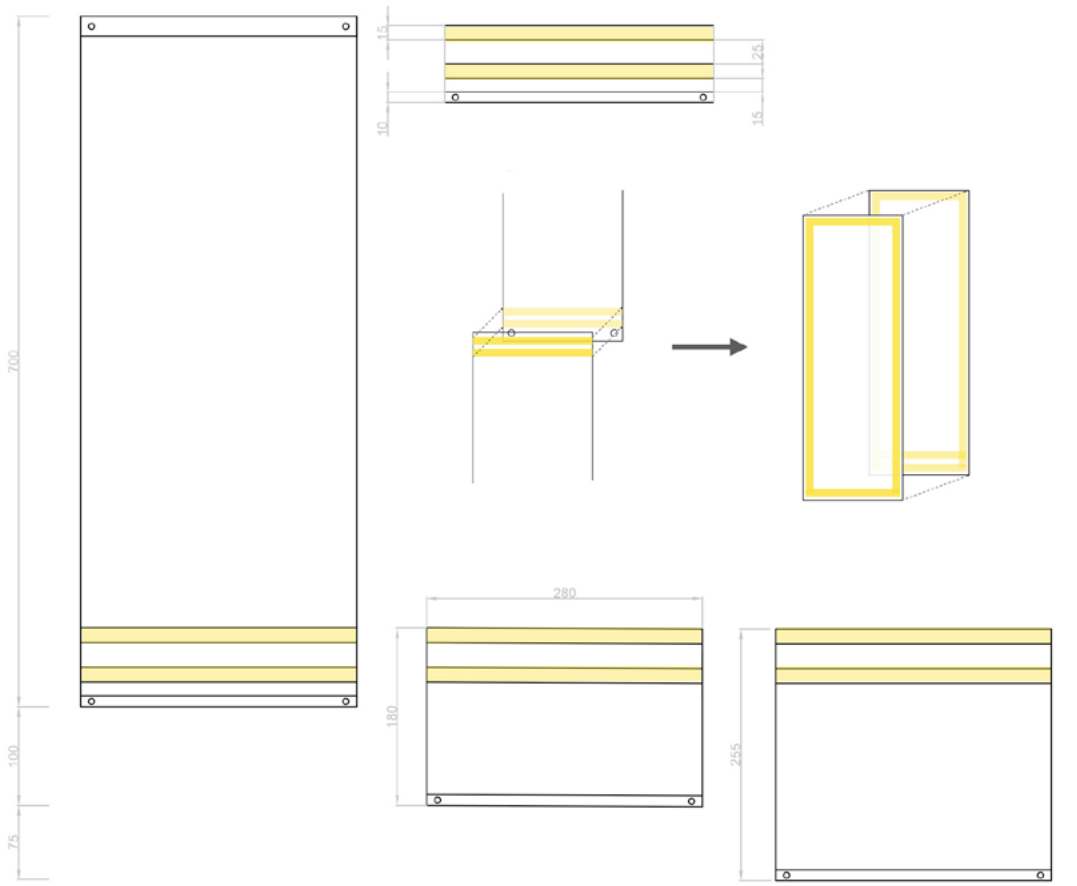
FIGURE IX.18 - UNPark – Installation process (Credits: © J. Otxoantezana Fernández, I. del Pino, G. Fernandez Lombraña)



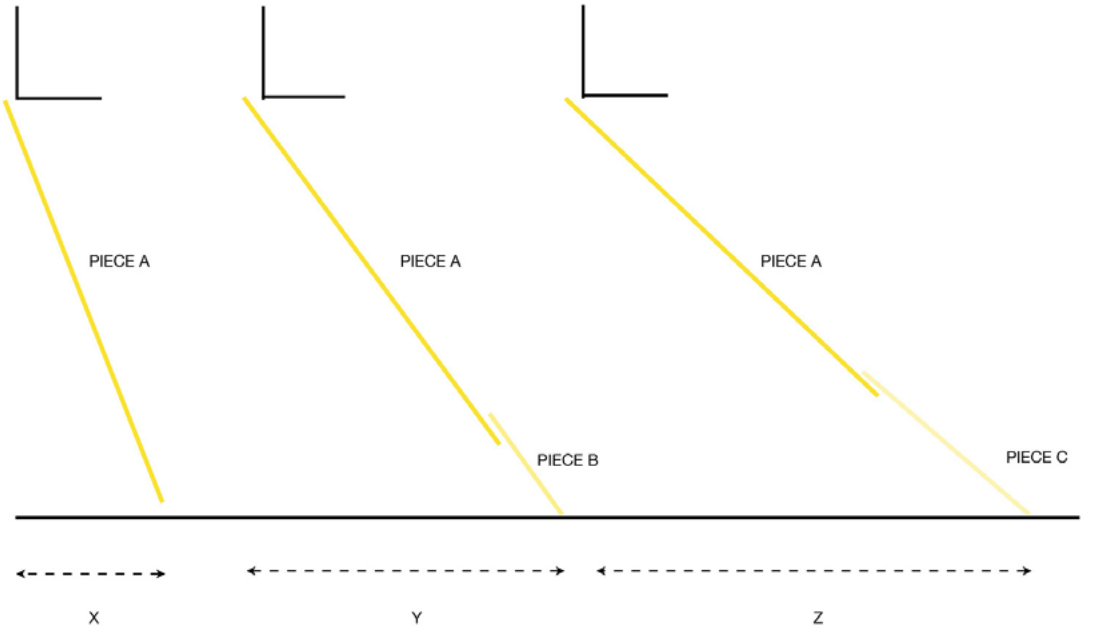
IX.18

from anchoring the upper support to the guardrail system of the elevated track, taking advantage of the lightness of the material used in order to achieve a non-invasive supporting system. Consequently, the bottom hooks are arranged to the floor and later connected to the textile fabric through metal rings placed in the corner of each polyester [Fig. 18].
The variable arrangement of these elements at street level allows for versatility in the layout of the textile factory. This placement as "gills" allows passers-by and air to pass through at the street level, while of-

FIGURE IX.19 - UNPark – Extension and standardization of the system (Credits: © J. Otxoantezana Fernández, I. del Pino, G. Fernandez Lombraña)



IX.19



IX.20

fering the sensation of a capsule, creating a relevant space under the pre-existing road. In terms of textile element and its choice, PVC coated polyester has been selected due to its low cost and the opportunities offered by its ease of installation in relation to its maintenance. It is also worth highlighting its capacity as a sound barrier and insulator, which the project would greatly benefit from, taking into account its location in between of two high-speed roads. Its thermal capacity of the material takes second place due to the way in which it is arranged, emphasizing at the same time the presence of the wind.
The oblique position of the PVC film and its variable perspective varies its length. Because of this, it is necessary to place an extension of the material. These elements are glued to the original piece using a Velcro system that allows for extension and standardization in manufacturing [Fig. 19]. This sum of material is represented as PART B and PART C [Fig. 20].

FIGURE IX.20 - UNPark – Schematic representation of the different positions and extensions of the textile elements (Credits: © J. Otxoantezana Fernández, I. del Pino, G. Fernandez Lombraña)

FIGURE IX.21 - UNPark – Project image (Credits: © J. Otxoantezana Fernández, I. del Pino, G. Fernandez Lombraña)

Taking advantage of the Velcro-system, it is possible to foresee an implementation of the acoustic performances of the textile by coupling it with additional insulation layers.
Additionally, an extra opportunity offered by the implementation of Velcro is the possibility of adding another layer of textile material on top to provide other advantages such as air filtering through last generation polymers. It can also be used as way of advertising adding a printed layer or some art exhibition. Instilling the perception of a dynamic barrier, the delimited area below the Overpass takes on a whole new spatial quality. In this way, pursuing the final goal of bringing together the inhabitants of the neighborhood in a neglected but with a great latent potential area, the design system is declined as a structure with multiple functions that allows to temporarily redevelop the urban space, guaranteeing at the same time both the reversibility and the implementation of the system itself.

IX. CONCLUSIONS

The chapter aimed at presenting different incremental scenarios of intervention, specifically designed for the case-study of the area under the Serra - Monte Ceneri Overpass in Milan, but applicable with the required modifications to similar cases. Intervening in an abandoned and neglected area, where the presence of the infrastructure represents at the same time both a fundamental urban element and a physical and visual barrier, it follows the necessity to take gradual action in the area without radically and extremely rapidly working on it. Consequently, the involvement of the local population has the aim to convey to citizens a different way of looking at urban areas, such as this one, from a more human-centered perspective, valuing them as areas with a high hidden potential of transformation.

The *Time-Based Design* approach presented in this chapter (based on the incremental occupation of the space and the intensified typology of intervention over time) intend to propose a procedure of intervention that aspires to gradually achieve the intended goals by the involvement of the citizens and the incremental increase of the time and volume of the intervention. In parallel, the *Themed-Design Responses* have been studied appropriately for the area under the Serra - Monte Ceneri Overpass, taking advantage of the existing constraints and trying to look at them as opportunities. Despite the scenarios of project implementation for a “sustainable future” have been specifically studied for the area under the Serra - Monte Ceneri Overpass, they have been presented with the main goal to propose design solutions able to be applied on different but similar contexts for solving common urban problems. In-

deed, the main goal of the research aspired to look for repeatable and adaptable solutions, suitable for answering to common urban problems given that similar types of urban elements and abandoned areas can be found worldwide.

ACKOWLEDGEMENTS

The Authors thank Jon Otxoantezana Fernández, Ignacio del Pino and Gaizka Fernandez Lombraña for their contribution in the development of the project for the lightweight partition in the urban area of the Overpass and for the realization of the drawings.

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