

TACTICAL PLANNING

LONG-TERM VISION FOR NEW URBAN PUBLIC SPACES

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abstract

Public space has always generated problems concerning its cure, maintenance, duties and obligations of involved subjects, not only in the city of Milan and in Italy, but all over the world.

The aim of this thesis is the development of a design, administrative and organizational method for new urban public spaces, facilitating its realization and giving precise indications and guidelines for every step necessary to its creation.

The case study we brought is the one of Milan, a metropolis where this process has already started through the program "Piazze Aperte", which has been promoted by the municipality, aiming to the creation of tactical urbanism interventions to realize urban spaces with the inhabitants' direct collaboration in all design process and phases. However, we believe that this program needs a further development, allowing these interventions to get out of tactical urbanism category (which mainly

consists in temporary solutions) to enter the one of final and definitive ones; that's the main scope of the indications and phases we developed and explained in the work.

Joining the theme of public space, another important element inside the project is the one of green and climate: Milano, through the initiative called *ForestaMi*, fixes an objective for a share of green elements to be present in the city by 2030; an extremely actual and necessary for nowadays world, and this is the main reason why this objective has been considered inside the development of our work, giving precise indications and rules and defining green elements' share necessary in every new urban space realized.

Milan's metropolis is just an example for the practical application of the developed theory, which can be potentially applied, with necessary changes regarding analysis, culture and society, to every single metropolis of our planet.

abstract

Lo spazio pubblico ha da sempre creato problemi riguardanti cure, manutenzioni, doveri e obblighi dei soggetti coinvolti, non solo a Milano e in Italia, ma in tutto il mondo.

L'obiettivo di questa tesi è sviluppare un metodo di progettazione, amministrazione e organizzazione degli spazi pubblici urbani, facilitandone la realizzazione e fornendo indicazioni e linee guida per ogni passaggio necessario nella loro creazione. Il caso oggetto dello studio è quello di Milano, metropoli in cui il processo ha già avuto inizio tramite il programma promosso dal comune "Piazze Aperte", che mira alla realizzazione di interventi di urbanistica tattica per la nascita di spazi urbani con il coinvolgimento diretto della popolazione in tutte le fasi della progettazione. Tuttavia, è nostra convinzione che questo programma necessiti di un ulteriore sviluppo, che permetta agli interventi di uscire dalla categoria dell'urbanistica tattica (che ha

carattere prettamente temporaneo) per diventare interventi definitivi e permanenti; questo il principale scopo delle indicazioni e dei passaggi forniti all'interno del lavoro. In unione al tema dello spazio pubblico, un altro importante elemento presente nel progetto è quello del verde: Milano, attraverso l'iniziativa chiamata ForestaMi, si pone degli obiettivi di verde urbano da raggiungere entro il 2030; un tema estremamente attuale e necessario per il mondo odierno, ragione per cui gli obiettivi di tale progetto sono stati considerati all'interno del nostro lavoro, dando indicazioni precise e definite sulle quote di verde necessarie ad ognuno dei nuovi spazi urbani realizzati.

La metropoli di Milano è solo un esempio di applicazione pratica della teoria progettuale sviluppata, che può essere potenzialmente applicata, con i dovuti aggiustamenti riguardanti analisi, cultura e società, ad ogni metropoli del nostro pianeta.

acknowledgments

This work wouldn't have been possible without the constant help and support of many figures.

First of all, I want to take my supervisor, Azzurra Muzzonigro, who believed in me and in my possibilities since we first met last year during her course. She made me experience a kind of university I was not used to, and opened my mind to many issue and the strong belief that I can actually do something for the world with my work.

For the help in the construction of this thesis, I want to thank Piero Pelizzaro and Federica Verona, who gave me the possibility to meet and talk to them, who do something real for Milan everyday and gave me advice on the possibilities of my work. Also, thanks to Patrizia Gabellini, who gently accepted to help me in the economic process, even if we never actually met, and to supervise my work giving me advice to improve it constantly.

Also, thanks to *La Piana* team who helped me reach the best result through their advice and stories about the square. You've all been perfect clients and people to work for.

For what concerns the university environment, I also want to thank Daniele Papi, my mentor through my academic experience, and Franco Forzani, who is always available to give me help and advice, with whom I share a reading passion.

My friends, the ones who constantly supported me during these hard six years, full of work and difficulties, but also joy and laugh; I want to thank Francesca, Gian Marco, Giorgio, Ottavia, Carlo and Victoria the most, as they have been always ready to support me during this hard path.

Giulia and Irene, my soulmates, the ones I couldn't live without. Thank you for always being there for me, in every moment or situation, even if not physically. Our hearts are always one next to the other.

One of the last people I want to thank is Giacomo, who supports me in every single challenge I decide to accept, without any kind of prejudice or judgement. Thank you for always accepting me, even when I am unbearable.

Finally, I want to thank my parents. Without them, this journey wouldn't have been able, since the very first beginning. Thank you for supporting me in all my life, even if I made you extremely sad or angry, and giving me all the possibilities I had. I hope one day I'll make you proud of the person I have become.

"Qualcuno mi ha suggerito che i limiti che ciascuno di noi avverte per se' stesso non sono altro che limiti del sistema. Qualcuno, al contrario, ha ipotizzato che il sistema è sempre limitato perché non è altro che l'insieme dei nostri singoli limiti. Tra i due sistemi ho maturato la convinzione che entrambe le posizioni avessero senso. [...] In fin dei conti, se vogliamo produrre un cambiamento positivo e progressivo nell'attività che svolgiamo, dobbiamo tenere presenti sia i nostri limiti che i limiti del sistema, e partire dalla consapevolezza per agire concretamente e superarli. Il limite è l'asta che utilizziamo per saltare oltre l'ostacolo."

- Beppe Sala, Società: per azioni

introduction

This work has been developed with the intention to create a functional and accessible instrument for municipalities from all over the world, not only in Italy.

Milan has become a huge metropolitan city nowadays, and its cosmopolitan and eclectic features make its strengths and weaknesses more and more evident; as a growing individual, the city develops, gets better, makes mistakes and fixes them, throughout its people. Considering Milan as an example to create and test this new instrument, applying it to spaces and inhabitants, it's the best way I could find to return to the city and its inhabitants all the possibilities it gave me.

Thanks to this research, not only I was able to pay off my debt, but I also helped to make the city a better place for people living it, both now and in the future, in the case this work will ever be real.

Such a big project, involving both spaces and inhabitants, may appear to be

ambitious and fulsome to everyone, but our intentions with the development of this work are only aimed to make better something which is already existing, full of potentialities and values, exporting an administrative and organizational prototype in a large scale.

For this reason, we started the work from a deep analysis of the city, of its inhabitants living it, of what is missing and what is already present, keeping in mind some fixed design elements that we consider essential. Now we'll see them, explaining reasons and methods of our choices.

First of all, the project *ForestaMi*, promoted by Milan's municipality, which is having large visibility in the urban forest strategies around the globe; nowadays metropolis' need to transform, adapting to the changing climate's conditions which are happening and try to combat and work against it. Man trying to meet nature's necessities, taking it back to be a central element in everyday humans' life, is becoming one of the most significant needs of contemporary times.

Secondly, we decided to give a major role to people's needs and requests, living the city, dwelling it and walking around it every single day. Cities are born due to the social necessities of humans, from their natural predisposition to aggregate, and constitute an instruments for human beings living. So, they must answer coherently and immediately to inhabitants' necessities. For this reason, the choice of possible spaces for this project in Milan have been considered among the ones raised during an open call which started in November 2019, by the new team *Piazze Aperte*, a group promoted by Milan's municipality to create new public spaces,

directly addressed to inhabitants and professionals; the best person to suggest the necessities of a place is the one who lives it every single day.

The concept of accessibility is the third big theme that we considered as fundamental in this work: not only in physical terms, but social and economical too; the aim is to expand the possibility to receive benefits to all people living in the metropolitan area. Lastly, the idea of responsibility. Citizens' responsibility, both social and civic, at all levels of importance. As we're going to explain later, our vision of functional and excellent system is the *hyve* one: as it happens for bees, an equal and precise distribution of duties in a group makes the totality efficient and productive; basically, a system based on collaboration and a precise and defined subdivision of work.

For this reason, our project is not based on the physical design of new urban public spaces, but on the design of organizational, technical and administrative elements, factors which often constitute obstacles or problems to the realization of this kind of interventions, but also have a fundamental role in their success.

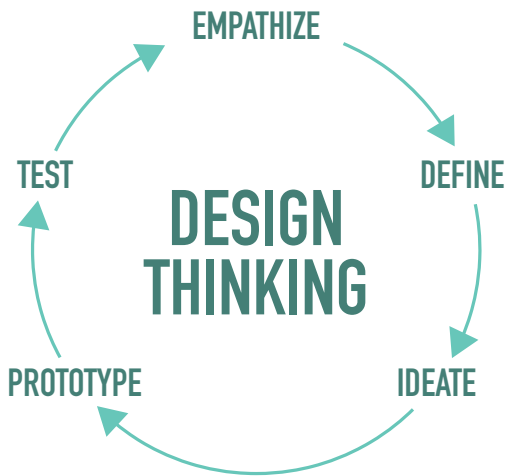
Eventually, we are going to explore the process which deals with the creation of new urban green spaces devoted to the local community, starting from the necessary analysis and considerations coming from them, in order to define precise and clear objectives to which this instrument could be applied, passing through a necessary study of the economical possibilities of its realization, pointing out which fund to be used, with the technical legislative rules referring to it; the reference to some important

and diverse study cases, explored in a separate chapter, has been essential, and it was divided in two different types: one devoted to urban forestry strategies cases, both completed and still going on (as urban forestry is a long and continuous development), and the other to tactical urbanism application, with a particular focus on the initiative *Piazze Aperte* promoted by Milan's municipality, explaining advantages and trying to suggest a possible development of these works with a permanent character.

In the second part of the work, we're going to start with the definition of the design process and methods, from the preliminary analysis which are fundamental, to the physical instruments to be used in the development, going through the realization, management and maintenance of such an important urban space. The essential instruments previously mentioned, are mainly two objects: the first one is a table defining some spatial devices associated to precise objectives; the selection of the proper devices for a space is not based on defined rules coming from needs and requests, but the leitmotifs of all the decisions are the objective defined as primary to be reached in the new urban spaces, which have been divided in four main categories to simplify the understanding: green and climate change, community, health and sport and eventually culture. The second instrument developed is a map, defining tasks, duties, rules both for municipality's institutions involved, charged of the physical realization and promoting of the project, and for the locals which will to formally commit themselves to the city,

to its spaces and to its inhabitants. This map, as previously mentioned, is based on the idea of the organizational concept of bees in the hive: functional, defined and precise. The map does not only have the meaning to impose duties, but also the aim to facilitate bureaucratic procedures and to simplify processes which are now characterized by many intrinsic difficulties. Along with the development of the theoretical approach, we are proposing a practical and real design process for a new urban public space in Gratosoglio, Fabio Chiesa square, which is now experiencing the collaboration between Milan's municipality, Politecnico di Milano and many local associations. We are going to define the all process from the initial researches, to the analysis, to the definition of goals and objectives, passing through all the steps mentioned, and advancing a design hypothesis. At the end of the process, we are going to make conclusions about the work developed and the project obtained.

concept of tactical urbanism



principal concepts of tactical urbanism

The concept of tactical urbanism is based on the principle of realizing small and aimed interventions in the city, through the use of low cost instruments and citizens' involvement, in order to obtain an important result over the city's spaces at the level of suburbs. The principal objective of these interventions is the realization of spaces destined to the inhabitants of the areas where they're located, the re-birth of public space as center of the suburb and citizens' life, promoting safe and accessible spaces which can encourage pedestrians and local activities. In the recent years, this method of approaching public spaces has given many advantages to the city, thanks to the use of low-cost materials and instruments, the sponsoring of spaces devoted to the local community and the active participation of the inhabitants which are living directly the areas considered in the project development. The other prominent characteristic of tactical

urbanism interventions is the provisional nature of its interventions; in fact, they're not meant to last in the long time but are designed to last for a precise amount of time, which can later be postponed or even cancelled, with the adequate changes necessary to the area.

In a way, we can define our theoretical design process as an *implementation of tactical urbanism*, as we intend to maintain the main characteristics of it, trying to give it a permanent character. Our intention is to focus on the inhabitants, on their needs and requests, creating a space devoted to the community which is meant to last throughout time with adequate maintenance and care. For this reason we developed also an organizational and administrative program in order to reach this objective.

study cases

Piazze Aperte

The initiative *Piazze Aperte* started in 2018, with the inauguration of some of the first spaces realized following tactical urbanism principles, in September, and was born thanks to a cooperation between the municipality of Milan and Bloomberg Associates, along with National Association of City Transport Officials and Global Designing Cities Initiative. Its



*Latin America
before tactical urbanism's intervention*



Latin America
after tactical urbanism's intervention

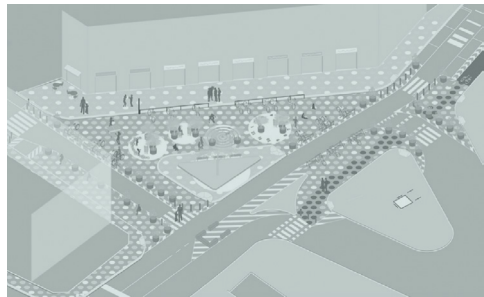
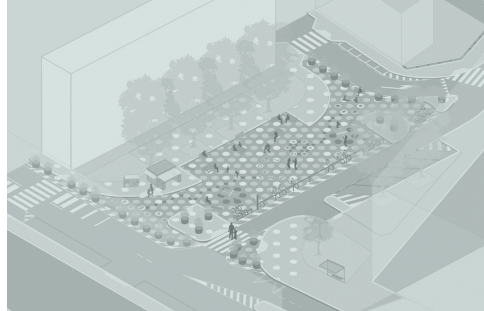
objective is the one to give back to life old suburbs' city centers and make them full of humans' life, promoting communitarian and social initiatives and programs. The first new public space realized has been Dergano square, located in a suburb called *Dergano* in the northern area of Milan, soon followed by Angilberto II square, in *Corvetto*, south-eastern area of the metropolis. Nowadays, the initiative *Piazze Aperte* has realized up to fifteen interventions in all the metropolitan area.

The principal aim of the project is to open back squares to communities, through an active participation and collaboration of inhabitants and volunteers, using a sort of *given design kit*, which is composed by basic and low-cost different elements. The strength of this type of intervention is the central role given to citizens, which are constantly involved in the design process, from the analysis to the realization, activation and maintenance of the new spaces. Statistical analysis carried out after the tactical urbanism interventions, show an high percentage of satisfaction rate from the inhabitants' of the all different areas of the city, and moreover the will to transform these temporary solutions in permanent structures; as previously explained, tactical urbanism maintain an temporary character, but due to the good reply received from citizens, the team, lagoon with Milan's municipality has decided to implement the projects making them permanent. This change involves the need of urban and feasibility studies and the rising cost and impact of the interventions.

The *given design kit* previously mentioned, which is provided by the team to realize

the project for the new area, is composed by a few elements: painting for the ground, plants and pots, tables with seats, ping pong tables and bicycle racks. The central role in the all process is given to the painting; it helps the definition of the space and allows a physical organization of it, explaining the function of each single area, separating pedestrians from cars, defining in a new way the traffic.

The instruments thanks to which all the process can take place is a document called *Collaboration agreement*, stipulated between two groups of subjects, the municipality and the single citizens (they can be both privates or associations), who are reciprocally engaging to make the new space working; from its point of view, Milan's municipality guarantees the supply of the mentioned "design kit" along with interventions from professionals on them, periodical sessions of cleaning and extraordinary maintenance if needed, on the other side, citizens take care of the activation of the area with the periodical organization of events and initiatives (subscription of an "event calendar" for the next three years) along with the cure and everyday management of the area, such as taking care of green spaces, monitoring of the infrastructures' physical conditions). The beginning of our project, comes from a particular case on which Piazze Aperte team is working: to show the practical application of the theories and rules developed, we will advance a proposal for Fabio Chiesa square, which is now experiencing the collaboration between citizens and municipality, giving also a precise description of the situation which will be carried out by Piazze



piazza Dergano
project opt. 1
project opt. 2
current state

Aperte and explaining which and why we consider essential some changes in their organization to make the intervention even more successful.testo



introduction to *Piazza Fabio Chiesa*



Piazza Fabio Chiesa's history (also called by the inhabitants *La Piana*) started more than ten years ago. It was an empty and vacant space, located between a theatre, a church and some houses. The space has huge dimensions, almost 6'400 square meters, and in this area some associations located nearby saw a great possibility for the suburb's community, located between Stadera and Gratosoglio. In this way, the autonomous activity of maintenance and activation of the square, which was limited by some important extraordinary maintenance interventions necessary for the accessibility of the place. The starting point of all the work realized by the volunteers (a group composed both by private citizens and groups of associations), was the first public event, during which a collective painting of the square's ground was organized; from that moment on, many different associations devoted their time to different necessities of the area, both from a technical point of view, with the periodical cure and maintenance of the spaces, and from a

La Piana
aerial view

social point of view, with the organization of activation events for the community. The first of these citizens was Fabio Chiesa, who was an important driver in the activation process of the area, and in 2010, at his death, the local community decided to pay homage to him giving his name to the new-born square. Every year, on June 2nd, associations and privates meet there for a series of events and initiatives, remembering their benefactor and maintaining La Piana alive involving the all community.

At the time of the proposal for the space for the *Piazze Aperte* initiative, La Piana already had experienced the activation of the square, along with a solid community on its back, and for these main reasons, the cooperation between municipality and locals started.

At the moment, the project is being developed with the constant involvement of the local community, who has defined needs and requests for the area, along with a group of professionals and experts, giving their help in technical issues. At first, the intention was to develop all the design and realization process between February and May 2020, so that the inauguration of the new space could take place on June 2nd, in order to maintain the calendar, but due to the the outbreak of Covid-19 pandemia, the process was slowed down both the design and the realization. Now, the idea is to end all the necessary works and open the new space to public at the end of the summer.

The *collaboration agreement*, which characteristics have already been mentioned, was subscribed by different associations already working on the



La Piana
general view
June 2nd event



*La Piana
painting of the ground during June 2nd event*

site, and Milan's municipality, which will provided the *design kit* with paintings, which will be applied to the ground during a communitarian event, seats, tables, racks and pots with plants. The association which will mainly work on La Piana are: Atir Teatro Ringhiera (taking care mainly of the general cure of the area and the organization of events on site), Impronta Association, Alveare Association, X-Contemporary, Progetto Persona (taking care of the green elements which are present in the square) and Le Pianiste, a group of private citizens which have reunited under the association to collaborate to the cure of La Piana.

conclusions

As previously mentioned, tactical urbanism has a huge potential which takes advantage of the power of citizens and community; but this power can be present in different area at different levels or even not existing. In La Piana case, this condition was already strong and powerful, and that is the main reason why the possibility of success of the intervention in this space are definitely higher.

The use of low-cost materials and instruments guarantees a larger possibility of intervention, in fact we can recognize many tactical urbanism interventions in

many cities all around the planet, and allows an easy and fast realization of needed operations.

These are two important points we aim to maintain and strengthen in our work, trying to implement and improve the concept of tactical urbanism in terms of timing; as we explained in the introduction, these kind of initiatives are characterized by a limited presence during time of it. Our main intention is to add the characteristic of perpetuity to the projects, an aspect which is statistically requested by inhabitants and citizens, trying to maintain the level of success of the interventions.

urban forestry strategies



concept of urban forestry

In order to better understand the functioning of a urban re-qualification and forestation process, we considered and analyzed some exemplary cases of urban forestry, from every point of view; from the preliminary phase, to the realization, to the marketing campaign, up to the maintenance of the areas. These projects, some of which started but are not yet completed, due to the length of the necessary interventions, were analyzed according to the same criteria, using as main tool a table, which makes possible the comparison between each parameter presented. In addition to these studies, we consider also the project undergoing in Milan called *ForestaMi*, to analyze its characteristics in relation to the cases of success. The purpose of this research is to define the strengths of each initiative, analyze the process and define its characteristics, and then consider their possible application to our project.

million trees NY

The first major urban forestry project began in New York City in 2007, under the leadership of Mayor Bloomberg, and it ended in 2017. The initiative had several promoters, including the City of New York, which was joined by numerous investors, such as Bloomberg Philantropies, David Rockefeller, Con Enel, Toyota and other private sponsors. It seems obvious why several companies of great importance in the world scenario have given their availability for a project for this metropolis; however, we consider of primary importance sponsorships and involvement of companies which are present in the city in the ongoing projects.

The main objectives of the project are the creation of a “sustainable” city and the mitigation of climate change; to achieve this goal the city planned the planting of one million trees in New York City, distributed among urban forests, parks, avenues and private properties. By November 2019, the metropolis had 5.2 million trees planted (12 years), largely exceeding the initial goal which was set by the promoters.

Throughout the project, great importance has been given to the participation of the New York community, through work collaborations with various professional figures located on site, organization of public events to collect opinions and proposals; this process has been possible thanks to the constant information campaign addressed to the citizens, which were constantly informed of developments



*New York City
planting procedure by volunteers
identificational device for trees*



*New York City
public event with the mayor
logo of the initiative*

through a dedicated website and periodic and localized distribution of flyers. The response of the community was broad and participatory, and several organizations of volunteers were created to help the creation and maintenance of the new green spaces distributed among the different districts of the metropolis.

As far as the technical choices were concerned, great importance was given to the biodiversity of the flora present in the areas, in order to create a long-lasting and effective urban forest; the benefits that the city gained from the initiative were both climatic, with the lowering of high summer temperatures in the territory, economic, given the increase in the value of properties located in areas undergoing the process, and social, as it is statistically shown that the areas where the project took place are less affected by minor crimes, such as pickpocketing and theft.

We can conclude that the areas where the project took place received a high return on the investment made for the initiative.

Melbourne's urban forest strategy

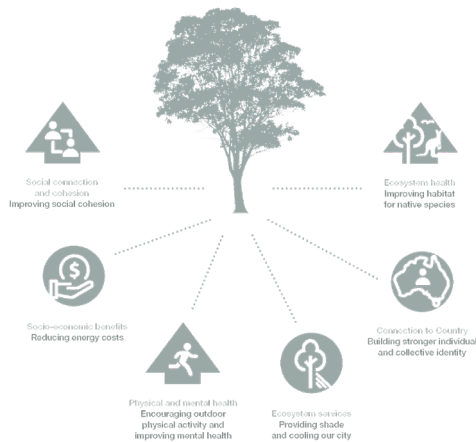
A second important case of urban forestation is the project (which is still in progress) concerning the metropolis of Melbourne; in this case, unlike the first

one, promoters are mainly public and research institutions, including Monash University, one of the most important Australian universities; the New York case, on the other side, showed a prevalence of private partners. The project foresees an increase in the green area of the city from 22% in 2012 (the year in which the project started) to 40% in 2040.

The objective, as in the previous case, is to mitigate climate change. In order to achieve this goal, the city started from a preliminary study of the metropolitan area, defining the spaces with a lower percentage of green areas around the city, which would then be the areas with a higher priority of inclusion in the program; as in the case of New York, the city of Melbourne has promoted through initiatives and facilities the use of private spaces as well as public ones, and the involvement of the local community. In particular, it is to be recognized the functionality of initiatives devoted to private citizens who can act on existing spaces/buildings with greenery in order to obtaining tax reliefs. The character of this project has been an extensive and in-depth technical study by experts on the selection of species and families of trees to be planted, the preparation of the soil, the irrigation systems which best suit the different locations; fundamental guidelines to be followed during the project, such as the numerical standards of the type of tree to be planted, were thus defined. In fact, it is proven that greater the floristic biodiversity of the place is, greater will be the resistance of its components, as well as the extended planting, aimed at creating elements of different ages, allowing a constant growth and a better

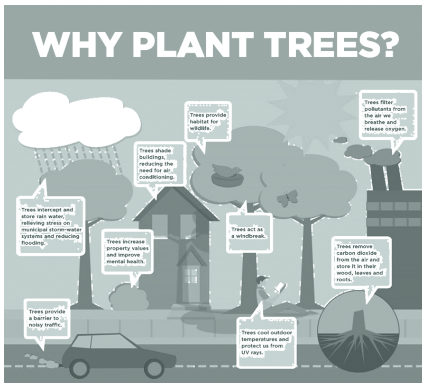


Melbourne public program map of trees' species



maintenance of the whole space. Always considering the importance of maintaining and monitoring the condition of the urban forest, the municipality has created a *Forecast Map* mapping the elements' life, in order to be able to plan and predict possible maintenance interventions necessary along time.

Along with the benefits already present in the metropolis of New York, the municipality of Melbourne aims to create a local identity and a strong cohesion of the local communities; the economic benefits also include the reduction of energy-related expenses, while among the environmental benefits we have the reduction of the greenhouse effect, resulting in lower temperatures and more shading and ventilation in the city.



Melbourne marketing and awareness campaign

Sidney's sustainable plan 2030

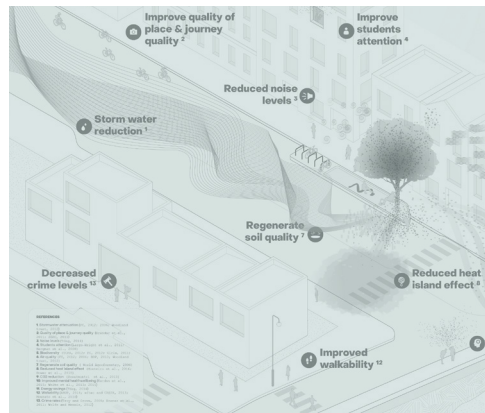
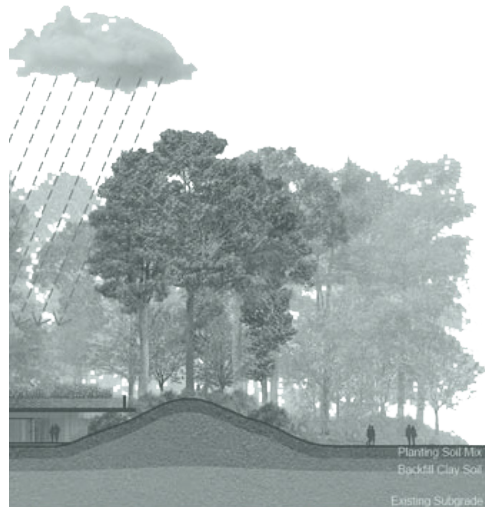
Another important project concerns the Australian metropolis of Sydney, planned between 2013 and 2030, with the objective to maintain and enhance the existing green surfaces, along with a huge program of growth.

As in the previous cases, green elements won't be included only in the form of parks and forests, but also as roofs and walls, both in public and in private properties. Great importance is given, as in any case, to the involvement of the local community,

through the organization of public events, sponsoring of initiatives on social media and internet channels, but also the creation of partnerships with local professionals and companies.

The project, as in Melbourne's case, is going to last for a large amount of years, in order to create richer and stronger green areas, planting new trees on various occasions, and creating a variety of flora in the city; great importance is also given to maintenance, carried out through periodic checks on growth and health of plants, which is accompanied by a constant search for new spaces to increase the green surfaces in the metropolis.

The benefits, as in the other cases, are different: from environmental benefits, with the reduction of the greenhouse effect and the mitigation of climate change, social ones, with the constant and rich information and participation of citizens both in the realization process and in the maintenance phases, and economics, with the increase in the value of the areas concerned.



ForestaMi

The project concerning Milan started in 2018, following the ideas of New York and Australia's projects. The main promoter in this case is the municipality of Milan, along with other organizations, which found

*Sidney
urban section hypothesis
informative campaign*



ForestaMi
forestation program for the city center
forestation program for the metropolitan area

investors in several companies, such as Falck Foundation and Enel mainly.

The final goal of the project is the planting of 3 million new trees in the city by 2030. In February 2020 the amount of planted trees is 85'000; the aim is, as in the other cases, the mitigation of climate change and the creation a sustainable city.

As in the previous cases, Milan plans to increase the green area of the metropolis, selecting different species and families of trees, which will able to withstand the city's climatic conditions, varying the types of elements as much as possible, from urban forests, to parks, open green areas, passing through roofs and walls and private spaces, through the promotion and facilitation of new construction and interventions aimed to their realization.

Through marketing and sponsorship campaigns, which mainly took place on the web and on social medias, the municipality intends to keep the Milanese community constantly informed, creating public events and making citizens participating during the all phases of the project. The objective is the creation of a solid network of volunteers distributed throughout the city, who will take care of ordinary maintenance of new areas, in order to involve the citizens at 360° around the project.

This initiative, as in the other cases, will generate various benefits. First of all, environmental one, concerning the climate, the lowering of temperatures and the increase of air quality; social ones, such the improvement of citizens' health, thanks to the lowering of pollution values, and the improvement of abandoned and uninhabited areas; and finally, economic

one, including the increasing value of real estate and areas around the interventions, and the reduction of energy costs.

conclusions

Concluding the overview of the presented case, we list all the fundamental aspects that the projects have in common, motivating the choice and finally reporting a summary table of the study carried out.

First of all, we have the opportunity to recognize the importance that external partners have within the implementation process; in all cases there is a central body that acts as the pivot of the work, but seeks help and support in different realities, more or less expanded, such as companies, and research groups. In particular, big realities act as sponsors within the whole project, while the municipality and the local realities support minor interventions through the creation of small partnerships. Another fundamental step is the technical preparation of every aspect of the work, for which specialists from the agricultural sector are involved, in order to define correct methodologies and timing of the work to be carried out; we have seen how important it is to plan the planting at suitable time distances and their selection in order to guarantee the creation of a strong and healthy forest.

Another element of great importance is

the constant information of citizens and the related marketing and sponsorship campaigns, with the realization of events and public initiatives; these elements are fundamental to create an active and participated space. In fact, we believe that the active participation of citizens has a fundamental importance, especially in the maintenance and activation of spaces.

The last important characteristic within such an expanded project, is the physical maintenance of the structures and its elements; this set of duties, which must be studied and planned at an early stage, in the cases presented, is committed to private collaborators, who take economic and fiscal benefits in exchange of taking care of the spaces. In our case, however, we believe it is necessary to develop this process towards the direction of "citizen collaboration", for which ad hoc volunteer associations will be created (the structure, functioning and tasks of the members will be dealt with later), firmly believing in the skills, abilities and participation of private citizens living in the individual Milanese districts.

NEW YORK CITY

INITIATIVE	PROMOTERS	INVESTORS	TIME FRAME	OBJECTIVES
Million Trees NYC	NYC municipality NYC Restoration Project NYC Office of Resilience NYC Service	Bloomberg Philanthropies David Rockefeller Toyota TD Bank Con Edison	2007-2017	mitigate climate change adapt to climate change make the city sustainable

MELBOURNE

Melbourne's Urban Forest Strategy	Melbourne's municipality Monash University Australian Research Center for Urban Ecology		2012-2040	mitigate climate change adapt to climate change increase canopy cover (from 22% to 40%)
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SIDNEY

Sustainable Sydney Plan 2030	Sidney's municipality		2013-2030	mitigate climate change adapt to climate change increase canopy cover protect and maintain the existing urban forest
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MILAN

ForestaMi	Milan's municipality Milan's metropolitan city Ticino-Oloná Foundation Milan Community Foundation	Enel Snam Foundation TEP Energy Solutions Falck Foundation	2018-2030	mitigate climate change adapt to climate change make the city sustainable
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METHODS	INSTRUMENTS	MARKETING CAMPAIGN	MAINTAINANCE PLAN	EXPECTED BENEFITS
one million trees in 10 years among streets, forests and private properties	collaborations between different professionals collaborations with locals engagement of the community promoting forests' biodiversity	constant information of the community creation of public events website and free sheets	inform and consult the community big system of volunteering creation of education programs for kids and teens	slow climate change water quality protection improvement of air's quality lowering of temperatures rise in properties' values high return of investment health improvements crime prevention
appropriate vegetation types guarantee species biodiversity engagement of local community creation of low canopy covered areas tree planting in private properties	standards of vegetal biodiversity regular watering system selection of species soil preparation collaboration with locals engagement of the community	constant information of the community creation of public events	Useful Life Expectancy Map of trees and green elements regular planting across the city constant control over existing elements inform and consult the community	provide shade and cool reduction of pollution and greenhouse effect creation of a local identity encouragement of outdoor activities reduction of energy and health costs rise in properties' values
greening the city engagement of local community promoting physical non-planting connections	great maintenance program collaborations between different professionals promoting the use of private areas personalized programs for each suburb	focus on expected social and economical benefits partnerships with local stakeholders constant information of the community creation of public events website and free sheets	periodical checks and measurement of existing canopy cover investigation on new planting possibilities monitoring of plants financial support to researchers	mitigation of climate change reduction of heat island effect constant increase of canopy cover increase the community's engagement
plant three million trees in Milan by 2030	collaborations with locals increase canopy cover selection of species engagement of the community different species and types of green	promotion on social networks creation of public events website and free sheets	inform and consult the community big system of volunteering monitoring of plants	slow climate change lowering of temperatures rise in properties' values high return of investment health improvements

table summarizing urban forestry cases presented

economic evaluation of resources

introduction

The intention to create a design process as much real as possible and tangible, brought us to make the decision to develop an economical hypothesis for the necessary budget to realize the all infrastructures. We identified the starting point of this share in the planning fees yearly and monthly earned by Milan's municipality, meaning all the amounts of money owned to the municipality in order to obtain habilitation titles for each intervention on the municipality's land, from a new construction process to ordinary and extra-ordinary maintenance interventions on existing buildings. Specifically, this amount of money is necessary to the municipality in order to construct

urbanization infrastructures of primary and secondary necessity around the city, such as schools and train stations, but also roads and draining systems. In order to better understand the work and consequently the development of the study, we're going to divide the research in three main parts; in the first one, we'll settle the definitions for construction cost and planning fees, referring to specific regional and municipal legislations concerning them; secondly, we are going to list and explain the datas referring to Milan's municipality and the way in which we're going to use all the informations collected; eventually, we are defining a share (which is basically a percentage of all construction costs and planning fees forecasts to be entering the municipality's cash) that would be available to realize our project.

To define all the term we're going to refer to in the process, we must consider Lombardy's regional legislation number 12 dated March 11 2005, making attention to article number 43 (definition of construction cost) and to article 44 (definition of planning fees); to technically define and calculate planning fees we're considering tables provided by the municipality of Milan.

regulatory references

Construction cost, as it is defined in article 43, is a share to be corresponded to the municipality in which the ongoing project locates, along with planning

fees, in order to obtain an habilitation title, in the case of a new construction, enlargement of existing buildings or renovation interventions. In some particular cases, this share can be reduced or even deleted, according to the case in which we are working. Construction cost is divided in two components: planning fees (primary and secondary) to be paid to the municipality, which will use the share to realize public infrastructures and urbanist interventions, and the construction cost, which is singularly defined in each case by the municipality, and it is included between 5 and 20% of the total cost of the project. Planning fees are, in particular, devoted to the realization of public infrastructures, and this is the main reason why we considered them as the basis of our work. The total amount of these fees is singularly defined by each municipality, and it is usually summarized in a table; it depends mainly by the entity and extension of the ongoing project, being it a new construction, an expansion or a renovation. In particular, primary planning fees refer to roads, stopover areas and parkings, sewerage facilities, water supplies, power and electric grids, telecommunication infrastructures, public lightning and green areas; on the other side, secondary planning fees refer to schools, markets, religious buildings, sporting facilities infrastructure for public security, green public areas, cultural and social communitarian centers, cemeteries and interventions necessary for the existing infrastructures. As both of them include spaces with finalities we want to insert in the new areas, we considered both of them in the calculation of the percentage of share to be dedicated to the project.

cost's calculation

Below, we are exemplifying the calculation of the construction cost in a simpler way, applying tables developed by Milan's municipality.

The first thing to be done is the definition of the intended use of the building (residences, industry and handcraft, commercial activity) and consequently the definition of the area of Milan (zona omogenea) in which the project is located; all the areas are defined in a document called *Piano regolatore di Milano*, and can be checked online for free on the Real Estate Market Observatory website. Once we have collected this data, we have to define the kind of intervention which will take place; new constructions, demolitions and re-constructions refer to a table of prices, while renovations refer to a different one (in general, their amount is 60% of the prices given for new constructions). Prices in these tables are defined in €/m³ and €/m², depending on the intended destination of the building; residential ones are calculated in €/m³, and to obtain the price is fundamental to know the total volume of the building (generally calculate as ground's surface multiplied by three meters of height), while for other destinations the ground's surface is sufficient. Once we have collected this elements, the calculation is obtained by multiplying the surface or the volume, depending on the case, for the unit price given on the tables; inside the table we can

find both primary planning fees separated from secondary ones, and the sum of the two elements together.

economic appraisal: introduction and datas

In order to obtain a plausible economic basis for the project, we decided to operate with a weighted average (or trend analysis) of the incomes related to planning fees received by Milan's municipality during a defined period of time. For this calculation, we collected datas relative to incomes related to planning fees received by Milan's municipality in the five years 2015-2020; the decision to consider this term of time was due to the intention to maintain as much as possible plausibility with the economical reality of the metropolis, using easily available datas. Datas regarding year 2019 have been confirmed by the municipality as correct.

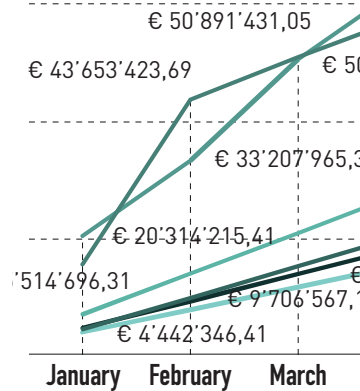
Following, a table summarizing datas collected thanks to the collaboration of Progetto Città Resilienti's direction office of Milan's municipality.

economic appraisal: trend analysis

Once we managed to collect all data necessary to the development of the research, we classified them following the date of payment to the municipality; to simplify the process, we considered every share as entering the municipality's cash the last day of each month, and all collection days have been considered equidistant.

The graph which has been developed to track the incomes' differences shows many distinct shares of income, and this evidentially means important differences in the amounts entering the municipality's cash. Particularly, we want to highlight an evident and important difference among the months May and June 2018; obviously, these differences are due to the amount and type of interventions and projects done in that precise period of time in the city of Milan. So, we can point out an important increase in the incomes of June 2018, probably due to an increase in the properties and projects' values.

To obtain a plausible share to be invested in the realization of the project, we can simply evaluate the incomes' trend entering Milan's cashes; by the way, it is important to consider a possible decrease in the forecast data, due to the nowadays situation of crisis caused by the Covid-19 pandemia around the world.



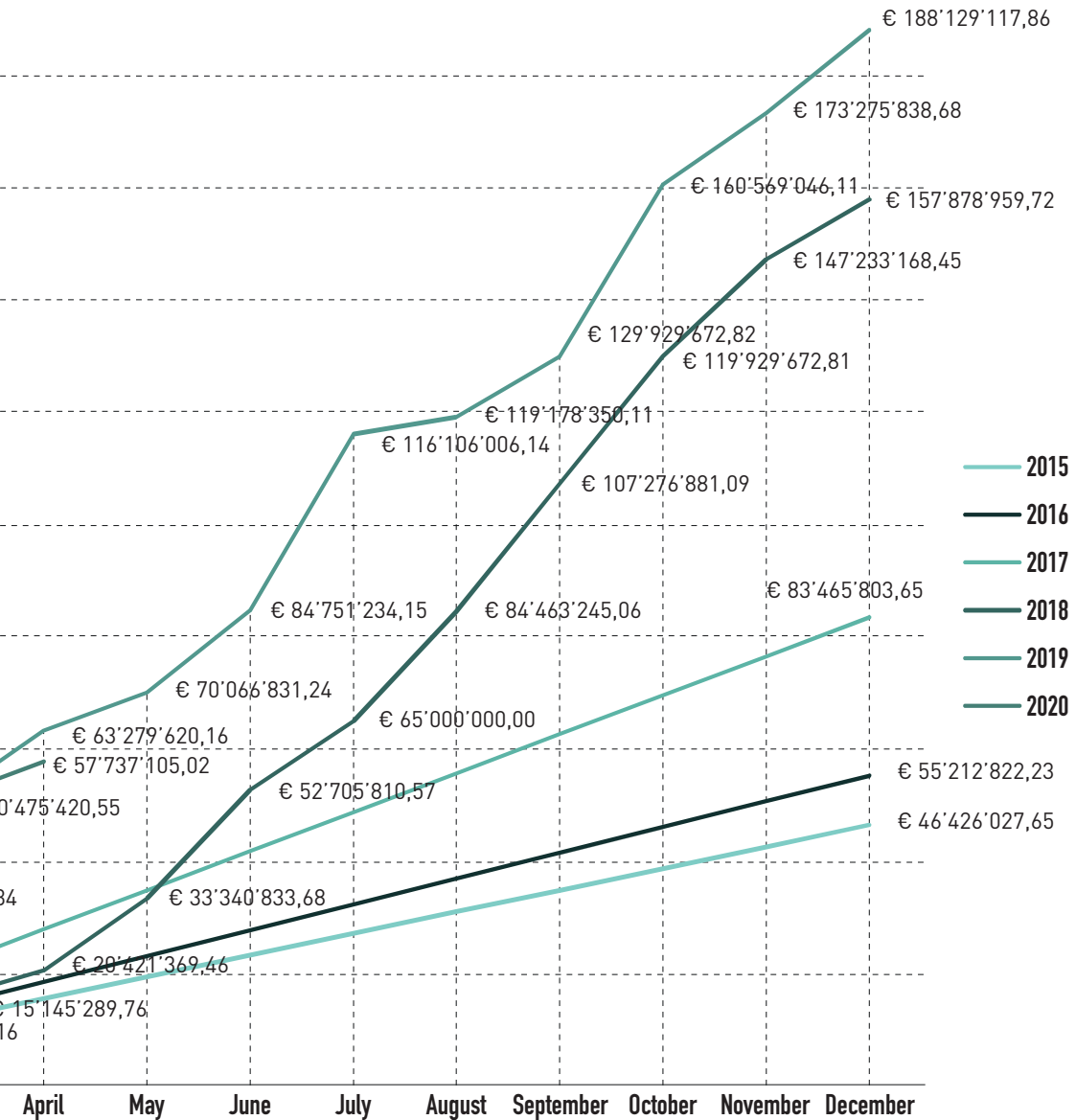


table resumng 2015-2020 incomes related to planning fees in Milan's municipality

30'000'000

25'000'000

20'000'000

15'000'000

10'000'000

5'000'000

1/01/2015
1/02/2015
1/03/2015
1/04/2015
1/05/2015
1/06/2015
1/07/2015
1/08/2015
1/09/2015
1/10/2015
1/11/2015
1/12/2015
1/01/2016
1/02/2016
1/03/2016
1/04/2016
1/05/2016
1/06/2016
1/07/2016
1/08/2016
1/09/2016
1/10/2016
1/11/2016
1/12/2016
1/01/2017
1/02/2017
1/03/2017
1/04/2017
1/05/2017
1/06/2017

— income



es — trend analysis

trend analysis graph

conclusions

To give a conclusion to this part of the work, we are going to define a percentage of these incomes which could be devoted to the realization of our project. It is fundamental to maintain a global vision of necessities inside such a big metropolis. We discussed a lot about the different possibilities of this percentage, asking for help to a couple of more expert professionals, always keeping in mind the idea of plausibility which is at the basis of this work.

In particular, in our vision, the amount of this percentage is the 30% of the total incomes, which could guarantee a huge impact of the project inside the city, for the first five-ten years of initiative. Later, with the necessity to maintain the areas and not construct new one, the percentage could decrease to 15-18%. This amount remains high in order to avoid the deterioration and death of the areas.

design process

identification of site

The first step in the design process has been the definition of sites which would need an intervention; to reach the purpose, maintaining the idea of cooperation with citizens, we elaborated some proposal advanced by locals in the occasion of an initiative organized by Piazze Aperte team in autumn 2019.

The principal strength of this list of spaces is their origin, as they come mainly from citizens and associations which are directly living the suburbs and perfectly know the spaces and inhabitants' needs and requests. The group includes almost fifty different places distributed in the area of Milan, and is composed by different typologies of spaces; in order to better

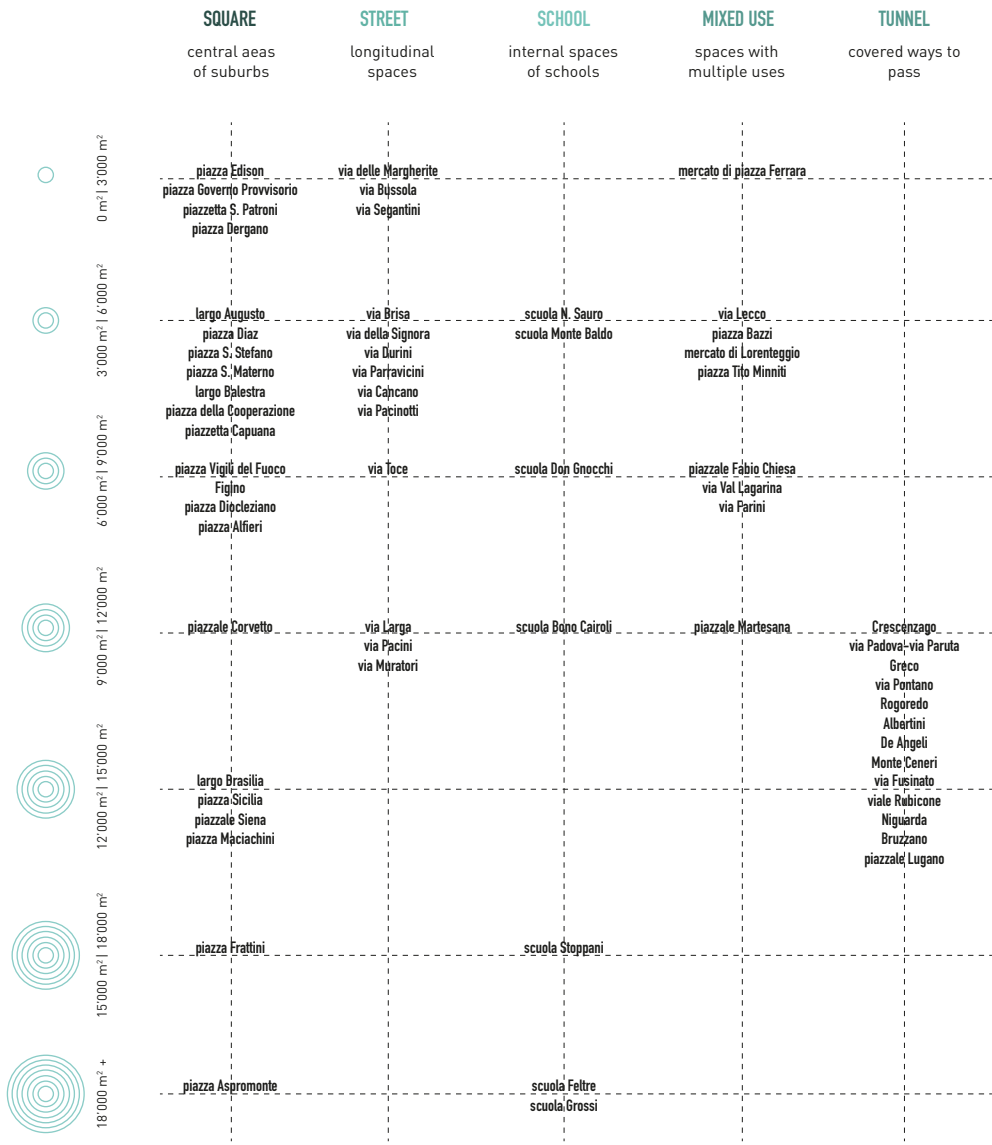
respond to the project's objectives, that is the creation of a unique instrument which would make the municipality able to realize and manage new urban spaces for the community, we considered essential a first step of classification of these areas, so that it would have been easier and effective the creation of a *matrix of sites*, containing indications and rules for the realization of the project.

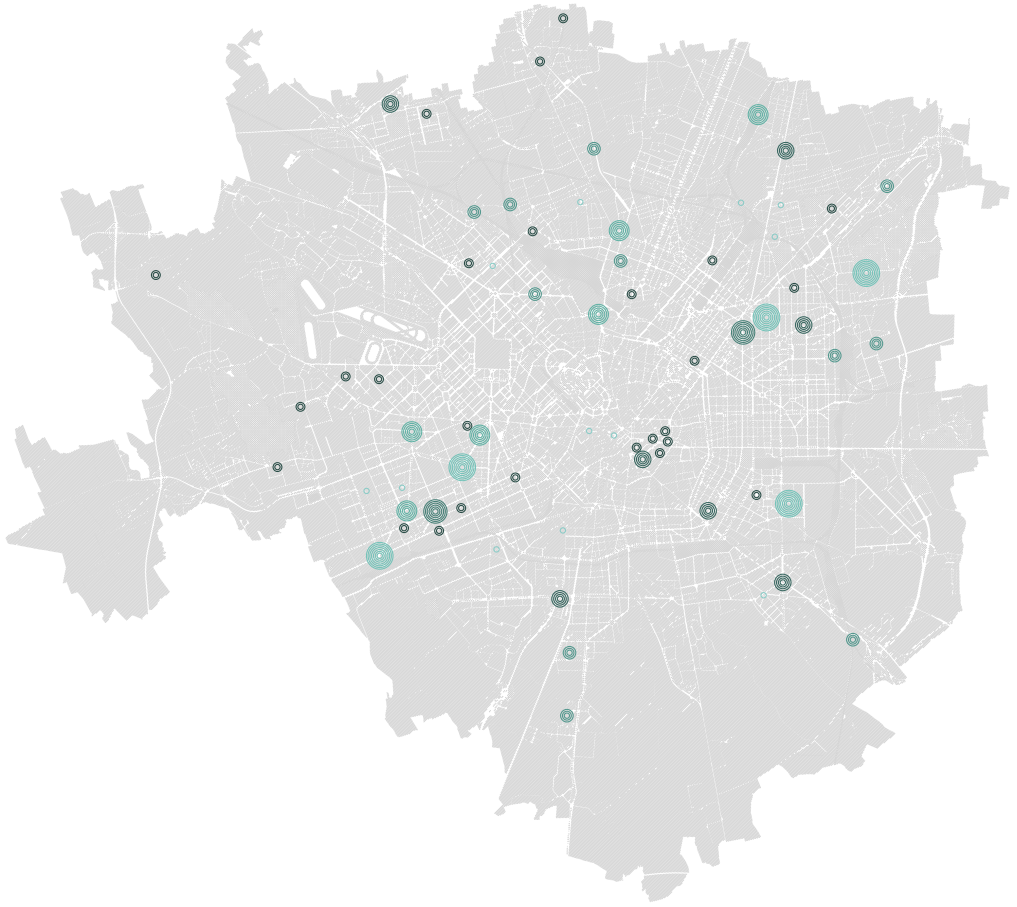
The first step was the definition of the typologies of spaces, which directly reflects the activity to be inserted and its possible different uses; we decided to divide the areas in five categories, which have been positioned according to nowadays use of it and its spatial conformation. The first category is the *square*, that is a central spaces around which local communitarian life gravitates; these areas are mainly small centers in the suburbs' life, which collect local activities and small realities, often used as containers for the weekly local market. This character, which is popular in Italian and European squares, won't be deleted or replaced, causing the loss of flows around the place, but it will be exploited and implemented increasing the possibilities of the space. Secondly, we defined the *street* category, that is mainly commercial streets, with a huge necessity to, at least partially and depending case by case, be brought back to pedestrians and cyclists, guaranteeing higher security and increasing flows through them. We can define the process as a sort of "re-appropriation" of the ground toward citizens, condition that would allow the maximum exploitation of spaces with facilities and infrastructures. The third category of space is the *school*, areas

which could be both located inside a public building or in its proximities, which need both a better condition of security for children and the increase of pedestrian areas devoted to playgrounds and green. We want to point out that our intention is not a scenario without cars and motorcycles, but we want to limit both parkings and transitions inside these spaces, in order to facilitate the birth and the growth of local communities and public initiatives. The two missing categories are *mixed use spaces* and *tunnels*; the first one consists in areas which is not possible to define as proper squares, but they have some of their characteristics, and usually include a variety of possible uses, such as markets or parkings, while the second category, in its names mirrors perfectly the meaning of the design intentions: re-qualification of long and covered spaces, which are often a scenario of small crimes, and citizens are too afraid passing through them, meaning they loose their primary function.

The second categorization we need for the spaces is the spatial and dimensional one: the differences in free spaces available to be used in the areas is fundamental to be considered in the design process. For this reason, after we measured all the listed spaces, we decided to divide them into seven different spatial categories; the calculations include surrounding small areas which will be inserted in the project due to spatial necessities.

This has also been the procedure thanks to which we identified *La Piana* as our main case study, along with other characteristics such as the the interest shown by *Piazze Aperte* for the space, which was already a place were communitarian events took



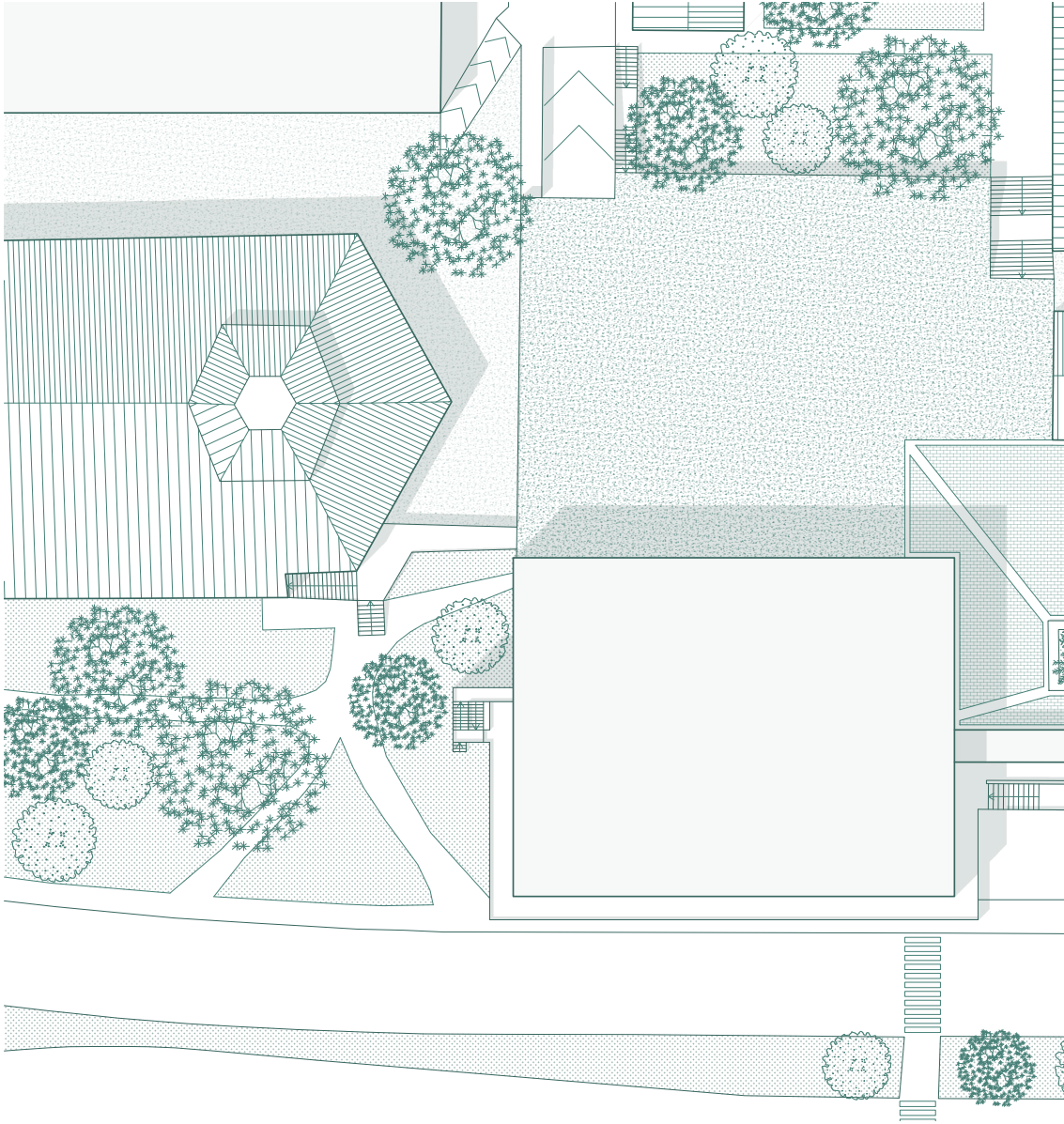


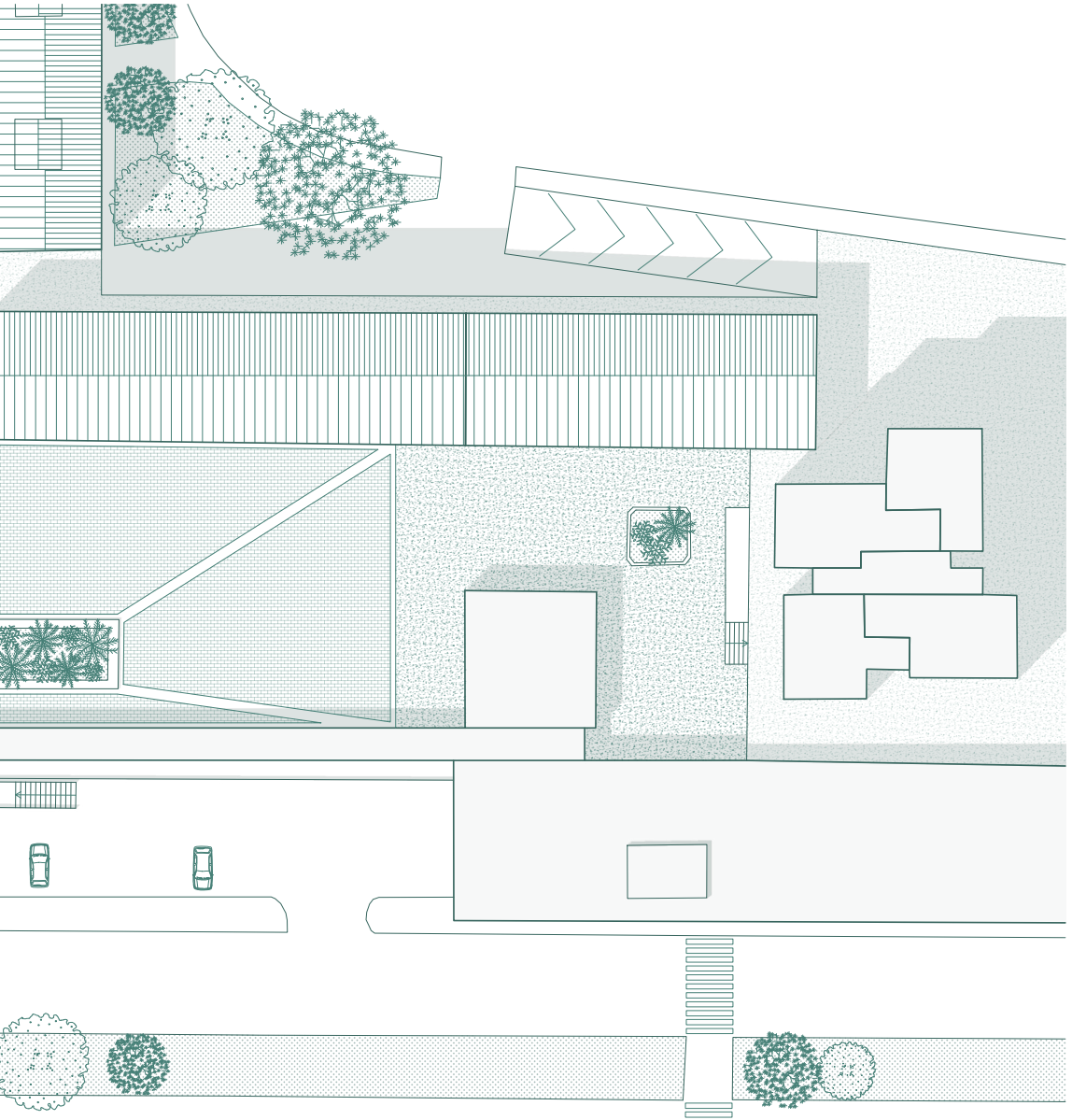
matrix of sites

place, with a solid community on its back. The initial situation of the area, before the interventions by local associations happened around 2010, was a state of decay; it is located in the southern periphery of Milan and it has a raised position with respect to the common pedestrian level. The access to the square was guaranteed by four staircases, two of which are still hardly damaged and unused; the first group of people who showed interests for the potentialities of the place was the association Atir-Teatro Ringhiera, which deals with the organization of the theatre located directly on the plaza, and were immediately followed by other local associations, that have previously been mentioned, and some citizens living in the suburb. Each of these groups of people take care of a portion of the area, coordinating themselves to organize public events and initiatives; periodically, each of them takes care of cleaning the square as municipality cleaning systems are not able to reach due to its position.

As soon as *Piazze Aperte* team announced the intention to sponsor a new urban space, and opened the possibility to all citizens in Milan, the group saw a huge possibility for La Piana and suggested a project for the area. The main intentions of the group was the general settlement of the place and a deep cleaning of it, along with the extraordinary maintenance of damaged infrastructures (such as the staircases), joined to the procedure of painting of the ground with the cooperation of citizens and volunteers, as it happens yearly on June 2nd during the public periodic event, the positioning of ping-pong tables and pots with plants in order to create a new *green*

living-room. It is thanks to this solid bases of volunteers and associations that Piazza Aperte team decided to select La Piana as a new urban spaces to be realized. They worked on some adjustments to the original project, such as the positioning of trees and green elements due to structural reasons, and the procedure to be applied to the painting of the ground. Thanks to the Collaboration agreement, subscribed by each association and citizen involved, the project started in March 2020 and is still ongoing. In the contract, volunteers present a calendar of periodical events which will take place on the site and take care of periodical maintenance of the spaces, while the municipality will provide materials for the realization of the space, and will provide extraordinary maintain of the area if needed. The project will be hopefully completed at the end of summer 2020, due to many delays caused by the Covid-19 pandemia in spring.



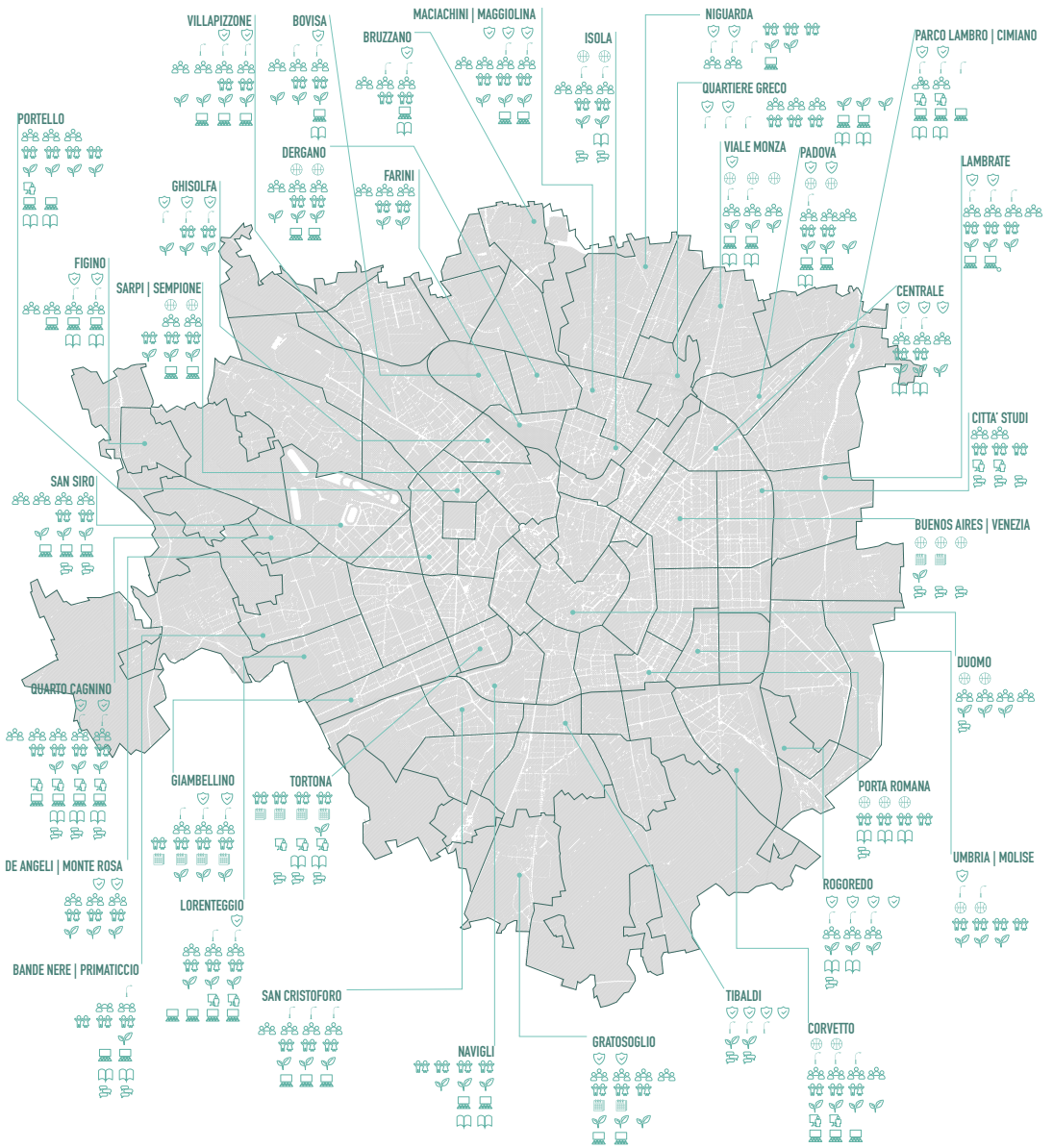


La Piana: actual state

identification of requests

In order to better reach the objective to involve as much as possible the local community, the aim is to have some interviews with citizens so that their requests and necessities can be satisfied. During the event which took place in January 2020, Piazza Aperte collected many proposals for different spaces in the metropolitan area, and collected these data in a document which is publicly available on their website.

As for the case of Gratosoglio, we decided to go in deep in the design process and ask directly to some people living in the neighbourhood what they would like to see and do in the new space. Asking the question to twenty-five different people, and giving them some options of activities, we have been able to collect a sort of *list of preferences* coming from the citizens.



needs and requests collected

introduction to the analysis

At the basis of this work, different types of analysis were carried out in order to achieve the highest degree of knowledge of the general conditions of the places and to respond as well as possible to existing needs. The main questions we wanted to answer, given the objectives set, were the following:

-who, in Milanese neighborhoods, has more possibilities to use the space?

In order to answer this question, we collected data regarding the census of the inhabitants of the metropolitan city of Milan for the calendar year 2018; the best way to analyze the current situation was to divide the population into age groups, assuming that different ages have different needs in terms of leisure time, interests and needs, but that the goals that the new urban space should achieve are common. In fact, the main aim remains the creation of spaces usable by the entire population, but it is essential to consider the variations due to the differences between citizens when drawing up the table and selecting the most appropriate devices. On the contrary, the income factor was voluntarily excluded from the research carried out, as it was considered irrelevant for the creation of a community neighborhood.

-what is the current share of green areas in the city of Milan?

This data has been studied by subdividing the data district by district, given the indisputable fact that some points of the metropolis are more provided with natural elements than others.

In this amount, we considered public and municipal spaces, leaving aside private and limited entrance areas, always keeping in mind that the fundamental characteristic of accessibility of the designed spaces. At the end of the data collection and study, we have established a minimum quota of greenery that each district will necessarily have, so as to achieve the objectives of urban greenery provided by the *ForestaMi* project, considered as the basis of the green project; the quota is the result of a reasoning regarding the actual feasibility of the project, and not a simple mathematical average of the percentages present in the different districts.

The study of the green factor was accompanied by a brief collection of data concerning the *Case dell'Acqua* of Milan; we believe in fact in the potential of this municipal initiative, which, however, is underdeveloped and poorly publicized in the area. The benefits deriving from these infrastructures have also been identified by the municipality, which has launched a project aimed at expanding the number of structures from twenty-two to fifty-two. It is our belief (which was then reflected in the real intentions of the Municipality of Milan), that by increasing the number of these *Case*, so as to get physically closer to a greater number of citizens, we could not only have an economic advantage (six liters of water/person/day are free) but also an ecological one, limiting the purchase and use of plastic bottles at supermarkets.

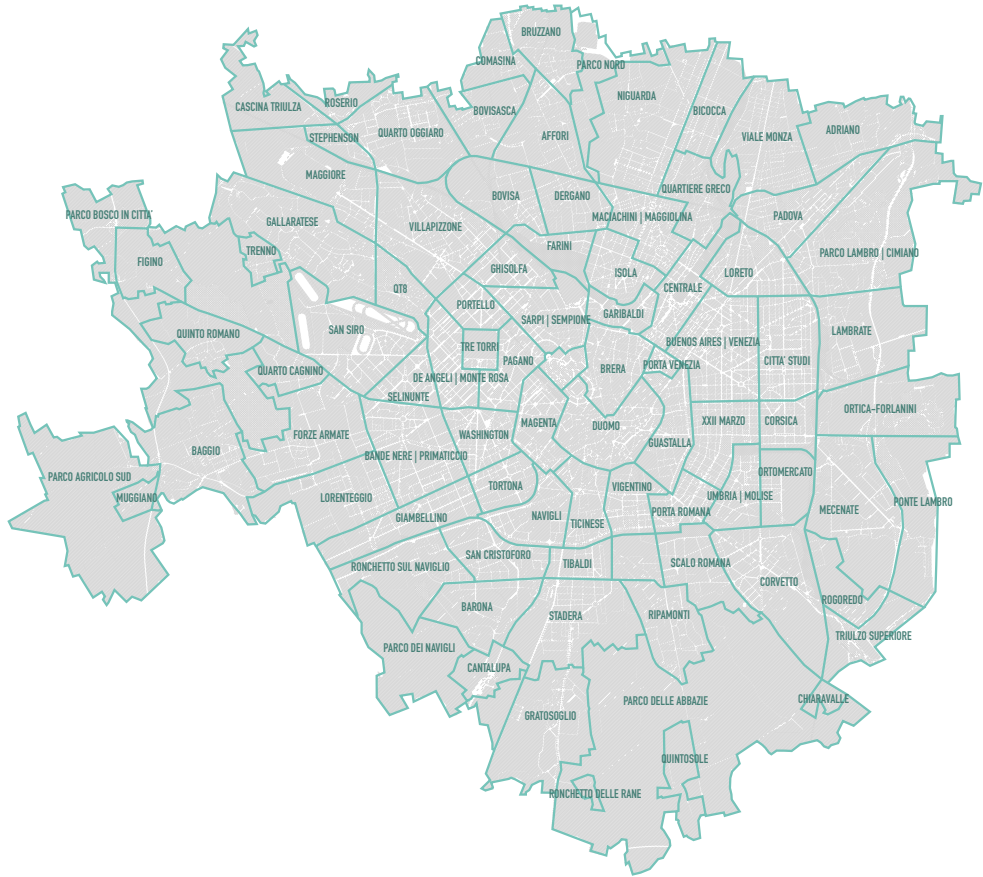
-what is already present on site?

The detailed study of the places and services already promoted by the municipality in the areas was fundamental, in order to differentiate the offer to the citizens. Following the previously mentioned principle of accessibility, only public and communal places have been included in this count, therefore accessible free of charge or at moderate prices.

Considering the different leisure activities possible in an open space, the data collection focused on libraries, cultural centers, municipal sports centers and *open-air gyms* (equipped areas with sports facilities, accessible free of charge in parks and green spaces). As in the case of the study concerning urban green areas, at the end of this collection and processing we defined some facilities to be added to the offer already present in Milan's districts.

The data used in the development of these analyses were obtained directly from the Database of the Municipality of Milan, and date back mainly to the calendar year 2018. Waves not reachable through the database, we directly contacted managers of several offices, who proved to be available and active in helping us with the research, forwarding all the statistics.

The subdivision into districts and municipalities is the one provided by the maps on the Geoportal, since, although the subdivision into municipalities is clear and defined, especially due to administrative needs, the subdivision into districts is more personal and variable: Milan has about 80 different districts, but they may vary depending on citizens.



subdivision in suburbs considered

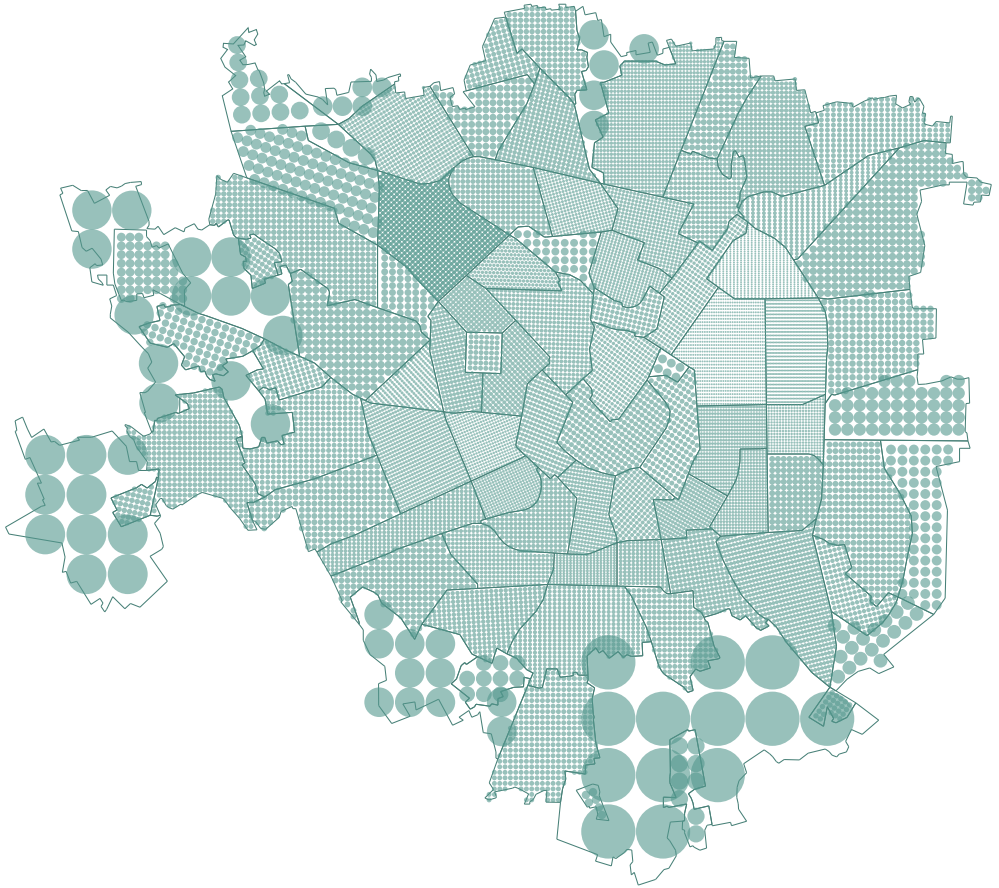
demographic analysis

Datas relating to the census carried out by the municipality of Milan in the calendar year 2018 were found in the online database of the municipality; although the calendar year 2019 could be more updated and therefore accurate, at the time of the beginning of the development of the analysis there was no complete census for the year, and we assumed that there could not be a significant difference between the use of two contiguous years. As already mentioned in the introduction, the need to carry out an analysis on the ages of the inhabitants of the individual Milanese districts stems from the desire to create spaces that are really usable by the citizens, both in physical terms, i.e. material accessibility to the spaces, and in terms of services, i.e. interest in the proposed offer; together with this information, we have produced a map of the population density of the individual districts of the city of Milan. Emphasizing overcrowded neighborhoods and emphasizing those, on the contrary, which are more provided with free spaces (think, for example, of peripheral areas such as Parco delle Abbazie and Parco Agricolo Sud), could be useful for the municipality (but not for the purposes of this particular project) as a map for possible large municipal infrastructures, or as a simple starting point for the promotion of new activities in the areas of the southern suburbs of Milan.

The development of this idea is rooted in

the trivial observation of existing spaces within the city of Milan, and the people who live there; although exceptions may exist, it is possible to observe a “rule” in the activities carried out by the different population groups. We know, in fact, that if we place ourselves near an elementary school (the “school plexus” category in the matrix of the project sites will be later clarified), the probability that the space will be used by the children and their grandparents and parents once the school activities are over will be higher than if a play area is placed in a space in the city where offices or commercial services are located. In the same way, we can assume that, in a neighborhood with a high percentage of inhabitants over 65 (i.e. mostly pensioners), the space will be more used by the latter, and the idea of providing space for the creation, for example, of urban gardens managed by citizens, but nevertheless monitored by a central municipal body as regards extraordinary maintenance and supply of material, will certainly have more feedback. In this case, we could consider two of the main objectives of our project to be satisfied: raising awareness of green issues and climate change, and promoting community life, given the collective nature of the activity carried out. We have thus achieved the identification of an activity that is suitable for inclusion in the space covered by the project, which allows the achievement of the pre-established objectives, based on the observation of the personal data received and processed. Datas concerning the area of Gratosoglio, in which La Piana is located, show a predominance of adults and late adults

living in the suburb, meaning the activities we're going to locate in the square and the space in general will be mainly used by this range of people. By the way, kids and children are also known to be spending time on the site, which benefits of a particular condition of safety and security, as it is not accessible by cars and transports in general.



*urban demographic density map
one circle represents 50 inhabitants*

natural components' analysis

A second type of analysis carried out in the initial phase of the work concerned one of the main themes of this thesis: the presence of green areas in the metropolis of Milan today. The data, as in the previous case concerning the demography of the municipality, were found on the online database of the municipality of Milan, and refer to the calendar year 2018, the most complete and updated census at the time of the start of data processing.

In the count were considered all types of green areas, parks and gardens, traffic dividers and rows, tree-lined avenues, with the sole characteristic of being of public use and management; we have therefore voluntarily excluded private spaces and limited access. This statement is contradictory if we refer to the ForestaMi project (and other cases of urban forestation projects to which a separate chapter will be dedicated), as the increase in greenery in the city is also promoted through the promotion of calls for tenders (such as the BE2 2019 Call for Proposals) that guarantee reduced funding and taxation in the case of green roofs/coverings, or the simple presence of gardens and green spaces in private homes. Still referring to the concept of accessibility, we have voluntarily excluded them, considering that their consideration would need a particular parallel work. As already stated, it is our intention to concentrate work on public spaces

accessible to the whole community, regardless of factors such as age, income and social conditions.

Another important element considered in the analysis concerning the natural components of the city, was the initiative constituted by the *Casa dell'Acqua*, a project of the municipality of Milan that concerns the free supply of drinking water in certain structures located in the city. The importance of this initiative derives from the fact that it could bring two main types of benefits to the community: an economic one, since the expenses related to mineral water would be reduced to zero (6 litres of water per person per day can be supplied free of charge), and an ecological one, since plastic bottles would no longer be purchased in supermarkets. To date, the potential of this initiative has not been fully exploited, but a project promoted by the Municipality of Milan is underway aimed at increasing the number of these facilities; the objective is to move closer to an increasingly large slice of the population, from a total of twenty-two facilities to fifty-two, distributed for the districts of the city that are currently baked.

At the end of the work, we define a minimum quota of green areas that must be absolutely present in every single Milanese district, distributed among parks, small green areas, and simple rows. The sum derives from a reasoning regarding the current size of public green areas in each area, and not from a precise mathematical average of the percentages present to date.

First of all we have considered the real possibilities of the spaces to accommodate new green structures, mainly distributed

in the new urban spaces of the project, but not necessarily. The best option to reach this share is the positioning of green elements even outside the selected project areas, in the form of less invasive structures, such as small green spaces and rows. For this reason the intention to cover half of the total surface area of the district under study did not prove feasible, since the cases under study range from a percentage present on site of 5% of the total surface area of the district, up to a maximum of 80%; the variation between the different Milanese districts is therefore largely variable. We therefore considered that the goal of covering 40% of the surface area in question could be reached, through the means and elements already mentioned, in each of the Milanese districts, leaving aside those already containing the minimum quota set. As for the area where La Piana is located, a suburb called Gratosoglio, the data show that the percentage of green surfaces with respect to the totality, is 25%, meaning that, according to our objective, the total amount of green surfaces missing is 15%, to be distributed in all the new urban spaces that will be created with this initiative.



green map and Case dell'Acqua

public spaces' analysis

The last analysis carried out in preparation for the beginning of the design is the one concerning the services and spaces already present in the project areas. We considered it essential to carry it out in order to avoid the excessive formation of similar activities in the vicinity, so as to diversify the offer and extend the greatest number of services to as many inhabitants as possible. In particular, while maintaining the character of accessibility in our minds, it focused on gathering information about the presence of common spaces promoted by the municipality, or areas and services with free access.

Again using the online database of the City of Milan, we have collected data on three categories of spaces that are fundamental to the community life of citizens and their growth both personally and as citizens of a large urban reality; we can summarize these types in three main categories: sports facilities, community spaces and places of culture, referring to the objectives that we decided to impose on ourselves when actually designing the spaces.

In order to classify the level of presence of each of the three categories, we have classified each structure that respects our parameters present on the Milanese soil; these parameters are, as in the previous cases, associated with accessibility and accessibility factors.

The category concerning the objective of the community has been translated

into the identification of community and social living spaces, such as community and cultural centres, both youth and non, in the urban fabric, promoted by the Municipality of Milan or by free volunteers/ associations in the neighborhood; associations and volunteers will play a fundamental role within the organizational structure of the project spaces, to which we will subsequently dedicate a separate chapter.

citizens' awareness and possibilities for health and sport, both from an economic and social point of view. The so-called "open-air gyms" are in fact made up of a set of simple elements that citizens can access free of charge; the space will be activated both through private individuals who go there for free activities, and through the organization, by the associations and committees in charge, of courses and lessons held by experienced volunteers.

Finally, as far as the "culture" objective of the project is concerned, we considered it appropriate to monitor in particular cultural centers and civic libraries; all the spaces with a public character have been identified and mapped to allow a more precise and adequate positioning of the project structures. Also in this case, as in the previous ones, we deliberately focused on municipal and public spaces.

Exactly as in the analysis of the natural components of the city, the ultimate aim is to identify missing elements in the urban fabric, with the difference that we will not define a minimum quota of spaces to be reached in order to reach our goal, but we will limit ourselves to pointing out the deficiencies present in the areas. Therefore, voluntarily we will not define

a “quantity” as in the previous case, but we will limit ourselves to point out the structures that should be implemented and realized. We used as an analysis tool a simple table with different categories, in order to make the needs of the different urban spaces visible at glance.

As for the area of Gratosoglio, we can find in the proximities library and sport centers, while cultural and aggregation centers are not present. For this reason, and for the fundamental concept of community which is an objective of our work, we’re going to focus particularly on cultural activities and free meeting space with different shapes and structures.



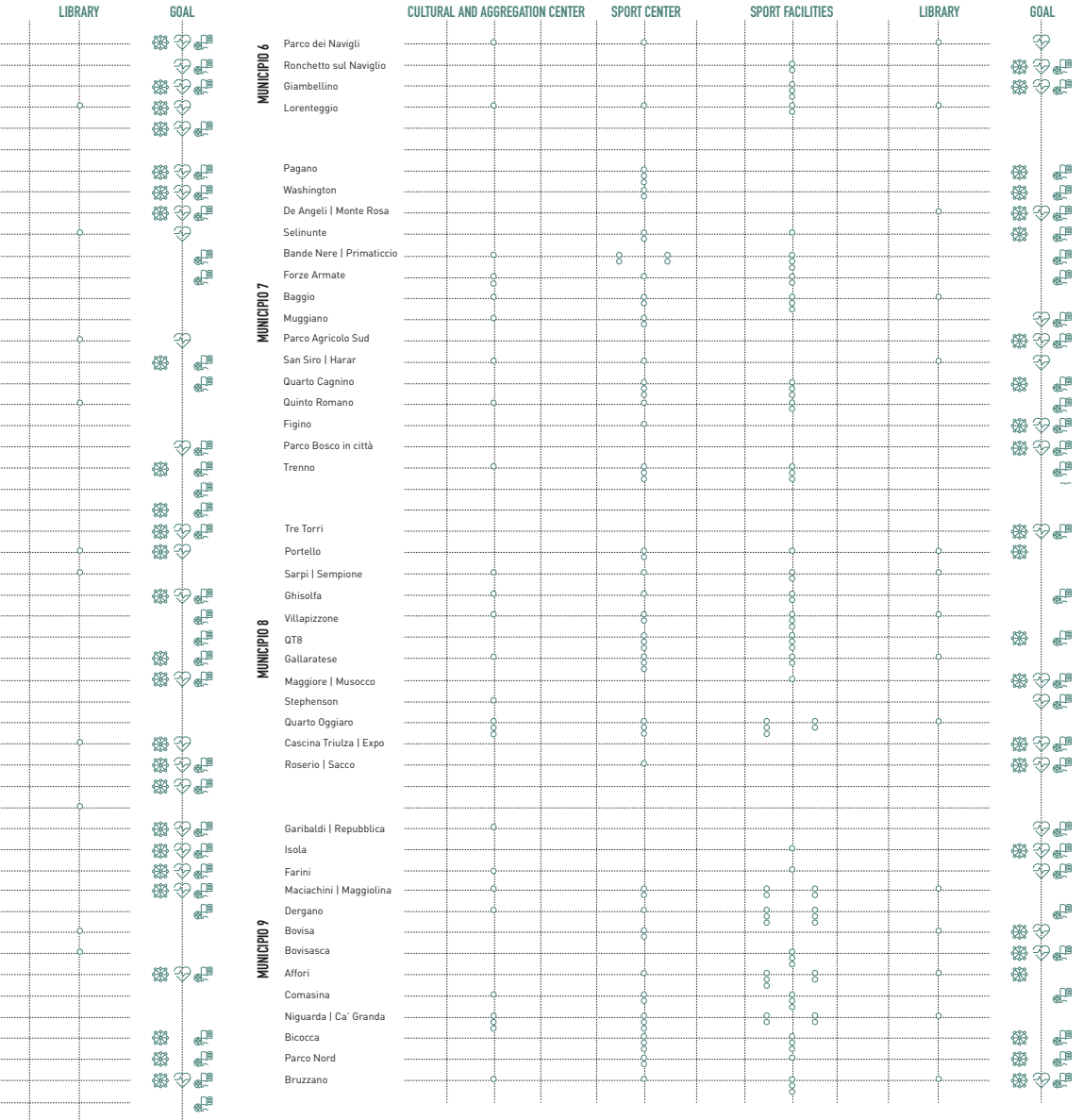
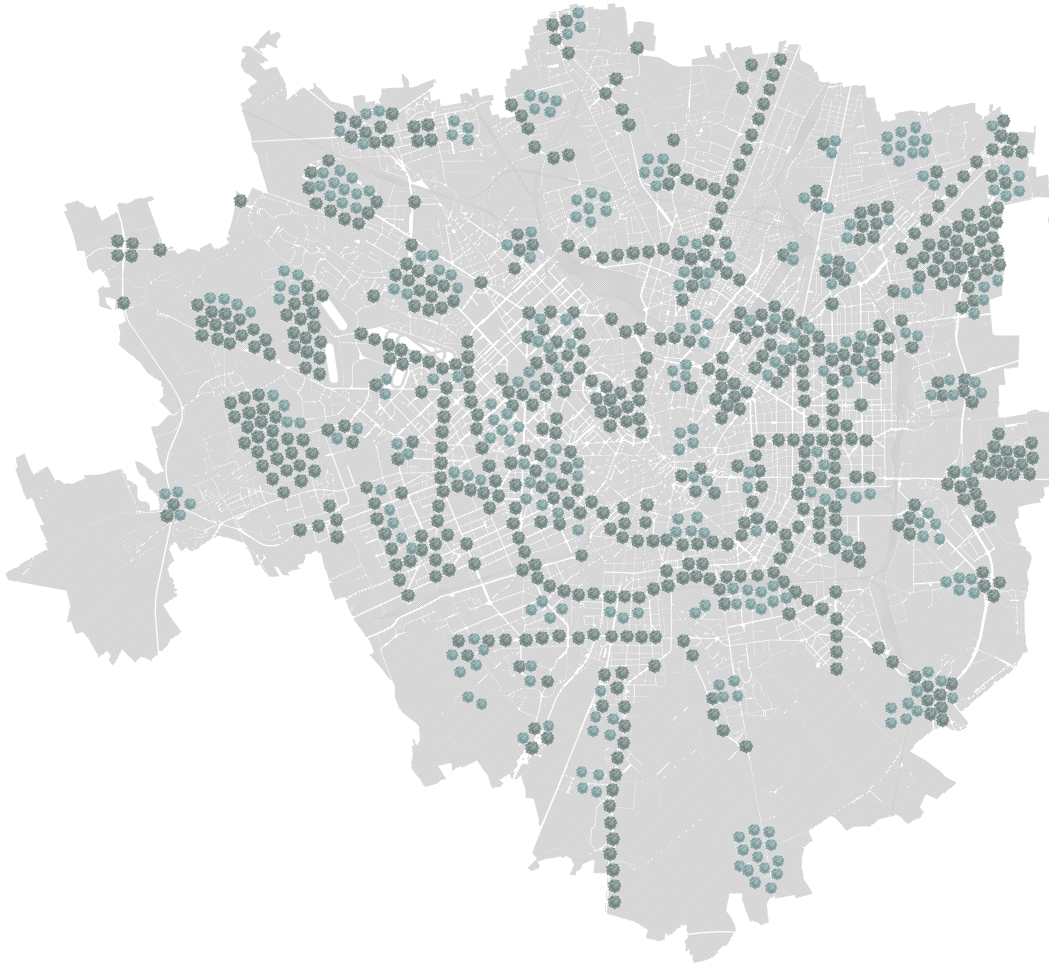


table of public spaces


definition of the green goal


As we already mentioned discussing about the green elements' analysis, we decided to fix a *goal* to be reached by each suburb in terms of green surfaces. The chosen percentage comes from the analysis of the datas collected and mapped during the process, not as simple calculation but as a deep reflection about the actual condition of city, its possibilities and initiatives.

Mapping all datas, which refer only to public spaces which cure is kept on by the municipality, we have been able to notice a very high difference in the various quantities of nature which is present throughout the city; while the majority of the suburbs shows a percentage which is around 25-30% of green surfaces with respect to the total one, we can mention a couple of particular cases in which the percentage goes from a 5% to a 80% percentage. These percentages vary according to the total surface of the neighbourhoods and the presence or absence of big green areas. For this reason, we decided to fix our goal to the amount of 40% of green surfaces in each suburb, which can be reach through the exploitation of many different type of devices, as we're going to see later.



map summarizing green goals fixed

 *existing green elements*

 *green elements to be added*

identification of devices

General objectives of this work has already been mentioned; however, we want to go deep in the reasons which brought us to determined choices and the process which led from the initial objectives to the definition of a matrix of devices, mentioning activities and actions which will lead us to the success of the project.

In order to list the aims we fixed at the beginning of the work, we must resume the analysis which have been carried out, with the intention to fulfill lacks present around Milan's territory. We divided the analysis in four main categories: one was the analysis concerning *natural elements* which are present in the metropolis, concerning the objective to build a city which is as sustainable as possible, along with the growth of climatic consciousness among citizens. The immediate consequence of this need is the planting and the growth of new green spaces inside the city, and the objective we fixed is to reach the covering, with green elements, of at least 40% of every suburbs' surface, distributed in different ways. To this goal, we joined the the one which aims to the reduction of plastics' use (through the placement of new infrastructures called *Casa dell'Acqua*) and the promotion of sustainable ways of transport, from the use of public transport to the exploitation of bicycles and the various sharing services. With these action, we aim to unify two important projects which are currently ongoing in Milan: *ForestaMi*,

that is the study of a possibility of urban forestation for the city, and *Piazze Aperte*, which aims to the birth of new community spaces for the suburbs.

The second category of objectives we fixed is the one concerning *community*: the birth of a common sense among citizens, promoting support and help among inhabitants, and the return to the use of small centers in the suburbs' everyday life. To reach the purpose, the starting point is the Collaboration agreement, which is subscribed at the beginning of the process: as we're going to explain later, the basis for the success of this kind of interventions is a cooperation method of work, which is put into effect which the subscription of the cited document, coordinating the municipality and the citizens in the maintenance and activation of the area. Thanks to this agreement, the community is going to propose a list of events and initiatives on site, and the municipality will provided infrastructures and furnitures to allow the use fo the space.

The category defined as *health* was born from the intention to make sport and open air activities accessible to as much people as possibile; nowadays, it is statistically proved that people is practicing less physical activity than people of the same age twenty years ago. The practice is not only aimed to aesthetics and training, but we are also firmly convinced that a regularity in the practice of physical activities will bring to the community benefits from the social and economical point of view. With this aim, we define sport and health as one of our main goals to be reached with the realization of the project; accessibility is one of the main concepts to be considered in

the process, and we guarantee, to reach the purpose, the supply of basilar sporting facilities in the green areas, along with the organization of sporting events on site. The last category to be mentioned, is the one concerning the *cultural life* of the community: a sort of amphitheater (with reduced dimensions) will be the center of the newborn areas, positioning itself as one of the most important spaces in the suburb, center of events and initiatives. This element will have a central role in the organization of event, groups of discussion, and activities in general, and it will be located in the main areas of each suburbs; for minor activities and events, each space will be provided with tables and seats.



GREEN AND CLIMATE



COMMUNITY







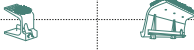






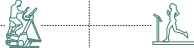
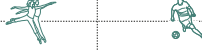





HEALTH

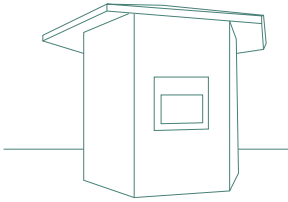


CULTURE

NEEDS	OBJECTIVES
.....take actions against climate change.....	.....reduction of plastics, use and money sav.....
.....reduce pollution's levels in the air.....	.....promotion of non-polluting ways of transport/moving.....
.....encourage people to use bicycles and scooters.....	.....promotion of non-polluting and econom ways of transport/moving.....
.....encourage people to use public transport.....	.....promotion of non-polluting and econom ways of transport/moving.....
.....increase suburbs' green surfaces.....	.....reach the fixed goal of 40% of suburbs surfaces covered with green.....
.....give easily reachable purposes to the inhabitants.....	.....citizens' awareness and engagement toward nature and climate issues.....
.....increase of green surfaces in areas without apparent green possibilities.....	.....promote the creation of green areas in uncommon ways.....
.....birth of cohesion between inhabitants of the same area.....	.....promotion of ideas, occasions, announcements.....
.....creation of an helping-minded community.....	.....cooperation and exchange of knowledge.....
.....birth of an active and solid community.....	.....exchange of ideas.....
.....contact between people of different ages.....	.....creation of multiple and supportive community (in terms of ages, races, background).....
.....spaces accessible to everyone, free and clean.....	.....open-air spaces to socialize.....
.....ways to economically "sustain" the space and the community in needs.....	.....promote use and self-sufficiency of space.....
.....easily usable and accessible facilities.....	.....promotion of open-air activities.....
.....sport and activities open and accessible to all the community.....	.....promotion of an accessible, healthy lifestyle.....
.....public events to promote cohesion in the community.....	.....promotion of open-air activity.....
.....accessibility of culture and knowledge.....	.....promotion of cultural initiatives.....
.....increase the possibilities to meet between people with the same interests.....	.....creation of groups of people with common interests.....

	ACTIVITIES	DEVICES	SPATIAL POSSIBILITIES	SUPPLIER
ing.	free water re-filling of personal bottles	water distributors "Case dell'acqua"		municipality of Milan
	free and accessible space to park private bikes	green racks		municipality of Milan bike sharing companies
ic.	parkings reserved to bike and car sharing devices	electric car/bike parkings		car sharing companies
ic.	easily reachable with public transport	public and green buses stops		ATM
	free spaces to meet and socialize in a green context	green areas and free-access fields		municipality of Milan private investors
ord.	improve the area day by day in a visible way	enclosed vegetable/flowers gardens		municipality of Milan
	promotion of green roofs and walls	green walls and green roofs		private investors and donations
	exchange between citizens and promotion of suburbs' opportunities	notice boards		municipality of Milan
es.	free access courses and co-working spaces	tables, seats and gazebos		private investors and donations
	public discussions about different themes	seats and gazebos		private investors and donations
	public events for children, teenagers and adults	amphitheatres		private investors and donations
	safe space for children to play	playgrounds		private investors and donations
es.	rentable spaces for private small events	table, seats and gazebos		private investors and donations
	free space to train	sporting facilities		municipality of Milan
le.	free or cheap/easily accessible sport courses	sporting fields and free-access areas		municipality of Milan
	organization of public tournaments and games	fields and green areas		municipality of Milan donations
	organization of public events, such as books' discussions and free-access lectures	amphitheatres and free-access libraries		PIRLLI association
on.	organization of book and movie clubs with periodical meetings	amphitheatres, tables, seats and gazebos		private investors and donations

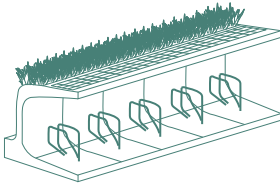
matrix of devices



CASA DELL'ACQUA



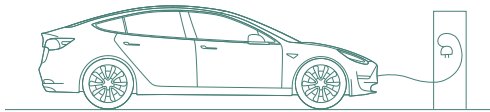
GREEN AREA



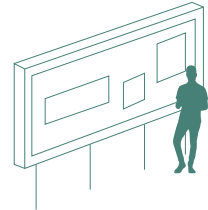
GREEN RACK



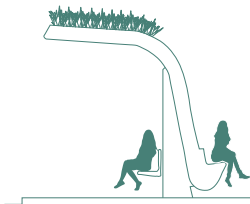
GARDENS



ELECTRIC PARKING



NOTICE BOARD



GREEN BUS STOP

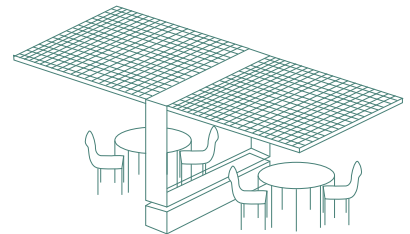
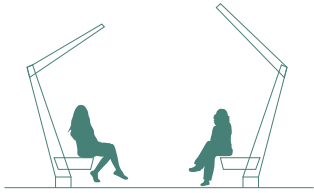


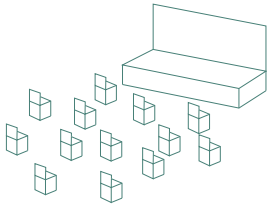
TABLE AND SEATS



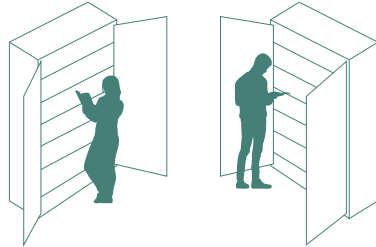
SEATS



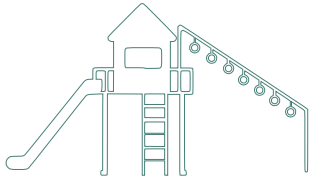
FIELDS



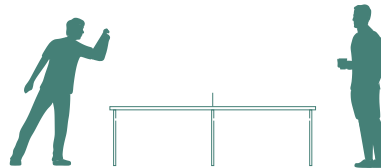
AMPHYTHEATRE



LIBRARY



PLAYGROUND



GAMES



SPORTING FACILITIES

organization of administrative figures

We already mentioned the importance of the role that volunteers have in this project, and now we're going to clearly explain their duties and the general organization of administrative figures. From the very beginning of the process, as it is in the *Piazze Aperte* program, we consider as fundamental the communitarian design, and also the perpetual collaboration between different professionals, technicians and citizens. For this reason, we developed a particular administrative structure for the new urban spaces, to maximize the correct and periodical maintenance interventions and the variety of the offer proposed in the calendar of events and activities. The structure start from the idea of perpetual collaboration, organized in strict and precise duties; we can compare the functioning of this structure to an hive, meaning the importance of every single component of the group, as every bee has a fundamental role in its correct working.

The basis of this structure are the groups of associations and private citizens who decided to subscribe the *Collaboration agreement*; these groups, are composed by individuals coming from the same area of the city, and deal with periodical maintenance of the spaces and their communitarian aspects, such as the organization of events and activities. They directly refer to the figure of the *Director*, who creates a direct connection with

Piazze Aperte team. Below, we show all levels and passages of the administrative structure, listing them and explaining their functions and duties.

The solid basis of the hive is formed by the smaller group of people, named *activity group*; it is mainly composed by individuals working on a single kind of activities for the space, taking care of devices concerning them with periodical maintenance and cleaning. This group of individuals and members of local associations show interests for the space and its activation.

The second group is called *area's committee*, and its composed by activity groups belonging to the same space, organizing the complexity of the different activities and coordinating with committees from other areas of the suburbs.

The third group is the *suburb council*, which interacts directly with Piazze Aperte team, communicating needs and requests of the single groups. This association controls the totality of groups pertaining to the same suburbs and coordinates their activities.

In the final step, Piazze Aperte deals directly with Milan's municipality, facilitating contacts and and simplifying technical procedures.

The structure of the administrative program is coordinated during the production and sign of the Collaboration agreement; all of the group and associations involved insert their objectives and engagements in the document. Thinking about local activities and owners, the contract proposes a partnership with them; in exchange of materials and interventions, the activity will gain visibility in the area through the use of advertisement on the areas' notice boards.





scheme resuming Milan's administrative organization

As for La Piana, a sort of administrative organization was already present on the site, and our intention is to maintain, enforce and facilitate the structure which is already present. A stricter subdivision of works and duties could extremely make easier the monitoring and cure of the space.

Our intention is to create two different associations, one called *Amici del Gratosoglio* and the other *Amici della Piana*. The first one will mainly deal with all the urban spaces present in the suburb, monitoring their conditions and reporting to Piazza Aperte team various necessities; they will also have the duty to coordinate events and initiatives among different areas, to create a unique and solid community. The second one, *Amici della Piana*, will be composed by the associations and citizens who already take care of the space; each of them will have a precise duty inside the structure and they will work together on events and the process of activation of the site.



MILAN'S MUNICIPALITY
periodical cleaning
extraordinary maintenance
disposition of public spaces for necessary storages in the areas



Piano Quartieri

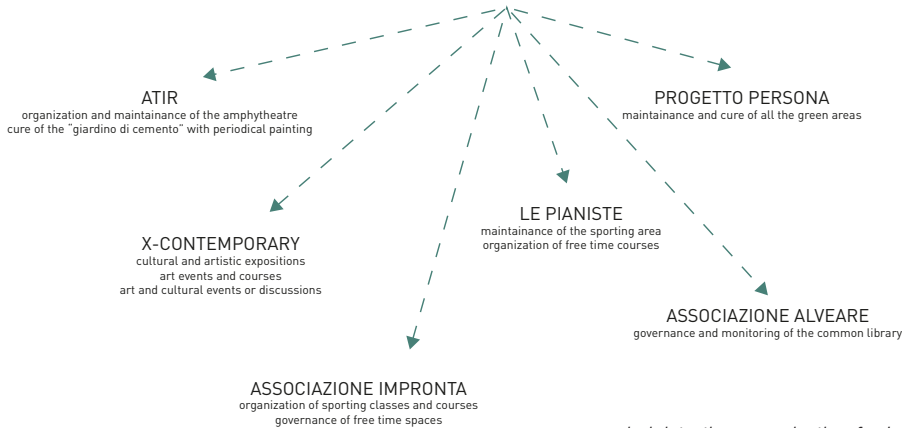
PIAZZE APERTE TEAM
connection between municipality and inhabitants
organization and realization of the project with the drawing up of the "PATTO DI COLLABORAZIONE" between volunteers of the area and the municipality



"AMICI DEL GRATOSOGLIO" ASSOCIATION
real institution, coordinating all the new "areas" in the suburb
direct communication with Piazza Aperte team



"AMICI DELLA PIANA" ASSOCIATION
association unifying all the people and institutions interested in working for the common space
general organization of calendar and events
monitoring of infrastructures, cleaning and governance
periodical meetings with the association "amici del Gratosoglio", coordinating common events and state of the areas in the suburb



administrative organization for La Piana

installation on site

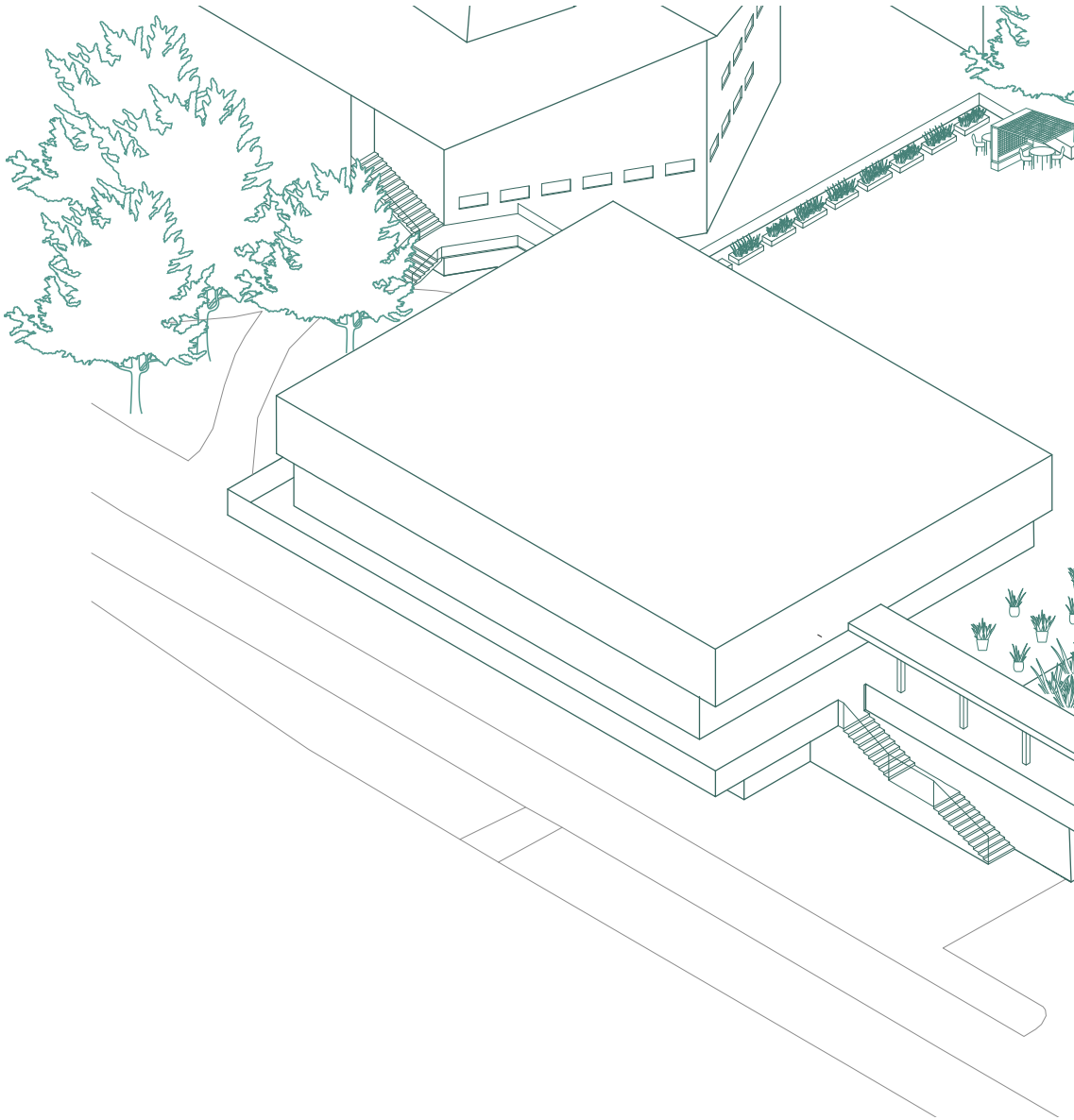
After the procedure of selection of the correct devices to be inserted in the new space, they have to be correctly positioned in the area. As our project consists mainly in *design theory*, which objective is the realization of new urban public spaces, we're not going to focus in the detail of the precise location of the selected devices. The only rules we're going to mention are related to sun and air conditions, safety for children and accessibility for each citizen. In the case that we design to bring to your attention, the design process of La Piana, the positioning of the new devices depended mainly about necessities and pre-existence of traditions or uses of the place which were already common among locals. For example, we decided to maintain free the space which is devoted to the periodical painting of the ground, as it is a deep-rooted tradition the yearly event among citizens. For the amphitheatre, on the other side, we followed the criteria of necessities, as it needs some particular conditions to succeed in its use, such the presence of a support to hold the eventual cinema's cloths or stage sets.

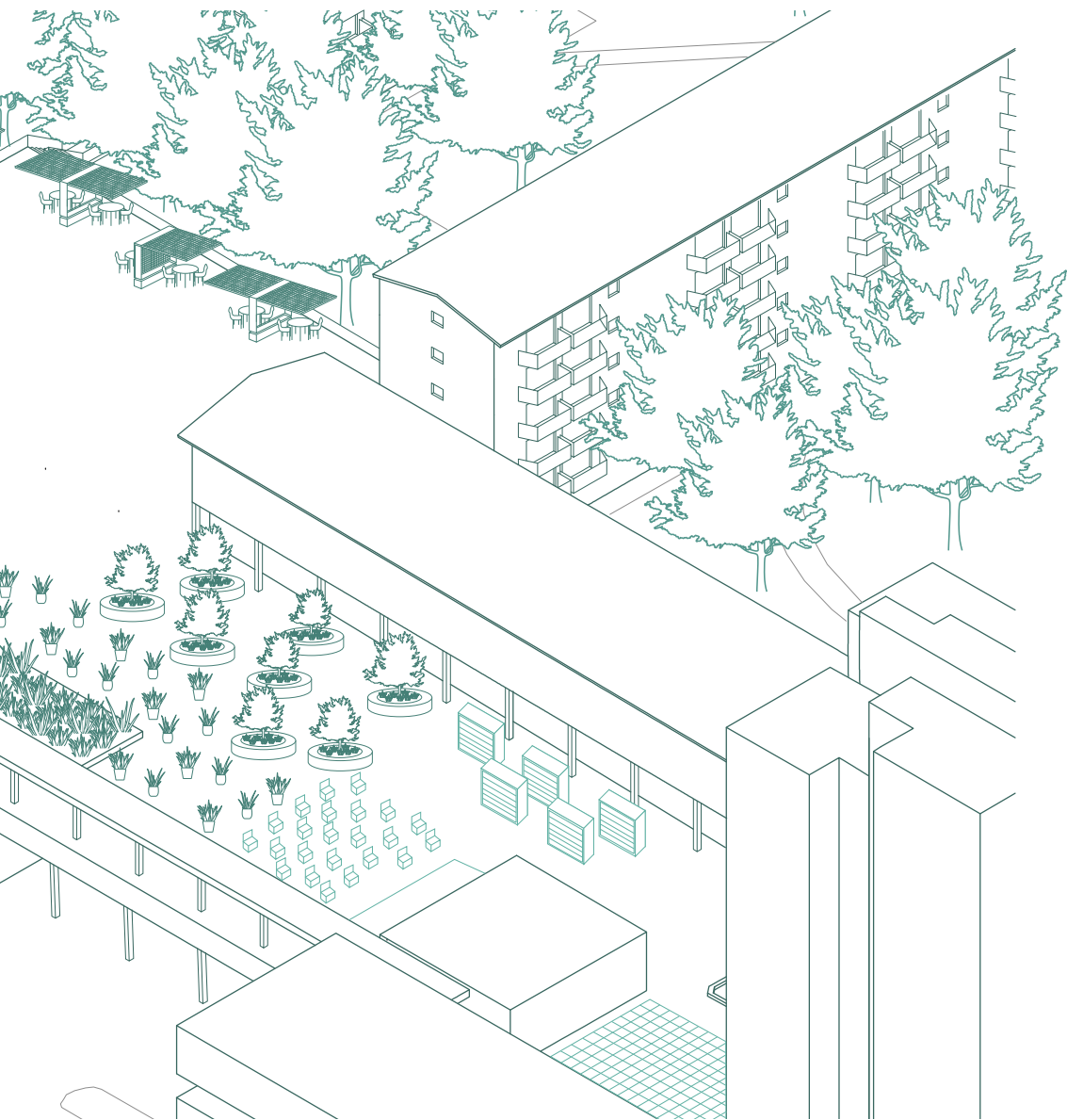
activation of the new space

As for the procedure of activation of the new space, it is specified and explained in the *Collaboration Agreement*, that we previously mentioned. The importance of this element in the document is evident, as it is fundamental to create initiatives in order not to lose the space after its inauguration. For this reason, we are firmly convinced of the necessity of the presence of a *fixed calendar*, developed by the area's committees, formed by different people from the same space organizing activities and events for the all suburb. The types of activities which can be proposed depend according to the different possibilities of the space, and the presence of different devices on the site.

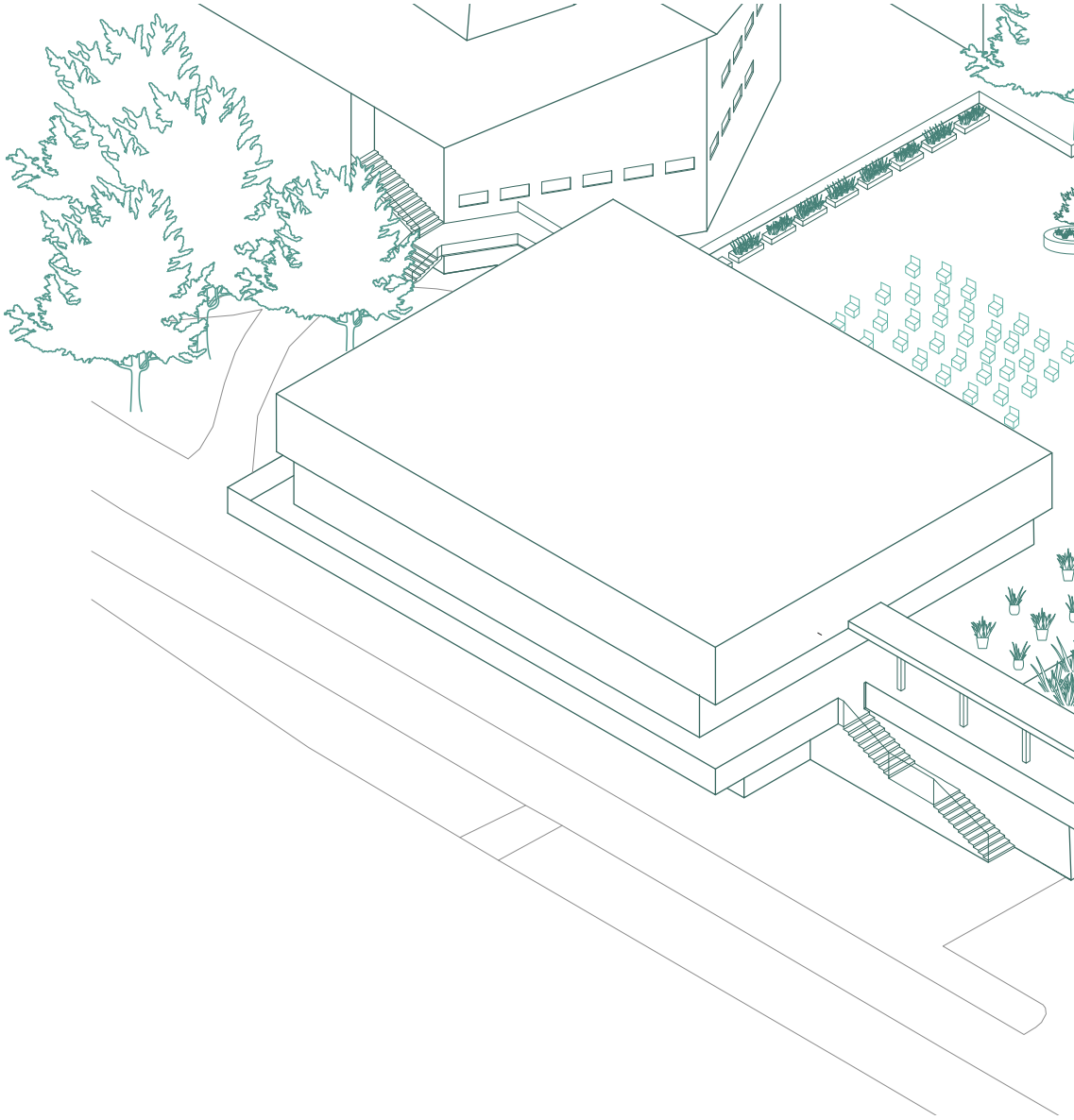
As we previously mentioned, our intention is to promote the frequent use of the space for different activities, such as course or lectures, public discussion, sport lessons, or even allow the leasing of some parts of the space for private events, with the intention both to promote open air activities and to make the space self-sufficient.

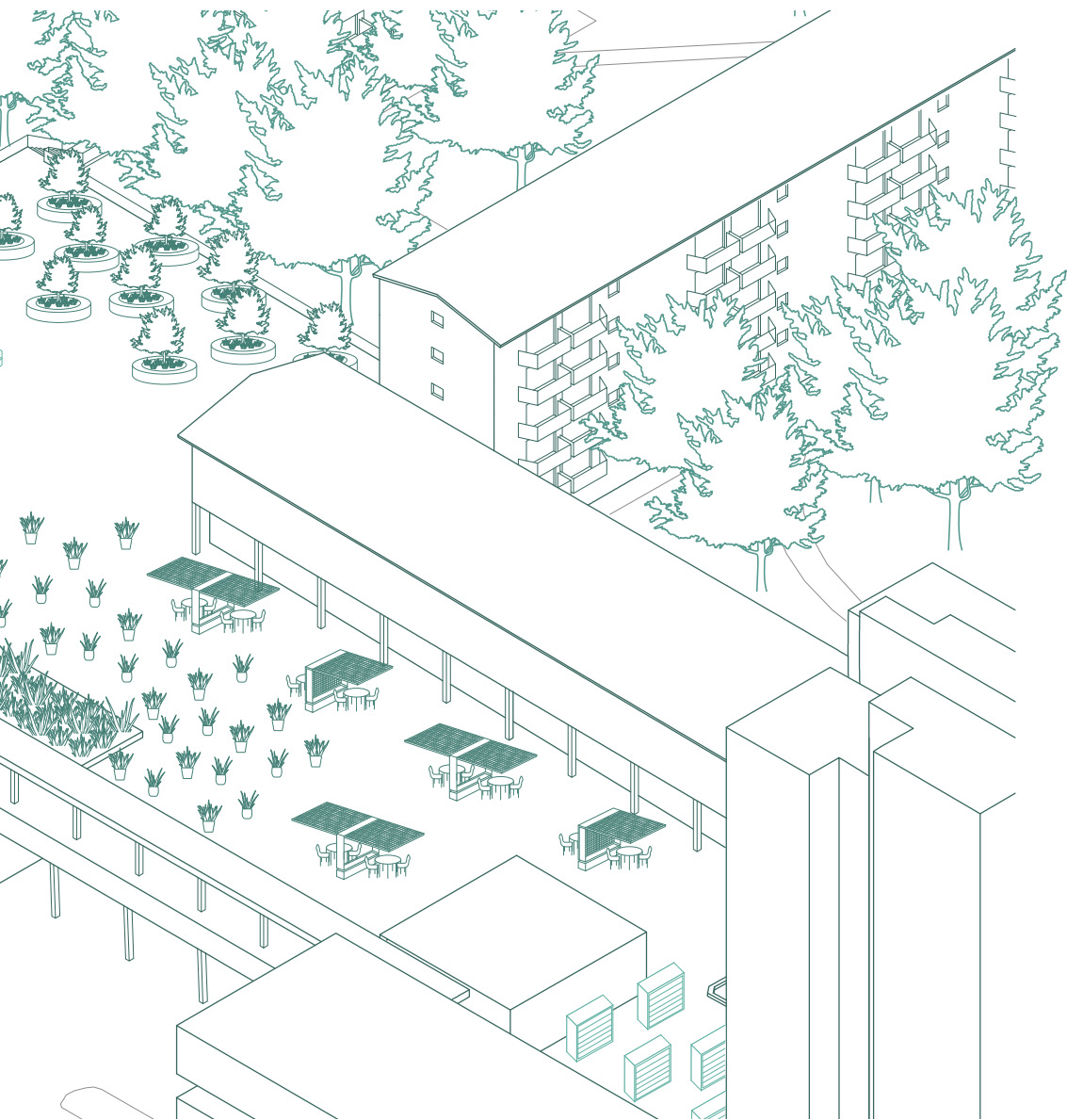
This part of the project is fundamental in order not to lose involvement and engagement of people, as the more we do for the community, the more the community will do for the space, in terms of maintenance, care and investment.



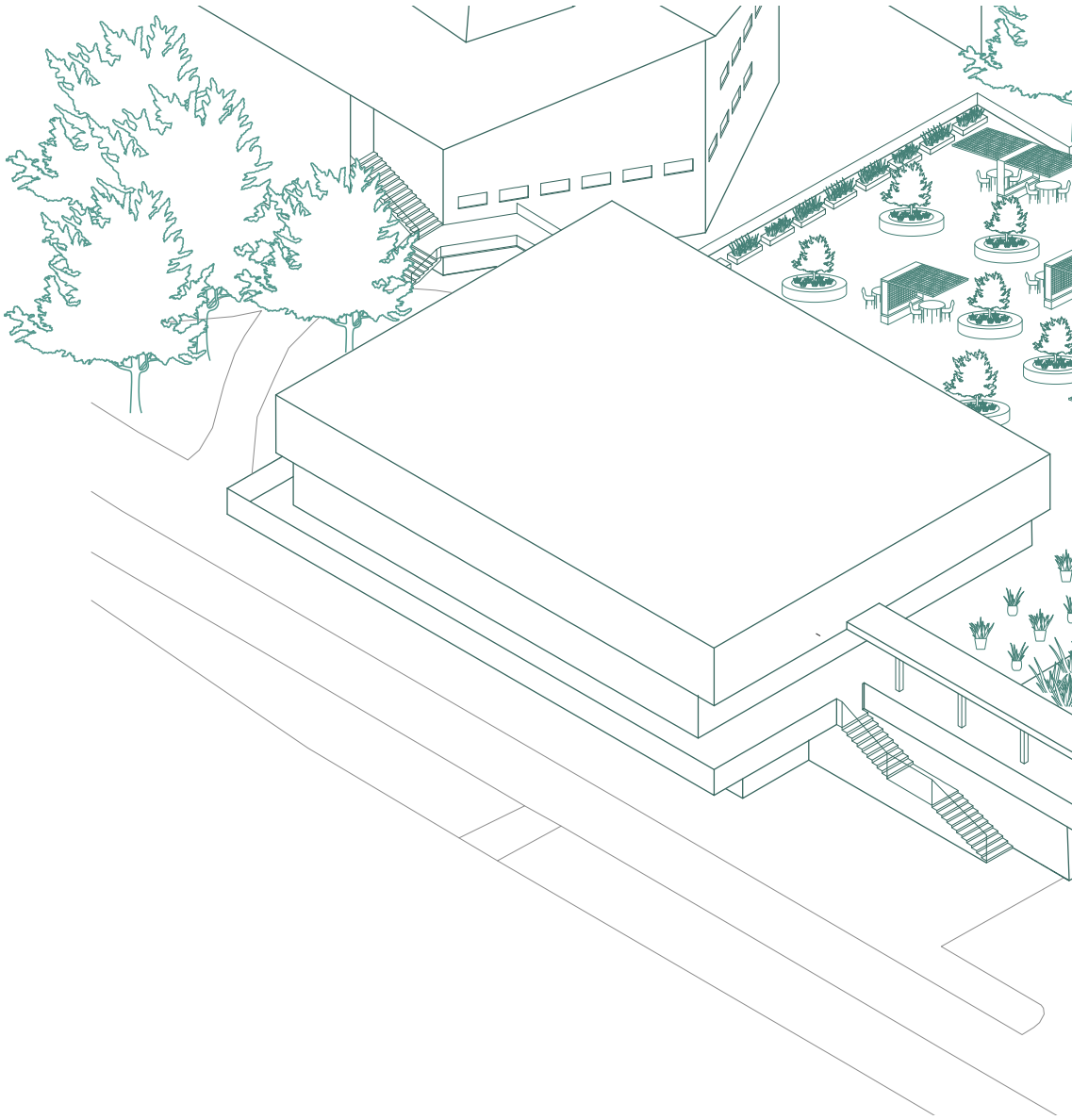


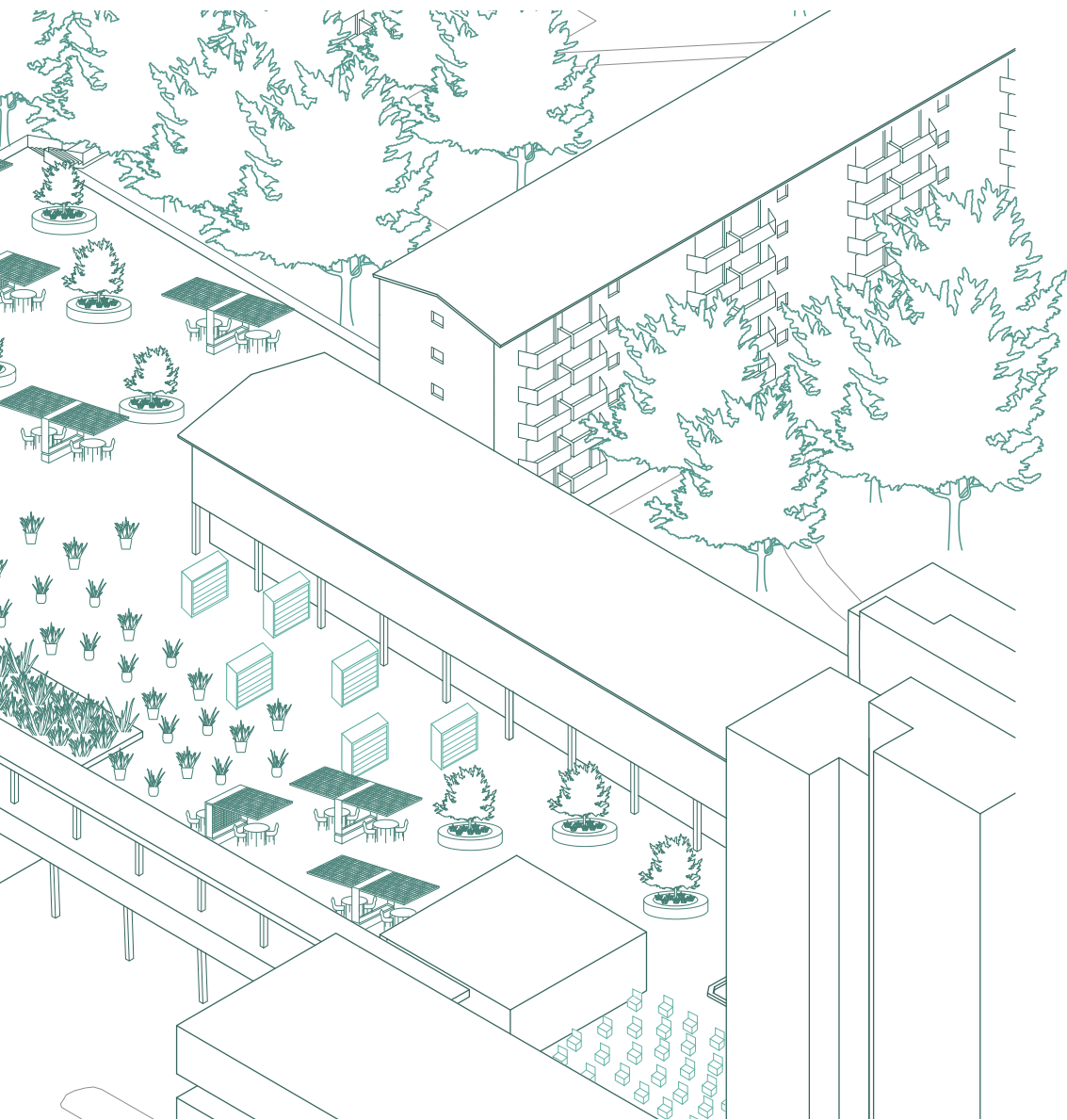
*axonometry
opt. 1*





*axonometry
opt. 2*





*axonometry
opt. 3*

conclusion

At the end of the inauguration and activation process, the story of the space is not over, but it will continue over the years through the different uses and adjustments the community will do in it.

As the community is the central point of the process, the importance is to maintain it active and involved; when people see care, they give care, and the space remains active and clean.

This project may appear visionary and utopian, as it depends mainly on the community and its engagement, but the objective, with its development, was to provide a clear and useful instrument for administrations all over the world, as the method we developed could be potentially applied to every city on the planet; its main characteristics are the ideas of accessibility and the real possibility to develop such a potential project in a new city. As we already mentioned, in fact, the bases of this work has been the effective realization of a project,

its possibilities to change the space and the community around it, trying to generate a good space not only to live in, but a social inclusion and involvement which is nowadays missing in metropolis, bringing back the suburb to be a central element in citizens' lives.

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