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POST
EXPO

3 possible future stories

Master's Thesis

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Post Expo

3 possible future stories

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KURZFASSUNG

Im Jahr 2015 war Mailand Austragungsort der Weltausstellung mit thematischen Schwerpunkten Nachhaltigkeit und Ernährung. Nach Beendigung von Expo stellte sich schnell die Frage der Nachnutzung des 100 Hektar großen Ausstellungsgebietes im Nordwesten der Stadt.

Die Thematik ist aus folgenden 2 Gründen besonders spannend: Erstens, die Wiederverwendung von entstandenen Strukturen durch Mega-Events hat eine lange Vergangenheit, aber bis jetzt nur wenige gelungene Lösungen hervorgebracht. Zweitens, Milano als postindustrielle Stadt hat Erfahrung in der Bewältigung von stillgelegten Flächen und ist mehr denn je entschlossen neue Nutzungen mithilfe innovativer Konzepte zu finden.
Ziel dieser Diplomarbeit ist Post Expo als Gelegenheit für Weiterentwicklungen zu begreifen, ist ein ehemaliges Messegelände in einen Ort zur Erprobung von Ideen zu verwandeln, ist in diesem neuen Stadtteil Lösungen für die auftretenden Probleme Mailands zu finden.

Ich habe mich dafür entschieden mit Szenarios zu arbeiten, da sie bei der Planung von großen Projekten ein geeignetes Werkzeug für die Evaluierung von Varianten darstellen.
Die 3 Zukunftsvisionen für EXPO sind basiert auf 3 verschiedene Bebauungsdichten (gering, mittel und hoch), die das Umland von Mailand wiederspiegeln.
In den Szenarien wurden thematische Schwerpunkte entwickelt (Landwirtschaft, Sozialer Wohnbau, Kreative Stadt) sowie die Auswirkungen auf das gesamte Stadtgebiet.

Die 3 Vorschläge sind kein Diktat, sondern Beiträge im Post Expo Diskurs: es gibt keine beste oder schlechteste Lösung, sondern nur geeignetere Lösungen für spezifischen Kriterien, wie zum Beispiel das Wiederverwenden von Strukturen, Wirtschaftlichkeit, städtische Anforderungen....
Die gemeinsame Konstante in allen 3 Szenarios ist die Bedeutung von Expo als neue Zentralität im großstädtischen Kontext.

ABSTRACT

In 2015 Milano hosted for 6 months the World's Fair, focused on the issues of sustainability and nutrition.
When Expo closed its gates the arisen question has been what to do with the 100 ha exhibition site in the North-West periphery.

The theme is particularly thrilling for two reasons: first, the re-use of structures for mega-events has a long past but still few solutions; second, Milano, as a post-industrial city, has a history in coping with abandoned areas, and now more then ever is ready to make use of an innovative spatial design.
Goal of this master's thesis is to turn the Post Expo issue into an occasion of further development, to transform the former fairground into a space for trialling ideas and for researching solutions to the emerging problems of the city.

I've decided to work with scenarios, since in the first phase of planning of big sites they represent a suitable tool for the evaluation of the proposals.
The 3 possible Expo futures are based on 3 density models (low, middle and high) which can be found in the Milanese landscape.
In each scenario are developed distinctive urban functions (agricultural park, social housing, creative city) as well as the consequences that these mean for the whole metropolitan system.

The 3 designs are not a diktat, but possible answers, among many, to the Post Expo issue: there is not an absolute best and worst solution, but there are better solutions in relation to specific criteria, like recycling of the structures, profitability, urban urgencies... .
Constant feature of the 3 scenarios is the role of new centrality that Expo plays in the metropolitan context.

Caterina Epiboli

POST EXPO

3 possible future stories

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EXPO IN MILANO

From the 1st of May till the end of October 2015 Milano hosted an event of international dimensions: the Expo, with the theme "Feeding the planet, energy for life".

But what is exactly an Expo?

The name Expo is a modern brand for a tradition of expositions that dates back in the XIX century: in 1851 the first World's Fair was held in London.
A World's Fair, or Expo, is a great exhibition that lasts many months and has the aim of showing the world the state-of-the-art lifestyles (in relation with sustainability, education, technology...) that could push the progress of humanity.

Nowadays this idea of collecting the knowledge in one phsycal place sounds quite old-fashioned: the Expo as encyclopedia and guardian of the civilization (as it was thought in St. Louis, 1904) has to face the globalisation era: today the cultural and skills exchange, the giving out of news, the awarness of the masses occur largely through the internet.
First detractors expressed themselves already in 1900, within the framework of the Paris International: a contemporary critic summed it up, writing: "The World's Fair is dead".
Nevertheless the World's Fair tradition has been going on until today with highly frequent appointments: in a time frame of 165 years (actually minus 19 years of suspension due to the II WW) 56 fairs has been hosted in Europe (27), North America (18), Asia (6), Oceania (3) and Latin America (2).

Why does Expo last over time?

This longevity is also due to 2 main factors:
1. Because Expo has always millions of visitors.
Altough the critics about the necessity of an Expo in the globalisation era make sense, the fair represents still a viable alternative for the cultural debate with very high level of partecipation.
Moreover, Expo has become a pop culture phenomenon, a matter of interest that concerns the entire population of the host nation, which adopts in this regard positions of enthusiasm or skepticism (in Italy with the slogan #expottimisti and #expessimisti, referring to the attitute towards the Expo in Milano).

The need to transmit information to millions of visitors, each one having a different background, has led to the development of a new way of interaction with the audience: the EDUTAINMENT.
This word means an alternative concept of learning, in a way that includes some fun: edutainment is indeed the sum of *education + entertainment*.
You can find an early example of edutainment in the World's Fair 1933 in Chicago: at the opening ceremony the whole machinery of the exhibition started thanks to the energy captured by 4 telescopes pointing the star Arcturus, 40 light years away.
In Chicago the common man was given access to the wonders of the world that emerged from the interplay of research, industry and workforce.
The need to entertain and impress the audience has been increasing since then, sometimes just leaving out the entire aspect of the culture.
Most of the worlds' fair held in the U.S.A. had a Disneyland in miniature within their borders: it was called the Midway, an amusement cluster built with the only purpose of having fun.
This representative feature of being a fun and joyful event, full of parades and shows, an exotic cabinet of wonders and at the same time place of leisure puts the Expos in the bigger family of the amusement parks.
Parallels are drawn not only for the common goal of entertaining the visitors, but also for the same way of working and in some cases also for the spatiality.
Expo works as an amusement park: both are enclosures where you can access only during the opening hours by paying a ticket.
For what concerns the spatiality the best example for doing a typology comparison is Expo Milano 2015, because it has a key element that is distinctiv of the theme parks: the street parade.
The Decumanus, or "World Avenue", as it has been named, is the central avenue of the exhibition site; along this wide and long street are aligned the pavilions of all the participating countries.
It immediately recalls the "Main Street" of Disney theme parks, a space "without cars, colorful, sentimental and ornamental, the place of parade and street shows, which has replaced Sleeping Beauty's castle as the main architectural symbol of Disney" (*Grafting. Milan, laboratory of modernity, Marsilio 2014*).

Foody Parade on the Decumanus

Disney on Parade, Magic Kingdom Park, FLorida

2. Because there has always been a city that wants to host the world's fair.

Being the host city is an appealing occasion for many reasons besides the official goal of promoting the spread of science and knowledge.

First of all having at disposal a great international audience creates the perfect stage for the country to celebrate its industrial and economic power and to build an international reputation.

It is not a coincidence that the chronological list of the countries hosting the Expo matches with the list of the nations that progressively gain a foothold in the international market: from England leading the first industrial revolution until China experiencing the economic revolution.

Expos are inextricably linked to economy: they are indeed not only a manifestation (or simulation) of prosperity, but also a tool to boost the economy.

In this regard they act at different levels: within the "exhibition enclosure" Expo produces consumer demand through the presentation of the most advanced commodities (from the telephone in Philadelphia 1876 to the robots in Tsukuba 1985) and facilitates networking and visibility for private companies, while outside the enclosure it has the indirect effect of increasing the tourism in the city.

Furthermore Expo itself should be an investement: profits are made out by selling of the tickets, by having sponsors and by renting space to private companies that should satisfy the visitors needs; nevertheless the return on invested capital is not guaranteed, considering the initial extremely high debt of the state for realizing the exhibition and the many variables that may undermine the success of the fair.

The international attention and the high number of visitors has meant as well for the Expo its exploitation to spread political and social issues: both from the side of the organizers and from the side of whom in Expo was guest or visitor.

Two examples: Seattle 1962, Kennedy took the opportunity to promote government investment in the Space Race; New York 1939, the Polnish Pavilion provided information about the Nazi's war activities. What is certain is that there have been only very few episodes of self-criticism of the human activities within the Expos: usually these have the nature of a party, of a joyful celebration for a world where everything will have a happy ending, and this utopia was even more stressed in period of crisis.

Last but not least Expo is also a tool to develop urban upgrading processes: the first best practice was Montreal 1967, but unfortunately there are just few examples that confirm to the effectiveness of this tool.

The question of the Expo legacy is complex and presents different outcomes, the majority of them is not considered as positive; nevertheless, the potential of improving the urban landscape thanks to an Expo represent a strong reason for a city to candidate.

London 1851
Philadelphia 1876
Berlin 1896
St. Louis 1904
Lüttich 1905
Osaka 1970
Brisbane 1988
Hannover 2000
Shanghai 2010

to stand out in the international competition
as industrial and economic power

Paris 1867
Vienna 1873
Paris 1889
Paris 1900

to bolster the image of a
cultural and enlightened city

Chicago 1933
New York 1964
Tsukuba 1985

to advertise private companies and
to produce consumer demand

Knoxville 1982
Seville 1992

to boost the economy

Paris 1937
New York 1939
Montreal 1967

to create awareness
on contemporary political issues

Vienna 1873
Barcelona 1929
Seattle 1962

to make political propaganda

Montreal 1967
Osaka 1970
Spokane 1974
Brisbane 1988
Lisbon 1998
Hannover 2000

to spread a joyful optimism for the future
to a deeply troubled humanity

Chicago 1933
New York 1939
Brussels 1958
Aichi 2005

to have long term benefits in
infrastructures and urban development

EXPO

8 UNSAID REASONS TO GIVE THIS PARTY

Why did Milano want to apply for the Expo 2015?

In the official dossier presented to the BIE it is clear that the capital of Lombardy wanted, thanks to the event of global dimensions, to give a further boost to its economy.
Expo would create new jobs and new infrastructures, as well as it would be a perfect showcase for Italian culture, innovation and creativity.
At the same time it was thought to use the event and its theme, the sustainability, to complement the image of a region that is one of 4 Motors for Europe with the image of a sustainable metropolis.
Expo should have triggered a process of urban regeneration and recovery of the green areas.

What also is extremely interesting for the post Expo are the implicit reasons, economic and political, that have led the city to apply.
When Milano ran as candidate for Expo, in 2007, the city was ruled by a centre-right party, stable in the city's government since the early '90s.
This type of government promoted an urban development based on the neoliberal imprint: it means that private actors played a crucial role in shaping the city.
Especially the real estate sector, at the beginning of the new Millennium, focused its attention to the various abandoned areas located on the first ring outside the consolidated urban core.
The resulting three big projects were Bicocca, Bovisa and the new fair, all former industrial areas.
It is not a coincidence that Expo is located exactly on this development ring.
The administration, choosing for the mega-event one of the last free areas on the above-mentioned belt, hoped to activate one more time the entrepreneurial forces: the plan was first to provide the required infrastructures (and to boost the economy of the building construction sector), then to host the event and finally to sell the plot to private real estate agents, who could have develeoped a mixed-use not so much different than most of the urban transformation projects initiated in Milan in recent years.

At that time, where new buildings popped up quickly all over the city, the choise of passing the post Expo issue to the private market seemed reasonable, but eventually it didn't work.
The global economic crisis that broke out in 2008, the failed attempt to sale the exposition site at high prices (to cover a wrong initial investment) and the change of government, strongly opposed to the conception of the real estate as urban developer, raised the issue, late on the planning schedule, of the post-Expo.

Why are the Expos (and Expo Milano) so difficult to recycle?

From the long world's fairs history it can be seen that the restitution of the exposition site to the urban fabric has often led to unsolved problems.

The Expo is in fact a format. In the television domain a format is a formula that creates an original television program, which can be purchased by television stations of other countries to be transmitted in exactly the same way.

The same happens with the Expo: the city that wins the competition for hosting the World's Fair buys the format Expo from the BIE (Bureau International des Expositions) and starts therefore a series of expensive investments that should provide a great econimic return for the entire country.

The fact that there are format demands that can't be ignored is particularly interesting from the point of view of the exposition area re-use.

For example, even if for the BIE it's not compulsory to let the nations design and build their own pavilions, until now the majority of the world's exhibitions had the so-called self built pavilions, that are the spaces dedicated to the guest countries and are designed by themselves.

The need to advertise and to best present the country often leads to bizzarre architectures aimed solely at the universal exhibiton. That's also why it is hard that the host city buys the pavilions to make them become permanent: normally there are dismantled and returned to their homeland.

Until now only two Expos organized independently the structures where the nations could set up their contribution to the principal topic: these two Expos were Aichi (2005) and Lisbon (1998).

Of course such an organization has advantages for the post Expo: if it's the host city that designs the structures aimed to house the guest countries, it would probably focus more at the use when the fair comes to an end rather than the architectural trash that normally is used to display one nation's attractiveness.

Czech Republic pavilion

Qatar pavilion

Conceptual Masterplan 2009

In this regard Expo Milano had initially adopted an innovative and sustainable solution, but eventually it has not been completed.

In 2009, after that the call was won and the exhibition area was purchased by the city, a council of internationally renowned architects (Jacques Herzog, Mark Rylander, Ricky Burdett, Stefano Boeri and William McDonough) formulated the masterplan concept: it was characterized by an orthogonal urban grid based on Cardo and Decumanus (which has remained in the implementation phase) and a series of temporary structures that did away entirely with the conventional format of bombastic national pavilions, sweeping the countries under a field of tent-like canopies, arranged in long strips either side of the central axis. Unfortunately this conceptual masterplan has been altered right in its most innovative aspect, partly because of the difficulties in preventing the countries from designing what they wanted, and partly because of the extreme delay in the construction phase, that led to the fastest solution.

Another vital question for the post Expo is the readiness of the

public sector to invest once again in the area.

When the exhibition closes, millions of euro have already been spent for preparing the site and making it work: in the run-up to the mega event all levels of government mobilise for the success of the Expo.

It is true that this provides a direct economic return by the ticket sales, but even in the best cases(very rare) the fair can repay with this turnover only the construction works inside the "Expo enclosure", while the infrastructure works (new roads, public transport, side projects) are additional expenses normally incurred by the local administrations with no return.

Administrations that ends up with debts and empty public purse.

In the case of Milano there is a troubled history that makes the post use even harder in economic terms: in fact the area of the exhibition was private, an unusual case for Expos' history.

The city's administration wanted to held at any cost the fair on that plot, for the reasons already explained, and therefore purchased the land after 2 years of difficult negotiation with the owners.

Not only this choice was hard criticized for the environmental and sustainable aspects, since it was completely indifferent to the slogan "zero land consumption", but also the costs of this sale have been so high (EUR 260 million for a plot that originally costed around EUR 10 million) that only an intensive re-use and important volumes appear to be the answer to the economic problems of the post Expo.

A last factor that always weighs for the reuse of the area is the huge size of the exhibition site.

Expo Milano has occupied 100 ha, Expo 2010 in Shanghai 528 ha, Expo 2005 in Aichi 173 ha, Expo 2000 in Hannover 160 ha, ...

What happens in the city during the years of preparation to Expo is an extra-ordinary operation of urban planning, since a complete change in the urban fabric happens in an extremely short time lapse. But when it comes to the post Expo, the city's system has to face a big operation of reintegration of the site, and to find new possibilities, functions and users to make it work again.

Which is the legacy of Expo Milano?

Using the term *post* Expo means seeing the event as a key moment in the history of Milano, as a turning point for the image of the city that changed from a *pre* Expo condition to a different status *after* the exhibition.

After the end of the event the propaganda in favor of the exposure has focused on the attendance success, 22,2 million visitors, best immortalized in the long queues to enter the pavilions, and has argued that the event has been a panacea for the city.

But what has actually changed and what will change?

The legacy of Expo has started simultaneously with the winning of the tender to host the event, and even though this has ended for only a year, we can already say that the city has changed.

many guest countries

a landmark

a good theme

widespread publicity

public capital to invest

THE EXPO RECIPY

some sponsors

a good application

an attractive city

HURRY UP!
Expo has already started

The Daily News

Some of these changes are not immediately palpable, as the approach to sustainability or the revival of a tourist vocation, while others (few) are real projects designed for the Expo occasion.

The major topic of Expo, the sustainability, linked mainly to the nutrition, has been proposed for the need and the urgency of a debate about it, and also because the Italian culture is particularly sensitive to food issues.
The event has been much criticized for the contradictory way in which has addressed the theme, from the concreting of the agricultural areas for the exhibition site to the hosting of big multinational companies such as McDonald's (for reasons of economic return) in the pavilions park.
However, some social surveys (like Lifegate report 2016) reveal a great awareness of the Italian population to sustainability, probably in part because the event has created a chain reaction of exhibitions and conferences, large and small, in respect of which the most famous was the exposition FOOD at the MAXXI in Rome, and partly because also the government has activated new food policies, as the anti-waste act, that have become definitely priority thanks to Expo.
Also in the category of the multiplier effects of Expo already visible in the city there is a rediscovery of Milano as a tourist hub: in 2015 it was appointed at the first place among the 52 recommended destinations of The New York Times.
The city has been preparing in time to the wave of tourists: with the perspective of good earnings the infrastructure related to this economy have been born, with a boom in the gastronomic sector. Within two years, 2014 - 2015, 900 new restaurants have opened their doors... the real challenge is now transforming dining in a leading sector of the tourism in Milano.

As regards the side projects designed with Expo, the high expectations of the city were definitely disappointed, as only two projects have been completed: the upgrading of the docks (la Darsena), a formerly dilapidated harbor that features tree-lined promenades, bike paths and piazzas, and the Metropolitan Market, a newly developed market in the former warehouses of Porta Genova. The two additional projects, the water ways, namely the construction of a water connection between Expo and the Darsena, and the landway, namely agricultural projects, markets, temporary structures inside the city, have not been completed.
In this respect there has been talk of a lack of overall direction and a detachment between Expo and the city.

Regarding what will change, there is no doubt that the biggest and most important transformation will be the re-use and integration of the exhibition site in the metropolitan area, subject of many possibilities which this master's thesis is about.
As I write these lines (October 2016) the most likely hypothesis is that part of the fairgrounds, around 35.000 m², will be designate to a so-called Human Technopole, which is a complex of 7 research centres focused on biomedicine and big data.

La Darsena, the Dock in 2015

Metropolitan Market, 2015

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DIFFERENT SCALES
//
DIFFERENT CHALLENGES

The Expo site is confronted with different themes depending on the zoom with which the area is analyzed. In this chapter I am going to outline the strengths and weaknesses at the neighborhood, city and metropolis scale.
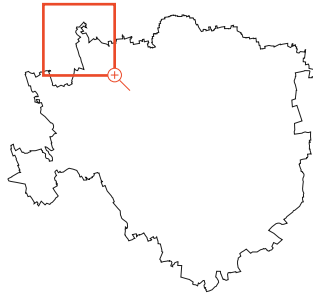
1

THE SURROUNDINGS

By observing an aerial photo of the Expo site it is difficult not to notice the <u>lumbering presence of the infrastructures for mobility</u>, which basically occupy all the surroundings of the fairgrounds.

It is in fact one of the most connected area of North Italy, not far away from the airport Milano Malpensa, and served by highways, bypasses, secondary roads, subway, rail links, regional trains and high-speed trains.

<u>This location is of course perfect for an exhibition site with internation character</u>, and indeed the Milano Fair has its headquarter right on the opposite side of Expo.

<u>Expo is enclosed on all sides by expressways</u>.

On the North side the highway A8, that links Milano with the touristic destinations Como, Varese and the lakes, and which has been provided for the fair occasion of a further connection, that laps the East side of Expo, with the West bypass.

On the South side the highway A4, which cuts through the whole Po valley and connects Milano with the most important cities from Torino to Trieste.

On the West side the North bypass, that comes here to an end and merges with the West bypass.

Probably because of this rich road system it was thought already in the scenarios pre-Expo that almost half of tourists would reach the exposition site on wheels.

Anyway it's tricky that you can pass by all sides of Expo with the car, but actually there is no place to stop and park.

Pedestrian bridge between Expo and Cascina Merlata

Moreover the road system is a real labirynth, and for reaching the exhibition site you always have to trace the West or East entrances.

For these reasons during the fair a shuttle bus service was set up with the aim of bringing the tourists to the main entrances from external parkings.

In the promity of Expo there are 4 parkings, of which 3 are new, with a capacity of 23.000 cars: 550 parkings in Cascina Merlata, 1.500 in Trenno, 10.000 in Milano Fair and 11.000 in Arese.

<u>Expo borders to the South with a large area dedicated to railway lines</u>. These include both regional trains (to Varese, Domodossola, Arona and Torino) and high-speed trains, that stopped additionaly in Expo only during the exhibition months.

Through the same track reach the area three lines of the *passante, a* metro with a suburban radius.

The same underground system is used also by the subway M1, that with stop "Rho Fiera" serves at the same time Expo and the Milano Fair.

As can be seen the fairgrounds lies in a happy position for what concerns the public transport.

The great availability of connection is not an Expo outcome, but has been there already for long. For this reason big investments haven't been made in this sector, except for a temporary strenghtening of the suburban metro.
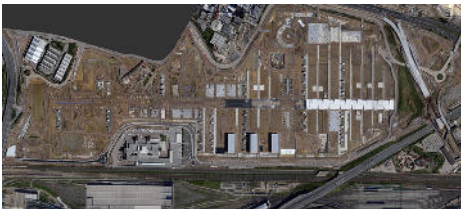
By contrast, <u>Expo falls short in the slow mobility sector</u>: it is quite difficult to reach by bike, since the designed paths are discontinuous and it lacks of bike bridges to cross the highways and railways.

There are two new pedestrian bridges: the one on the West side is a connection between Expo and the Milano fair, the one on the South links Expo with the new development area of Cascina Merlata, where is about to born a big social housing project.

Only this latter bridge is a real connection to the urban fabric and the city of Milano. What is missed totally is a pedestrian bridge in direction metropolitan area.

Which is the consequence of this massive infrastructure belt?
<u>The result is that Expo looks like an island in the ocean, with absolutely no contact with what there is around</u>.

The triangle of land where is located is shared only with the prison of Bollate, and outside the roads ring there are functions with which is difficult to create a bond: on one side an industrial cluster as big as Expo, on the other a former development area (via Stephenson) that is basically abandoned for decades.

<u>The challenge, at this scale, is to loosen the paradox of a rich contact with the far away locations</u>, thanks to the mobility infrastructure, <u>but a separation with the close surroundings</u>.

The potentials are on the North-South axis, namely the connection with the urban sprawl, that lacks of centralities, and the consolidated core, the Gallaratese, that leads to the centre.

Expo evolution: 2012, 2014, 2015

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Pictures above from "Building the Expo" Domuweb.it. 21.05.2015

industrial cluster
mazzo di rho

prison bollate

como
varese

North bypass

milano fair

rho fiera **M**

regional
trains   +   passante:
metro with suburban radio

torino ← highway A4 → trieste

development area
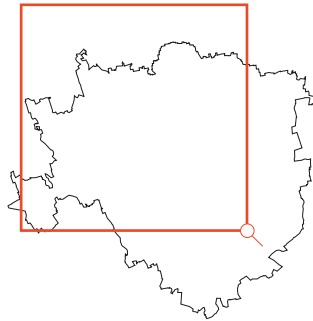cascina merlata

THE MOBILITY SYSTEM

The map displays the infrastructures
that serve the fairgrounds.
As can be seen the important presence
of highways and railroads encompasses
the plot where Expo is situated, basically
hindering any kind of relation with the
close surroundings.

0 50 100 200 400 m

N

pero **M**

highway A8

milano

area stephenson

2
THE CITY

<u>Trying to find Expo on the map of the city begs the question if the exhibition site is actually inside or outside Milano</u>.
The area, that is officially for the 90% within the city's borders and for the remaining 10% in the municipality of Rho, <u>is located in the North-West periphery</u>, 10 km away from the Duomo square, along one of the most infrastructured axis of the city.

A first step to better understand in which relation is Expo with the consolidated core is to have a look at how the city has been built. <u>Milano has an urban morphology easily legible, organized in concentric circles and radials</u>.
Each circle corresponds to a different moment of expansion, which has been sealed by the mark of the time: the medieval walls, the Spanish walls, the Beruto plan (end of the XIX century) with blocks of 200x100 metres, the rail circuit and the contemporary bypass.
The radials are historical roads that from the city, the *"urbe"*, lead to the external villages, the *"borghi"*, passing trough the wall's gates, still existing in Milano.
These axes have become fundamental for the urban development in the aftermath of World War II, during the reconstruction, when the town planners realized that the strong monocentric model was no longer sustainable and thus started to think about directions of expansion.

In this strict morphological grid there are only <u>few autonomous</u>

freight yard Farini

Social housing Monte Amiata
C. Aymonino and A.Rossi, 1967-1974

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Milano 21.11.2012

patterns, and, fairly curiously, they are all areas that are undergoing a process of urban renewal.
Among these are to number:
* the site of the first world's fair in Milano (1906), later used for the trade show, which is a squared parcel at a 45-degree angle with the Beruto repetitive frame. It is now the setting of the City Life project, a complex of skyscrapers and housing that should be finished in 2018.
* the obsolete rail circuit, which counts 7 railways nodes for a total of 120 ha in the city centre (the freight yard Farini occupies by itself 500.000 m^2). The re-planning of these areas has had until now many complications and delays, the last one in December 2015, when the design was not approved by the stakeholders involved in the process.
* Expo, whose distinctive form and location make it an "unicum" in the urban morphology.

Even if Expo has its own peculiarities, it can be related to the urban system according to the two different ways of expansion that I've explained above: namely the circles and the radials.
Regarding the enlargement in subsequent belts, Expo belongs to a recent area of developement, where the most successful typology has been the shopping mall and the big infrastructure for the leisure time.
Of course this is because of the presence of highways, that match well with the idea of huge shopping areas, and the availability of vast unbuilt plots.
Regarding the extension along the axes, it is interesting to notice that Expo is located along an imaginary way of expositions: an idea that dates back to Napoleon, that wanted to link Milano with Paris and to show along this way the Italian flagships.
Even if only the beginning of this street was actually built, namely the gate *Arco della Pace* (Arch of Peace) and the first section, the *Strada del Sempione*, the exhibition sector still follows this idea.
In fact we find along this direction, from the centre outwards, the first Expo site mentioned also above, the fair pole of the 80's, the new Milano fair by M. Fuksas completed in 2005 and, lastly, the Expo site 2016.
Another interesting point of the radial where Expo is located is that here are to be found the best examples of the Milanese social housing of the last 60 years: among the most famous, the neighborhoods Portello and Gallaratese.
Generally, the social housing sector of the city has left much to be desired for what concerns quantity and quality of the projects: therefore is quite remarkable that the few "good ones" are grouped along this specific axis.
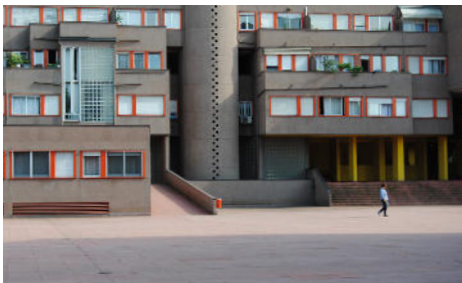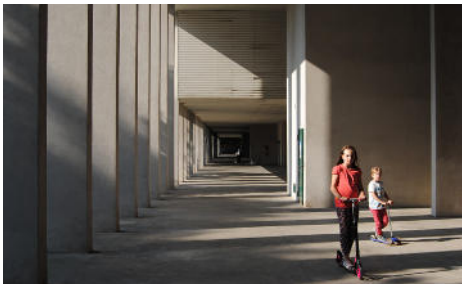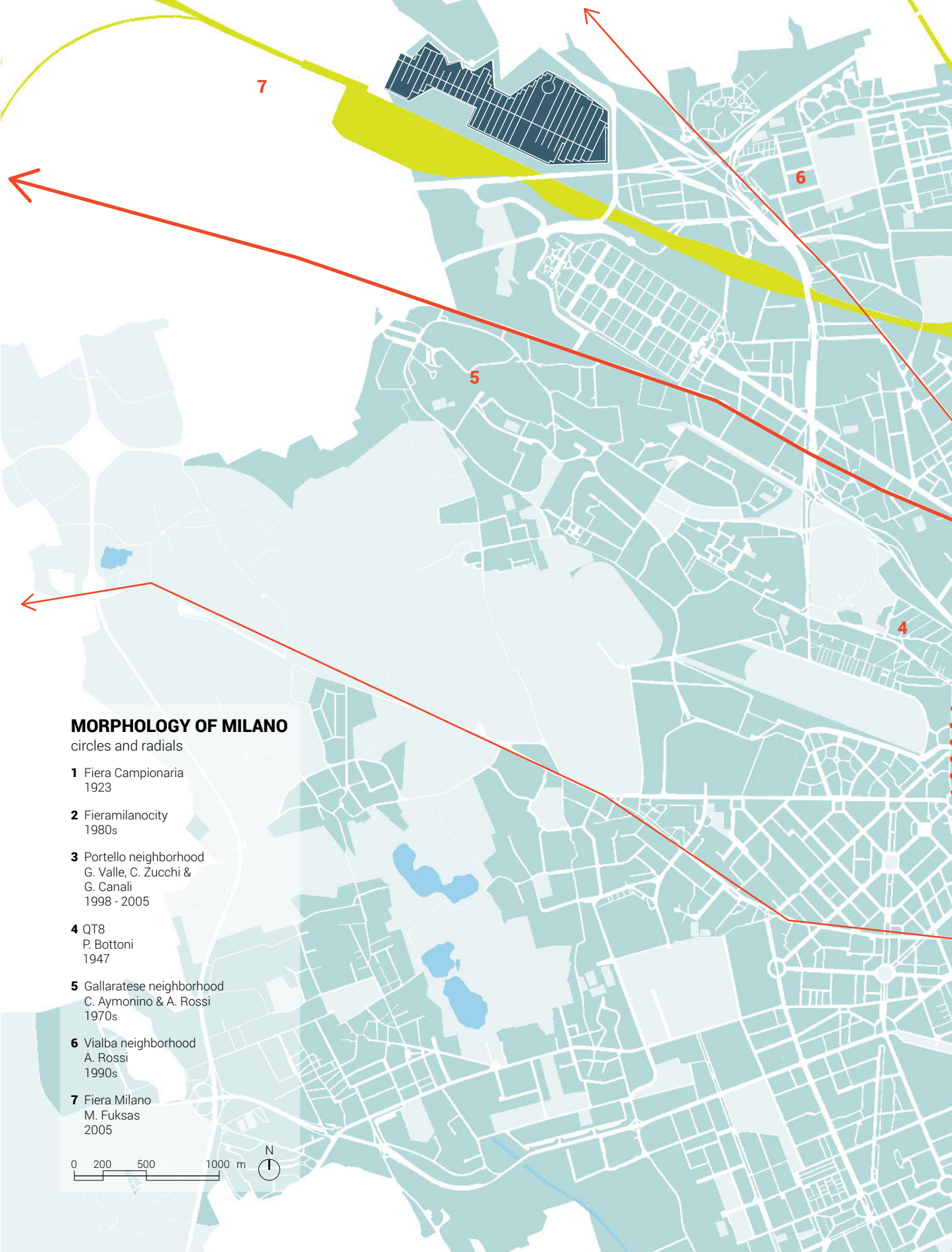
The challenge for Expo at this scale is first to understand if there is a functional vocation according to its location: shopping centre? social housing? new fair centre?
Moreover, is it worth to follow an already experienced (and sometimes criticized) scheme or is it better to try to find a new missing function that is also linked to the territory?
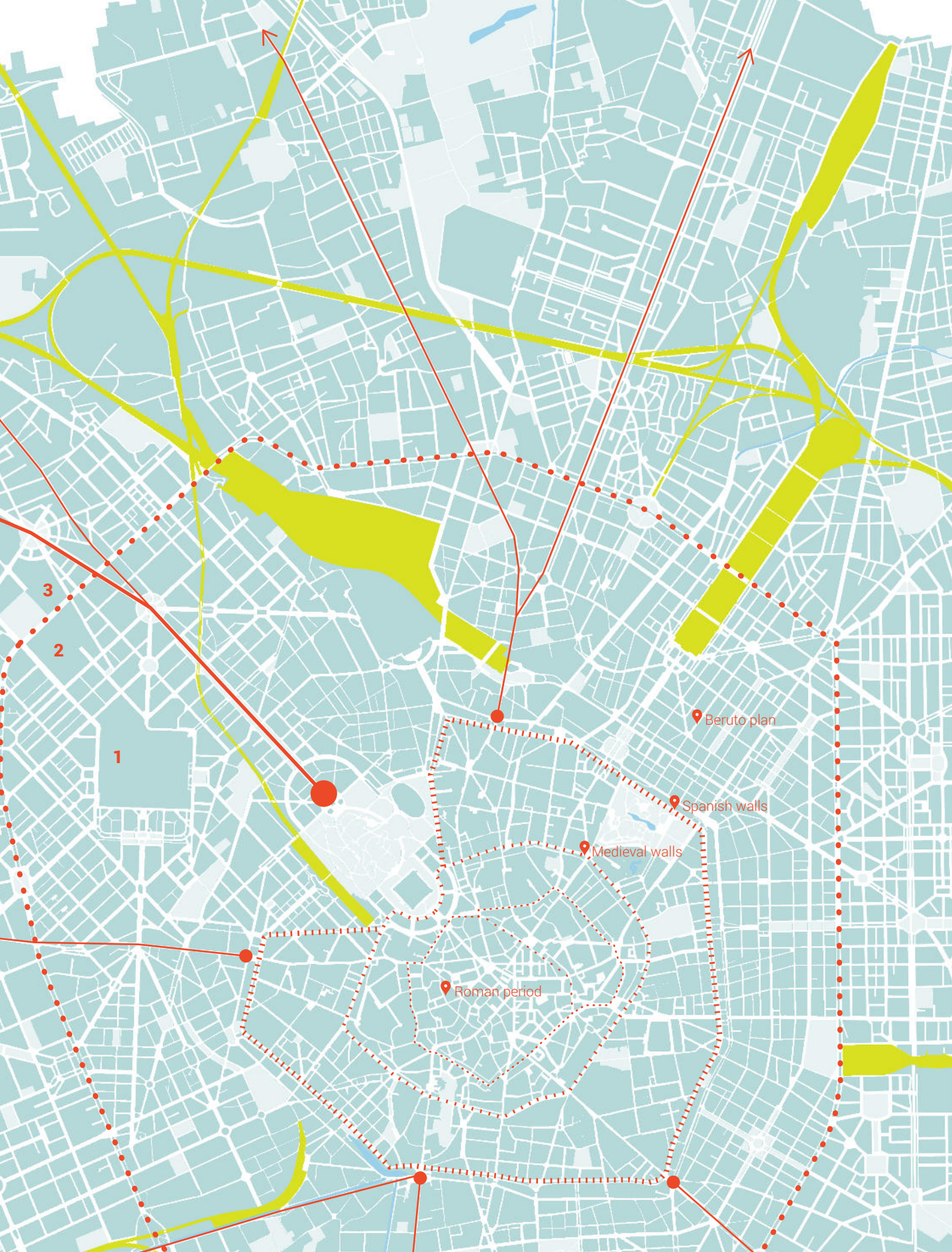
MORPHOLOGY OF MILANO
circles and radials

1 Fiera Campionaria
1923

2 Fieramilanocity
1980s

3 Portello neighborhood
G. Valle, C. Zucchi &
G. Canali
1998 - 2005

4 QT8
P. Bottoni
1947

5 Gallaratese neighborhood
C. Aymonino & A. Rossi
1970s

6 Vialba neighborhood
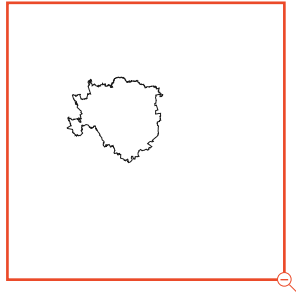A. Rossi
1990s

7 Fiera Milano
M. Fuksas
2005

0   200   500   1000 m

N

3

2

1

Beruto plan

Spanish walls

Medieval walls

Roman period

3

THE METROPOLITAN REGION

The architect Sebastiano Brandolini has defined <u>the Post Expo an issue that concerns the metropolitan area, where Milano is just one neighborhood</u>, the one with the best services.

This statement is visually corroborated: by centring a map on Expo it's evident that all around there are urban agglomerations and that the municipality of Milano occupies only the South-East quadrant. The other municipalities adjacent to the fairgrounds are minor settlements that all together form the bigger system of the metropolitan city.

When it comes to the term <u>Metropolitan City of Milano</u> it is important to highlight that this can have two different meanings.

1. It is an institution, born in January 2015, that has replaced the Provincia of Milano (a political unit between municipality and region). <u>This administrative body, which includes 134 city councils and more than 3 million inhabitants</u>, has the goal of overcoming the old governance barriers and promoting a homogeneous land development and a widespread urban quality. Nevertheless, this institution is without own resource and tax management, and can't be compared to the similar French Métropoles Paris, Lyon and Marseille (even if they were set up simultaneously) since these latter have big autonomy in expenditure and investment.

2. <u>It is a wide territory characterized by a main aggregation centre which builds relations of interdependence with the municipalities of first, second, third... belt</u>. These relations

New shopping centre opened in 2016
Arese

are physical (creation of the conurbation, urban sprawl) and social/economic (exchange between the city and the hinterland in order to go working, to go home, to spend the free time...). In this second case it is difficult to say where the metropolitan area begins or finishes, but it is for sure more extensive than the Metropolitan City institution. According to a survey carried out in 2013 by the Biccoca University, the metropolitan area of Milano, namely the territory with a certain concentration of functions and flows, concerns a whole sector of North Italy, that crosses 3 regions and 10 *province*, and comprehends over 7 million people: this region is called the *Grande Milano* (the Greater Milan).

Milano established a metropolitan reality between the '60s and the '70s: in 1974 the city counted 1,74 million inhabitants, a peak of presences that has no longer been reached.
This demographic boom led the way to the urban sprawl: the border between city and countryside faded away and a new wave of urbanization affected the former agricultural villages of the hinterland. This phenomenon was promptly transposed by the contemporary urban planners, who proposed in 1963 a new spatial development perspective: the so-called "Turbin Model". The two cornerstones of this plan were the maximisation of the mobility system, in order to make "indifferent" the localisation in each point of the metropolitan area, and the re-organization of the territory according to emerging centralities.
In spite of these precursory debates the Turbin Model wasn't approved, and the Milanese urban planning went back to a monocentric vision till the beginning of the new century, when important urban functions were relocated in the periphery thanks to the projects of renewal Bovisa and Bicocca.

The emerging issues of the metropolitan city are multidisciplinary. The first topic is that there are social and economic differences between those who live in the outskirts and those who live in the centre: this makes the space "off limits" for some people and a further element of division.
Moreover the periphery tends to attract only the residential function, which means becoming a dormitory town devoid of any attraction for the people who don't live there.
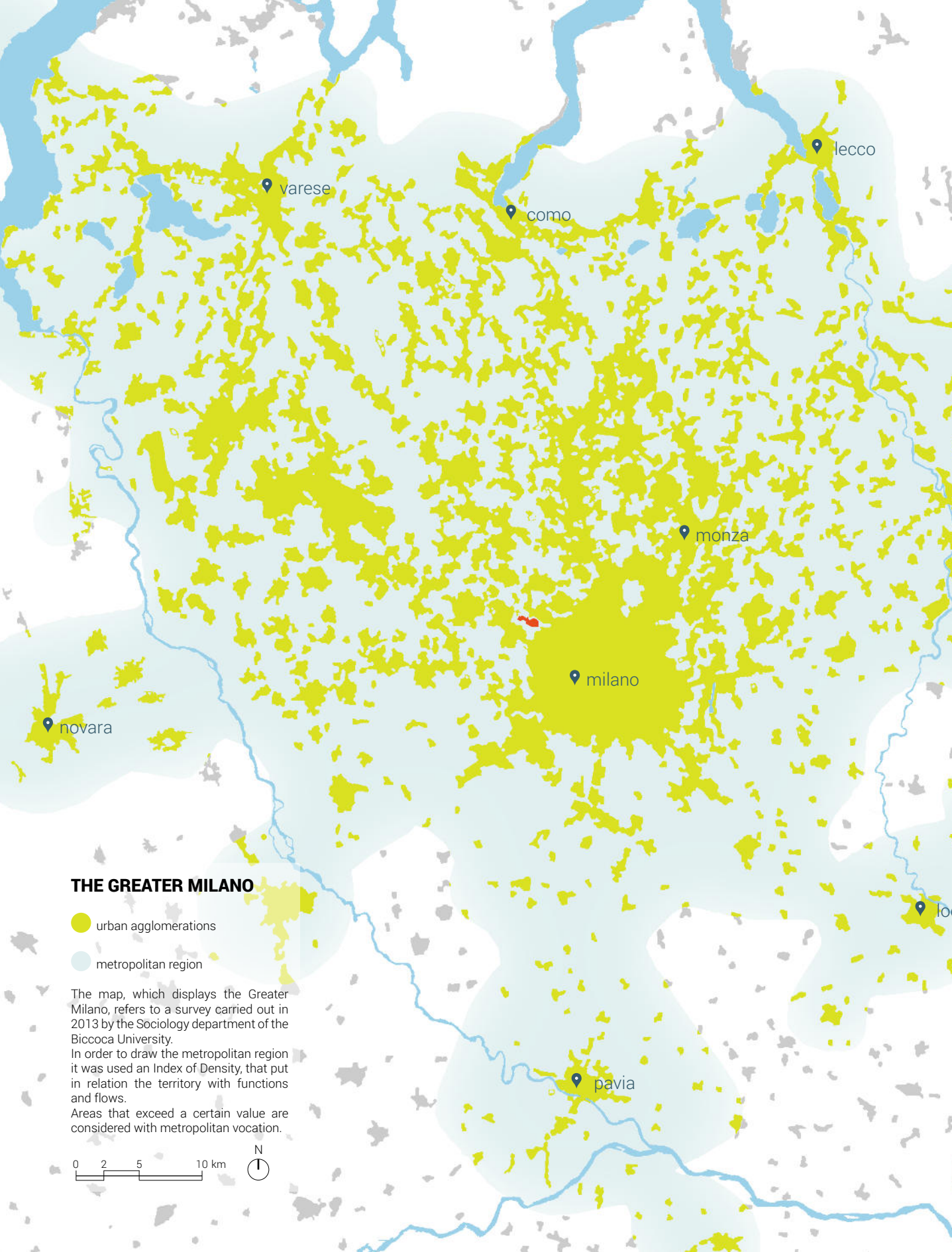Then there is an enviromental problem of ground consumption, namely the Milano metropolitan model is characterized by a heavy urban sprawl, which doesn't make good use of the available natural resources.
Another major theme of the metropolitan area is the pollution of the air and the congestion of the streets, an enviromental problem that could be solved by working on the diseconomies in services and mobility.

In this perspective, can Expo assume a key role in the overtaking of the old terms "center" and "outskirts"? Can it become a new centrality for the metropolitan area, and an alternative to the city centre? What does it mean in terms of functions?


the Turbin Model
PIM, 1963

ISU building by Gregotti Associati
Bicocca

Sources

"La città infinita" A. Abruzzese - A. Bonomi, Bruno Mondadori 2004
"La città dei ricchi e la città dei poveri" B. Secchi, Laterza 2013
"La città metropolitana di Milano" adessometropoli.it, 07.06.2014
"Dopo Expo: ma dove si deve partire?" arcipelagomilano.org, 21.10.2015
"Le aree metropolitane in Italia e i loro caratteri socio-territoriali" M. Boffi - M. Colleoni - P. Palvarini, 2013

lecco

varese

como

monza

milano

novara

lo

THE GREATER MILANO

● urban agglomerations

● metropolitan region

The map, which displays the Greater Milano, refers to a survey carried out in 2013 by the Sociology department of the Biccoca University.
In order to draw the metropolitan region it was used an Index of Density, that put in relation the territory with functions and flows.
Areas that exceed a certain value are considered with metropolitan vocation.

pavia

0   2   5   10 km

N
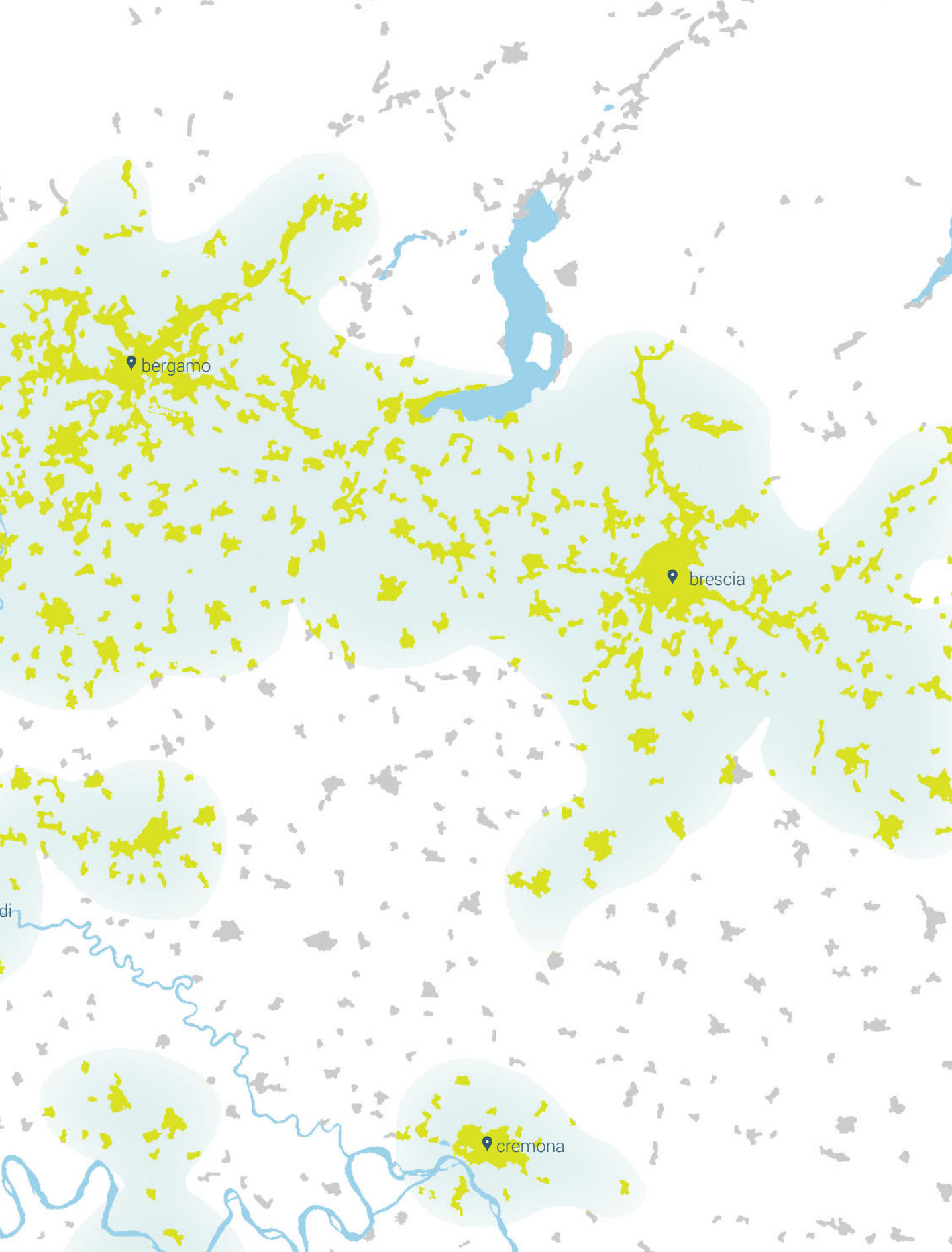
FIERA MILANO

Inaugurated in 2005, designed by Massimiliano Fuksas, is the latest building of the bigger exhibition complex located on the Sempione axis.

INDUSTRIAL CLUSTER MAZZO DI RHO

75 ha of industrial activities, the cluster represents the typical landscape of the north-west axis of the metropolitan area.

MOBILITY

The area is highly connected by the fast mobility: highways and train system have been strenghtened and a new metro station has been provided. Just a little percentage of the slow mobility system has been implemented.

DEVELOPING AREA CASCINA MERLATA

A project parallel to Expo, that included the Expo village for hosting the exhibitors. This latter will soon turn into the biggest social housing in Italy. The rest of the masterplan is still to be implemented.

PRISON BOLLATE

The presence of a prison poses an ethic problem: if and how is it possible through a specific urban scenario to make easier the re-integration of the detainees in the society.

VIA STEPHENSON

A highly problematic part of the city, enclosed by highway and train platforms. Despite the visionary masterplan that aimed at a high-density business district, the area is largely desolate.

200 m   N

BEYOND
THE
EXPO

Urban outlines of what is left in the exposition area and surroundings. How strong is the resilience in this newborn part of the city?

3 PAVILIONS:
Media Centre
Zero Pavilion
Italian Pavilion

TREES AND CHANNEL
WALL
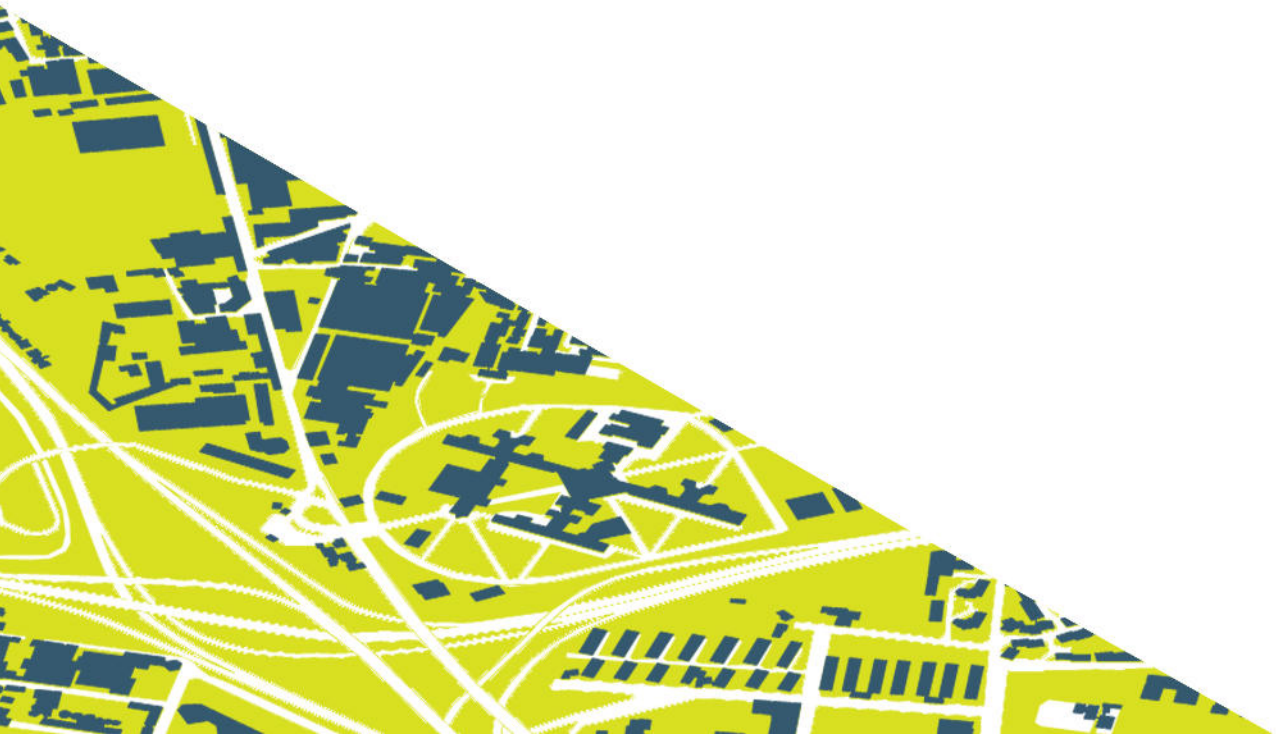
TREE OF LIFE

CASCINA TRIULZA
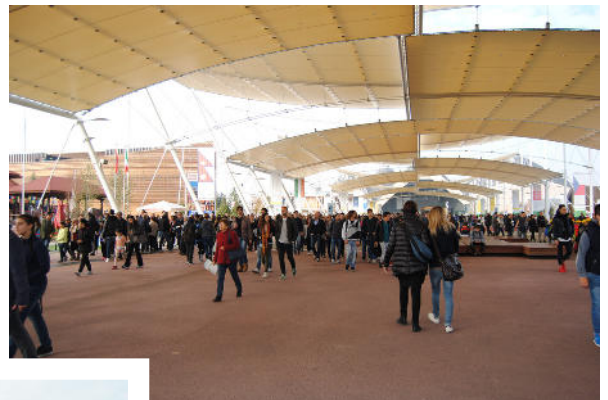
CARDO AND
DECUMANO

TECHNOLOGICAL
PLATFORM

2 CROSSWALKS

OPEN THEATHRE

OPEN
SPACE

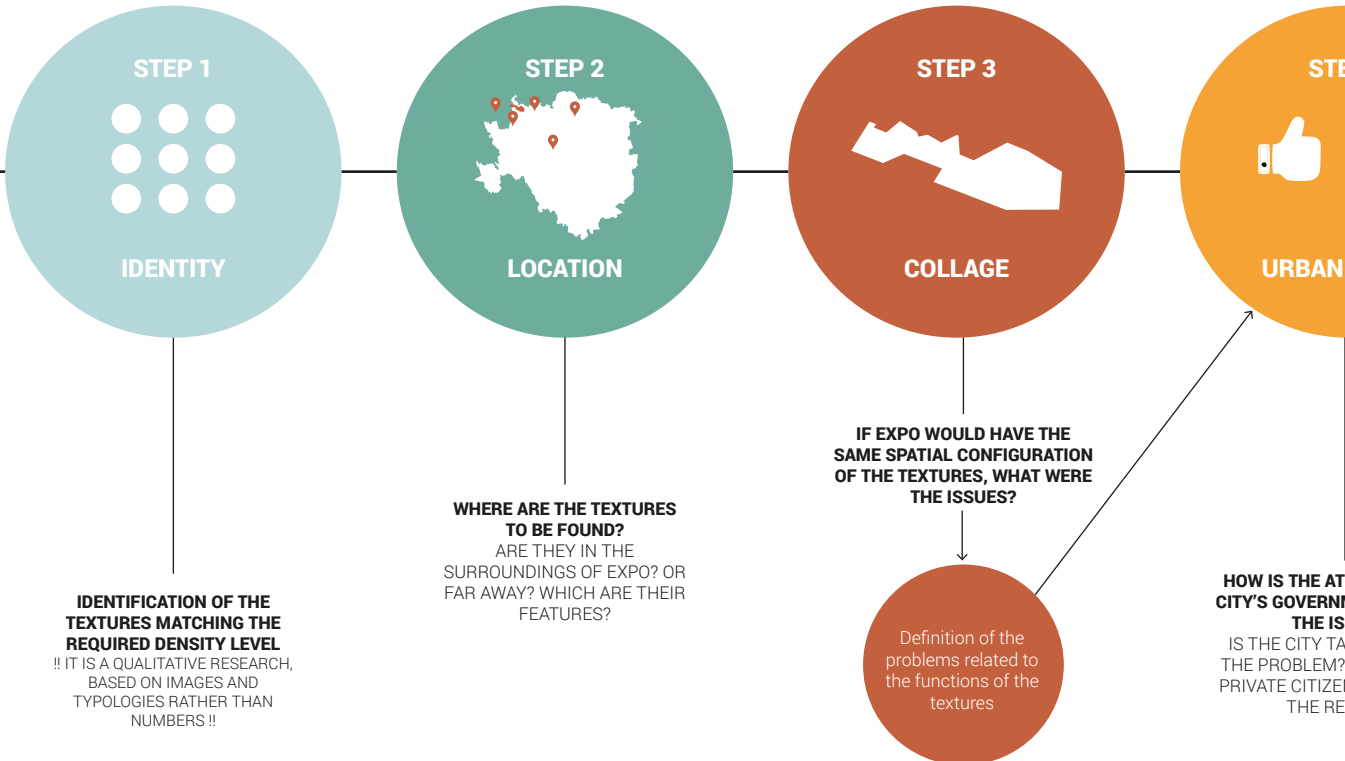90 m   N

27.10.2015: ON-THE-SPOT INVESTIGATION

3 SCENARIOS FOR EXPO

In the formulation of the scenarios I've decided to start from a parameter rather then a functional purpose.
The scenarios are developed according to 3 density levels (low, middle and high) which are to be found in the Milanese landscape. The method is illustrated in the graphic below.

STEP 1

IDENTITY

STEP 2

LOCATION

STEP 3

COLLAGE

STE

URBAN

IDENTIFICATION OF THE TEXTURES MATCHING THE REQUIRED DENSITY LEVEL
!! IT IS A QUALITATIVE RESEARCH, BASED ON IMAGES AND TYPOLOGIES RATHER THAN NUMBERS !!

WHERE ARE THE TEXTURES TO BE FOUND?
ARE THEY IN THE SURROUNDINGS OF EXPO? OR FAR AWAY? WHICH ARE THEIR FEATURES?

IF EXPO WOULD HAVE THE SAME SPATIAL CONFIGURATION OF THE TEXTURES, WHAT WERE THE ISSUES?

Definition of the problems related to the functions of the textures

HOW IS THE AT CITY'S GOVERNI THE IS
IS THE CITY TA THE PROBLEM? PRIVATE CITIZE THE RE

EP 4

ISSUES

STEP 5

FUNCTIONS

STEP 6

SPATIALITY

STEP 7

IMPACT

**TITUDE OF THE
MENT TOWARDS
SUES?**
KING CARE OF
OR WHO ELSE?
NS? WHICH ARE
SULTS?

**WHAT'S THE CONTRIBUTION OF
EXPO TO THE TOPIC?**
WHICH ARE THE GOALS OF THE
SCENARIO?

**WHICH IS THE IMPACT OF THE
SCENARIO ON THE
METROPOLITAN CITY SYSTEM?**
WHICH SOLUTIONS ARE
PROPOSED IN REGARD TO THE
INITIAL ISSUES?

CONCEPTUAL MASTERPLAN
SPATIAL ORGANIZATION OF THE
FUNCTIONS, PUBLIC AND
PRIVATE SPACES, NEW PATHS...

scenario 1
LOW DENSITY

under the parameter **low density** you can find both **natural** and **man-made enviroment**:
in the second group farmlands represent the predominant landscape

parco agricolo sud

mazzo di rho

cascina del sole

parco agricolo sud

parco agricolo sud

rho

pero

chiaravalle

also **infrastructures** for the **fast mobility** are part of the low density group:
highways of
6 or more lanes that cut through the agricultural fields are a constant
in the metropolitan area

parco della balossa

parco del basso olona

parco delle groane

parco di trenno

cascina guascona

parco delle groane

parco delle cave

cimitero maggiore

parco delle groane

all the **natural ecosystems** typical of the Po Valley are to be found in the low density group. Furthermore also the **metropolitan parks** are in this cathegory, even if they are oft a reproduction design of natural landscapes
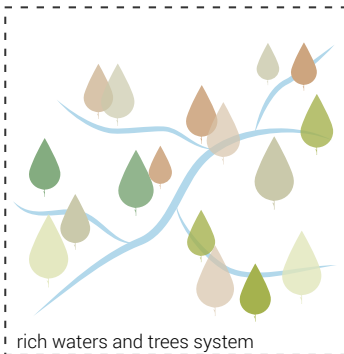
parco di trenno

bosco in città

bosco WWF vanzago

parco nord milano

N

0   50 m

LOW DENSITY LANDSCAPE

agricultural parcels

historical buildings

rich waters and trees system

high biodiversity

big infrastructures
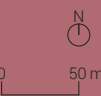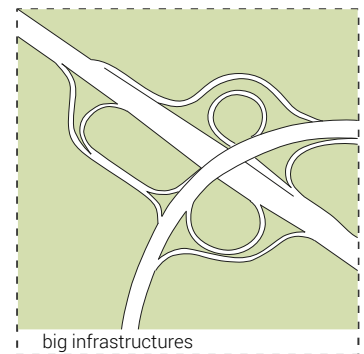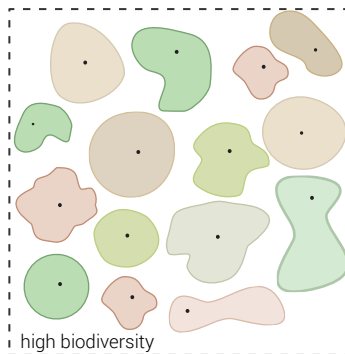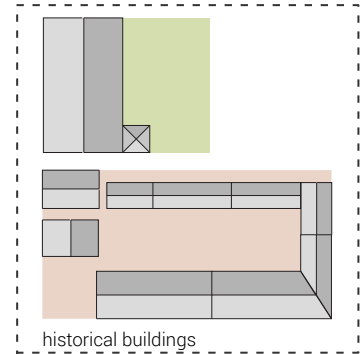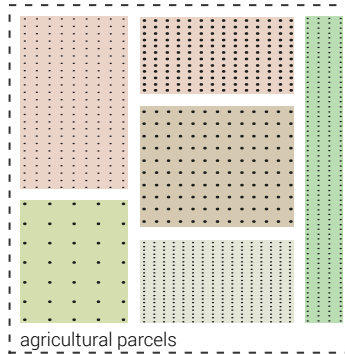
LOW DENSITY LOCATION

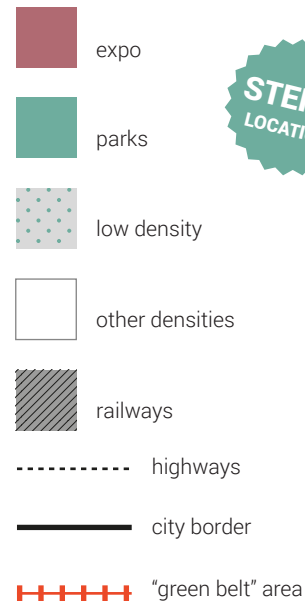Along the city border: a **green belt project** for Milano

The low density textures are to be found along an **imaginary ring that surrounds the city** of Milano. The only exception are the textures of the Groane Park, a bigger ecological system close to the Expo site, which ranks among the regional parks.
This ring around the city is characterized by a strong presence of green areas: the two most important are the **park North** and the **park South**, although the Park of North Milano is much smaller because it is located exactly on the axis that has been mostly urbanized in the city's history.
These green areas represent today a very important part of the ecological system of Milano: they are included in the territorial administration plan (*piano territoriale di coordinamento*) and classified into: 1. highly productive farmland 2. mixed areas (agricultural and natural green) along the city's belt 3. minor links between city and countryside.
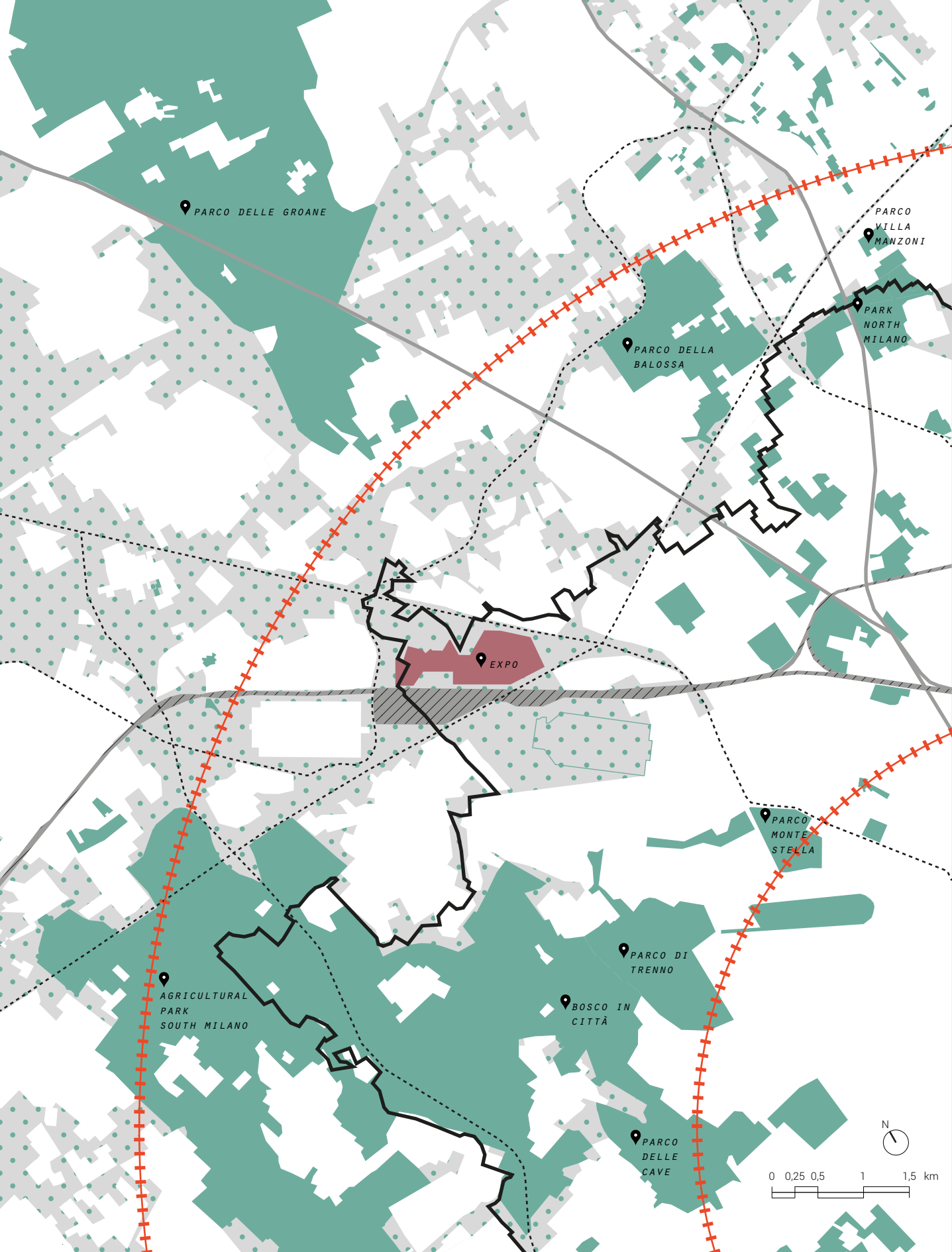It's important to notice that this model of green belt should not be confused with the English Garden City: in Milano the **green belt** is an attempt **ex-post** to value landscapes that already exist and are threatened by the urbanization.
From this perspective **Expo** would play a key role: it could represent an unique **intervention of completion** in the west part of the parks' ring.

expo

parks

low density

other densities

railways

highways

city border

"green belt" area

Sources

STEP 2 LOCATION

PARCO DELLE GROANE

PARCO VILLA MANZONI

PARCO DELLA BALOSSA

PARK NORTH MILANO

EXPO

PARCO MONTE STELLA

PARCO DI TRENNO

BOSCO IN CITTÀ

AGRICULTURAL PARK SOUTH MILANO

PARCO DELLE CAVE

N

0   0,25   0,5   1   1,5   km

LOW DENSITY EXPO

Back to its roots

If we redesign Expo with the low density textures it would look similar to the original status of the area: before the exhibition the plot was in fact related to agriculture (even if since 2004 it wasn't productive anymore).

In the collage on the right page there are anyway **some important differences to the "before-Expo land"**: the first one, invisible, is that **the soil has been reclaimed** (for a total amount of 72 million euro) and it suits now cultivation purpose.

The second one is that there are, in addition to the farmland, **other elements of the landscape biodiversity** such as the wood, the big lawn, and the pond...

This leads to an extension of the new Expo users: not only the people working in the farm, but also citizens of Milano and the hinterland that want to escape the frenetic metropolitan life.

To sum up, the low density Expo could be defined as a **park of the contemporary city**: that is a park where many functions are mixed together and it plays the role of a new centrality for the metropolitan area.

Sources

"La terra prima di Expo" Altreconomia, 21.07.2014
"Expo, la bonifica a peso d'oro. «Paghino Fiera e Cabassi»" Corriere della Sera - Milano, 24.10.2015
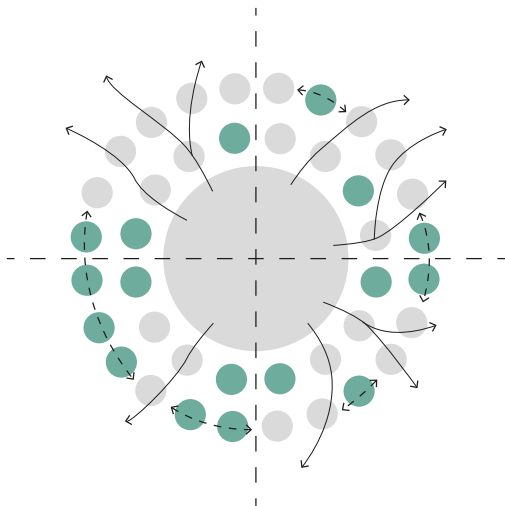
Milano has been trying to preserve what is left of its original green beltway in order to stop a further urban sprawl
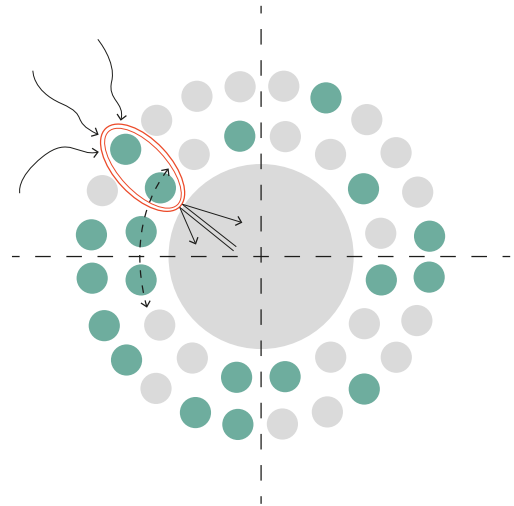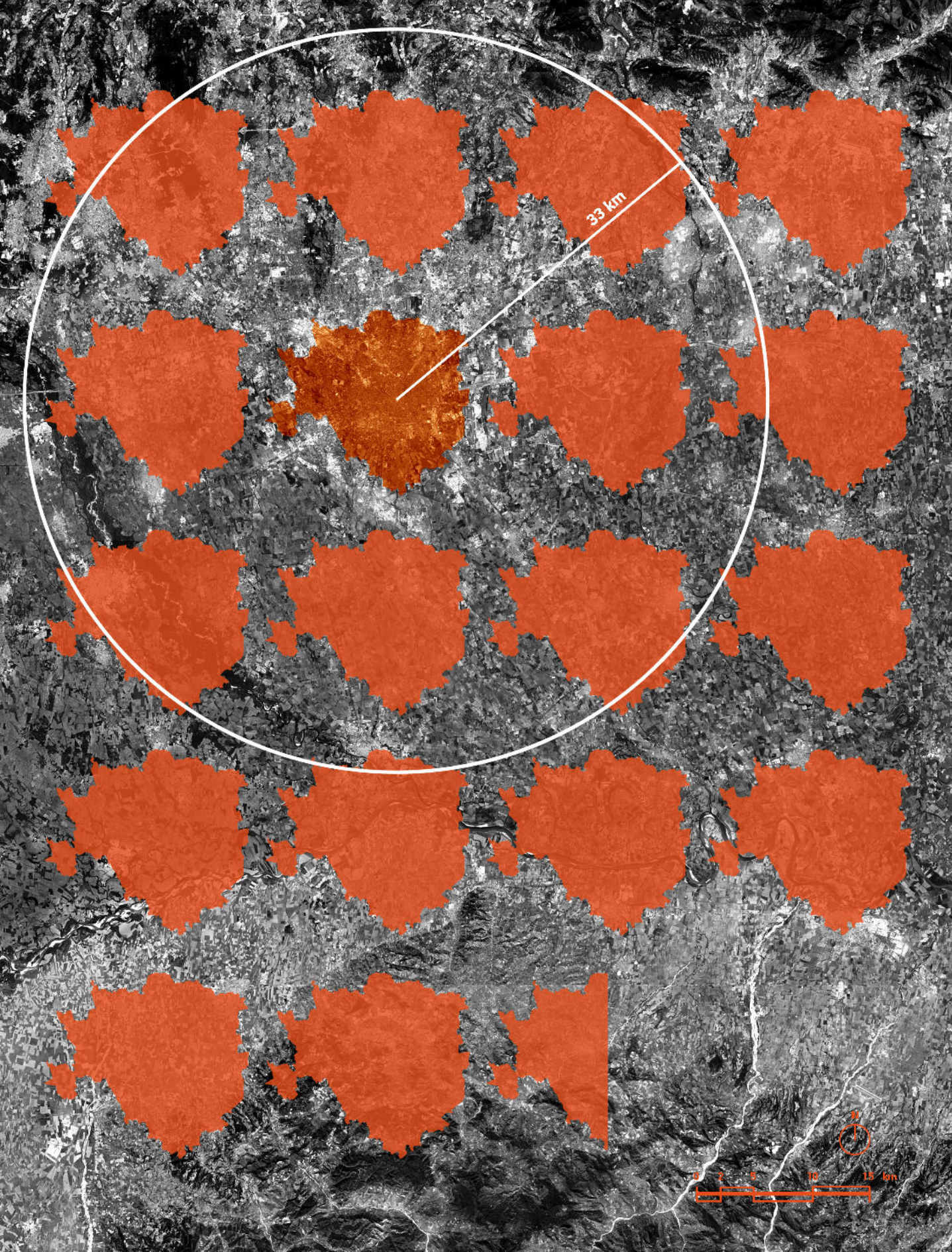
The strenghtening of the green belt can:

* favour the re-densification of the city center or/and

* create a new strong attractiveness and favour a change of interest for the "periphery": *cheaper, attractive and well-connected*

STEP 3
COLLAGE

Low density textures projected in Expo

41

33 km

HOW MANY MILANO DOES IT TAKE TO FEED MILANO?

Milano is sometimes defined a "**Rural Metropolis**", in regard to the key role that agriculture has played in the city's development. There's no doubt that Milano has historic roots in the farming world, especially because of its rich natural water system that has always allowed a flourishing harvest (and has led to the famous farming practice of *marcite*/water-meadow).

But nowadays everyone would caution in mixing "Milano" and "rural" together: in the last decades the city experienced a **dramatic loss of land dedicated to the agriculture**. In 1955 half of the territory within the city border was used to produce food, in 2012 was just the 19%.

Milano depends therefore largely on external agricultural resources to meet its nutritional needs. I've calculated the required area to feed its 1,35 million inhabitants through a process similar to the collaborative study Foodprint Manhattan.

The diet of one person coming from the "more economically developed countries" requires yearly 2.500 m^2 of farmland.

More than the half of this area is crop for animal feed, so if the person is vegetarian it would need "only" 1.000 m^2.

Milano has an extent of 182 km^2, which means that if everyone were omnivorous **it would need 18,5 times its size** to have enough farmland for everyone. It's an area equivalent to a 33 km radius surrounding the city.

These data are important to understand that the trend of farmland abandonment has to be reversed, by re-thinking the role of brownfield sites, supporting the vertical farms, and so on ... .

Because **eating local** means boosting the local economy, generating less greenhouse gases and less waste, improving the quality of what you're eating, supporting the policulture, preserving open spaces and building more connected communities.
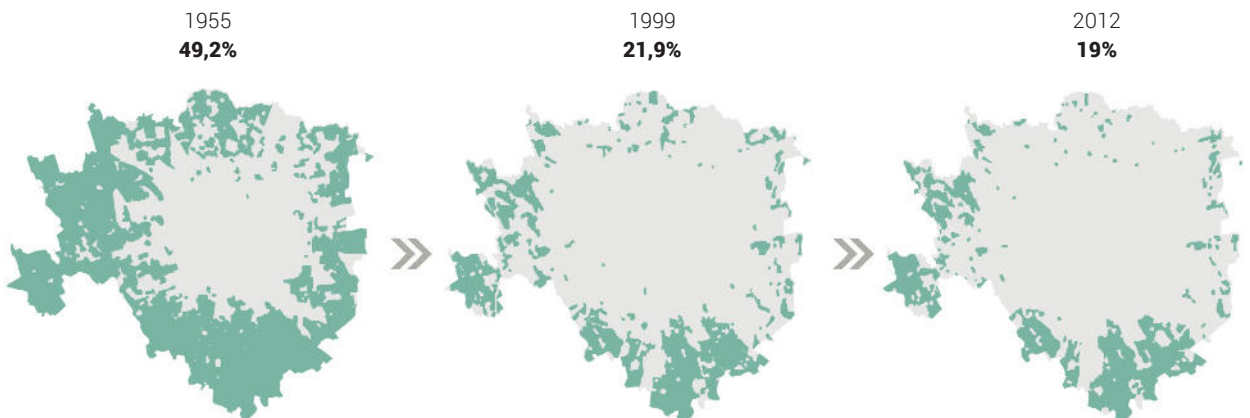
Sources

"Consumo di suolo, dinamiche territoriali e servizi ecosistemici" report ISPRA 2016
"Foodprint Manhattan" T?F, MVRDV, Stroom and Wieland Gouwens, 2009
"10 Reasons Why You Should Eat Local" ecowatch.com, 09.04.2015

Image at the bottom page: banca dati Dusaf

AGRICULTURAL AREAS IN MILANO
Value expressed in % of the total surface

1955	1999	2012
49,2%	**21,9%**	**19%**

MILANO'S MAKEOVER

A GREEN SWING THAT STARTS FROM THE PEOPLE

Timeline (Policies)

1990
PASM
Agricultural Park South Milan
47.000 ha
Land protection and
support of farming economy

2011
DAM
Agricultural District Milan
Main crop: rice
Farms' association that promotes
the re-ruralization of the city

2012
FOODMETRES
UE project
Food planning and innovation model
for Sustainable Metropolitan Region

2012
MILANO RURAL METROPOLIS
definition of the action plan for the
development of the metropolitan
territorial system

2015
EXPO
"Feeding the planet,
energy for life"
6 months of discussions about the
topics nutrition and sustainability

2015
MILANO FOOD POLICY
ensure food access and combat
food waste, promote sustainability
and nutrition education,
support research

The loss of Milano on the agricultural front has given rise to a strong **stance of the inhabitants** about the no longer sustainable city's development.

This **attention for the enviroment** is reflected also in the **eating habits**: economic analysis confirm that the consumers of Milano have become selective, critic, demanding and above all aware of what they're buying.

In a society where **food culture is identity**, the principle of "*price for quantity*", typical of the supermarket era (starting in the '60s) has given way to "*price for quality*": that is, better eating a little less, but being sure of what's on the plate.

In the last decade Italy has also experienced the boom of organic production and the birth of all the labels that monitor the food: fair trade, organic, vegan, lactose-free, etc... .

In addition, the **movement of "urban farmers"** is more and more present in Italy: 5 million people that live in urban areas satisfy with their own production their demand for horticultural products and only in Milano there are 1.400 kitchen gardens (309 owned by the city council).

This ecological revolution has put Milano in a new light: once it was the grey city of Italy, now everyone can realize by walking down the street that there is a strong willingness of having a **green city**.
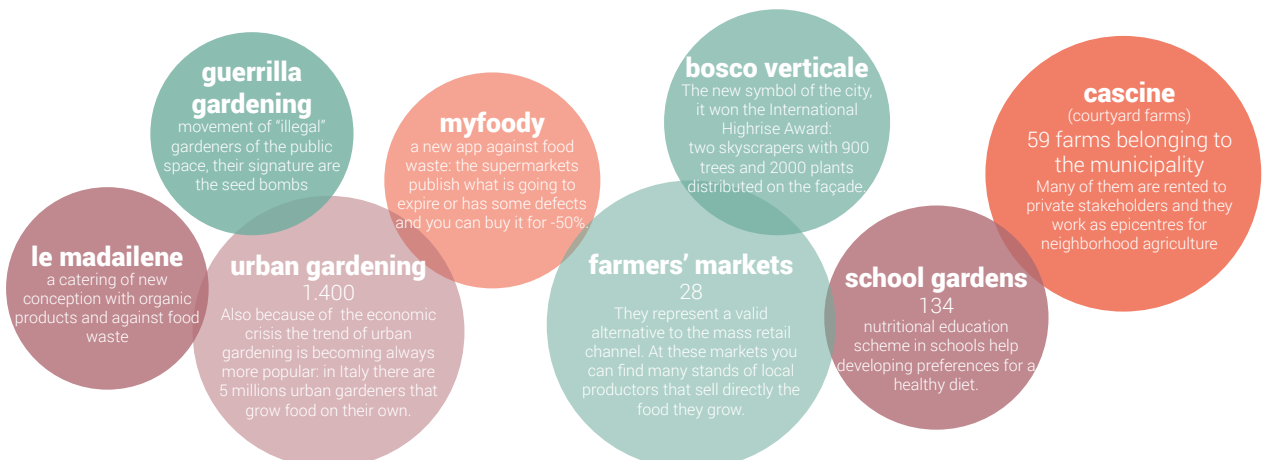
Following this attitude also the government has got down to work on supporting the metropolitan rural system. Many policies have been made in the last 6 years, also as preparation and legacy of the city that hosted the Expo event on sustainaibility.

Sources

"Metropoli agricole 2015" conference report
by Fondazione Cariplo, 22.10.2015
"Filosofia (e moda) degli orti urbani «Salvo il paesaggio e mangio sano»" Corriere della sera - Milano, 14.04.2105

POLICIES (left) and BEST PRACTICES (bottom)

guerrilla gardening
movement of "illegal" gardeners of the public space, their signature are the seed bombs

myfoody
a new app against food waste: the supermarkets publish what is going to expire or has some defects and you can buy it for -50%

bosco verticale
The new symbol of the city, it won the International Highrise Award:
two skyscrapers with 900 trees and 2000 plants distributed on the façade

cascine
(courtyard farms)
59 farms belonging to the municipality
Many of them are rented to private stakeholders and they work as epicentres for neighborhood agriculture

le madailene
a catering of new conception with organic products and against food waste

urban gardening
1.400
Also because of the economic crisis the trend of urban gardening is becoming always more popular: in Italy there are 5 millions urban gardeners that grow food on their own.

farmers' markets
28
They represent a valid alternative to the mass retail channel. At these markets you can find many stands of local producers that sell directly the food they grow.

school gardens
134
nutritional education scheme in schools help developing preferences for a healthy diet.

AN AGRICULTURAL SCENARIO

Blurring the **urban/rural** dichotomy

For the low density scenario I've planned a so-called **agricultural park**, that is a park that contributes to the multifunctionality of the urban territory: therefore it's not only a green oasis for the inhabitants but also a place where other functions connected to the agriculture are developed.

The **reasons** of this decision are many:

* because **Milano** is, like many other metropoles, **unable to satisfy its nutritional needs**: this causes an extremely damaging process that exploits the countryside (all over the world) to feed the overcrowded city. Since the arable land is always less (soil is not a renewable resource) and the cities always bigger, it's time to start to create a city that provides its own food and ecosystem.

* because **Milano has performed badly** in this sense in the last 60 years, loosing more than the half of its agricultural land. In more recent years there have been more and more "green interventions" but it could take a big project like this to turn around the trend.

* because the **sustainability** should be the **legacy of Expo 2015**. Moreover, the idea of an agricultural/scientific park or botanic garden as post-use was carried on also by Stefano Boeri in the Conceptual Masterplan for Expo, but it has remained on paper.

STEP 5
FUNCTIONS

Metropolitan Wood and Linear Park

Mediterranean Hill

BIODIVERS
OF ECOSYST

Canal and Ponds

ex childrenpark
Expo Dock

Garden of the
Forgotten Fruits

LEGEND

buildings or spaces belonging to the Expo functional program that have been integrated in the new agricultural park purpose.
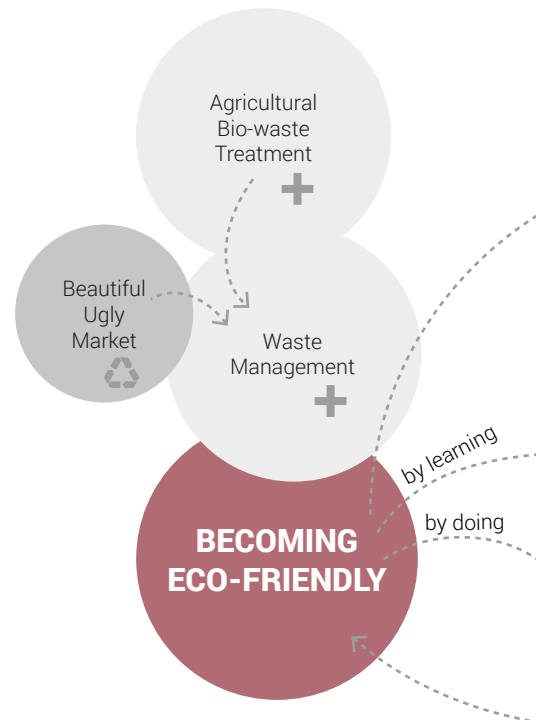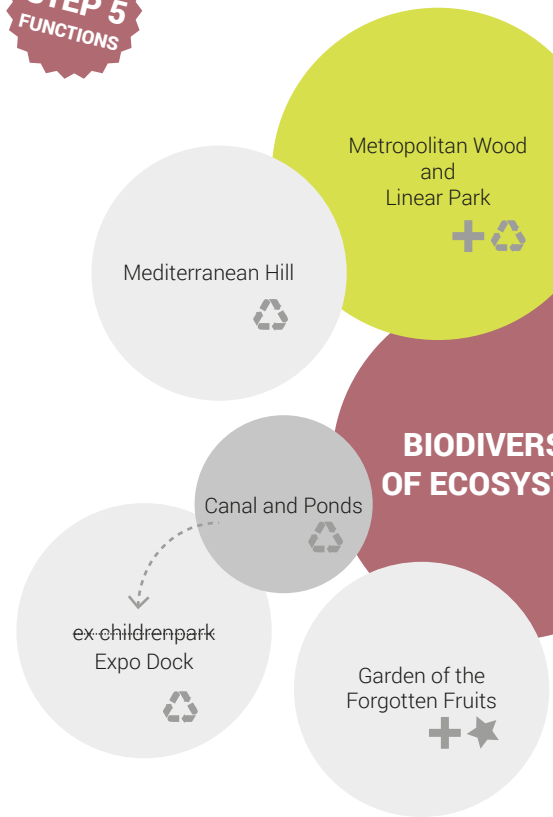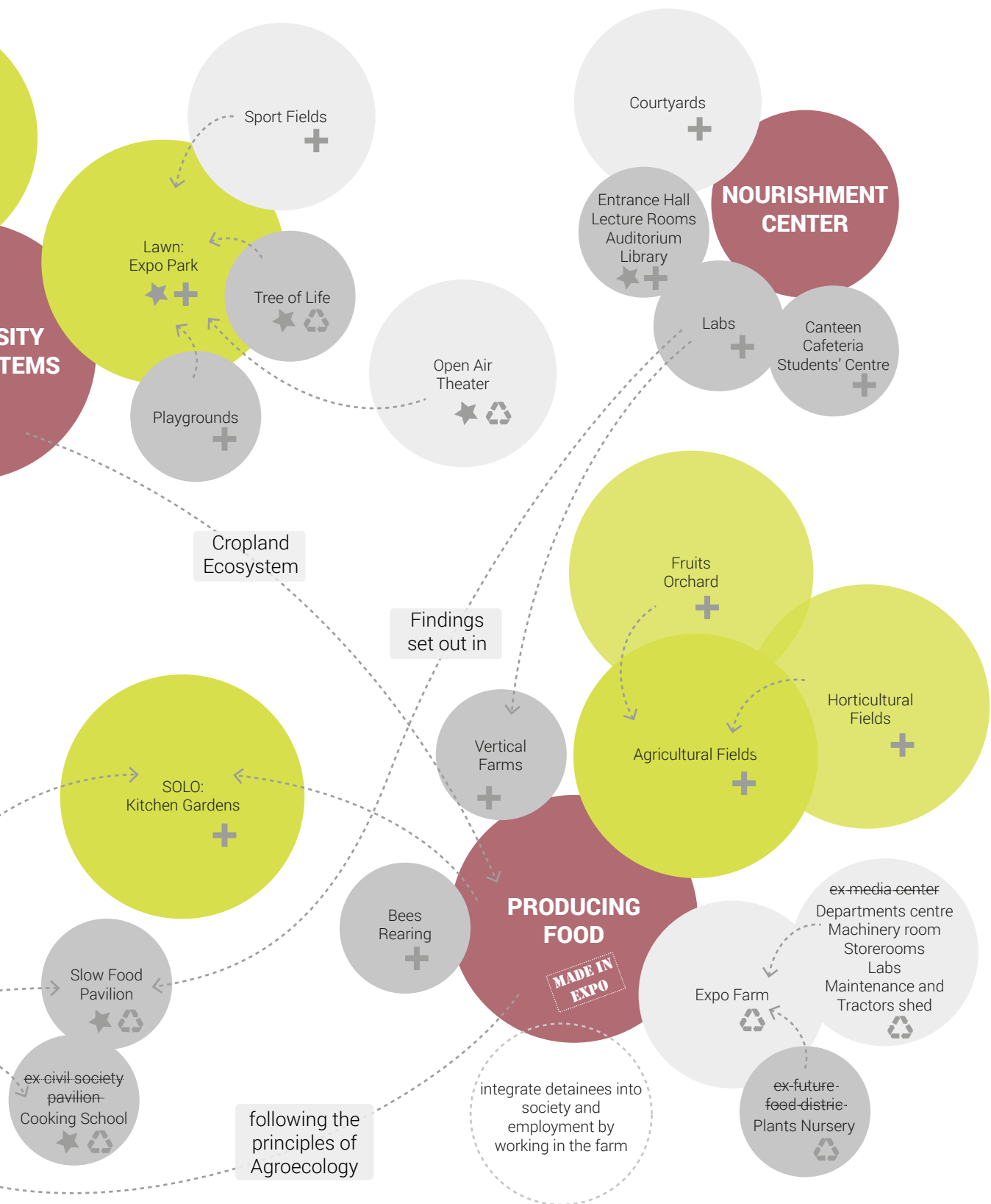
new interventions

Expo was an event and this feature of attracting people shouldn't get lost: with the star are indicated buildings or spaces that have the potential of hosting events of big scale.

AREA COVERED

30.000 - 230.000 m²

8.000 - 30.000 m²

1.000 - 8.000 m²

Agricultural
Bio-waste
Treatment

Beautiful
Ugly
Market

Waste
Management

by learning

by doing

BECOMING
ECO-FRIENDLY

Sport Fields

Courtyards

Entrance Hall
Lecture Rooms
Auditorium
Library

**NOURISHMENT
CENTER**

Lawn:
Expo Park

Tree of Life

**SITY
TEMS**

Labs

Canteen
Cafeteria
Students' Centre

Open Air
Theater

Playgrounds

Cropland
Ecosystem

Fruits
Orchard

Findings
set out in

Horticultural
Fields

Vertical
Farms

SOLO:
Kitchen Gardens

Agricultural Fields

~~ex media center~~
Departments centre
Machinery room
Storerooms
Labs
Maintenance and
Tractors shed

Bees
Rearing

**PRODUCING
FOOD**

*MADE IN
EXPO*

Expo Farm

Slow Food
Pavilion

~~ex civil society
pavilion~~
Cooking School

following the
principles of
Agroecology

integrate detainees into
society and
employment by
working in the farm

~~ex future
food distrie~~
Plants Nursery

47

CONCEPTUAL MASTERPLAN

N

0 25 50   100   150 m

METROPOLITAN
WOOD AND DOC

COOKING SCHOOL

FARM + ORCHARD

2

3   4

1
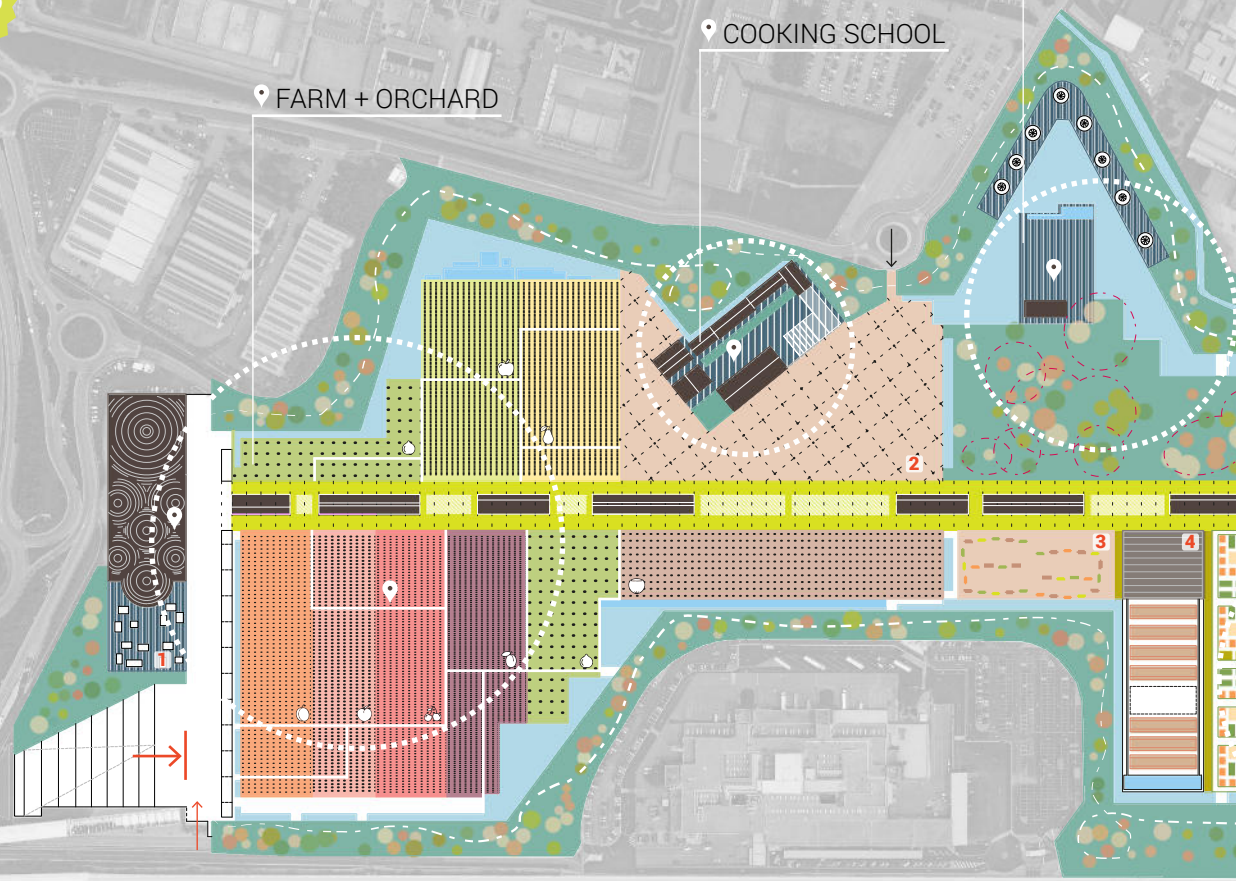
1 <u>Beautiful Ugly Market</u>: not every fruit or vegetable looks perfect, but it doesn't mean that is not tasty! Here you can buy the food that hasn't reached the market standards at a reduced price.

2 <u>The Garden of the Forgotten Fruits</u>: in the world there are 30.000 edible plant varieties, but only 120 are cultivated. Among these, 9 account for the 75% of human nutrition. These garden is meant to protect and promote the agrobiodiversity.

3 <u>Bees Rearing</u>: bees are extremely important for the pollination, moreover the honey could be used as additional product of the Expo farm.

4 <u>Waste Management</u>: agricoltural bio-waste can be recycled and used as fertilizer in the fields.

5 <u>Plant Nursery</u>

HIGH-TECH AGRICULTURE WAY

urban furniture

Decumano structure as solar panels

greenhouses

One km of vertical farms that use the <u>hydroponics</u> or <u>areoponics</u> system. The plants grow <u>soilless</u> in a controlled enviroment and they receive the light of LED lamps. The energy is provided by the solar panels on the Decumano sails.

baranzate

EXPO PARK

HORTICULTURAL FIELDS +
NOURISHMENT CENTRE

KITCHEN GARDENS
FOR RENTING

SLOW FOOD
PAVILION

rho

milano

NOURISHMENT CENTRE

The centre consists of 3 hypogeous buildings and 3 rounded courtyards. It is a research hub of the Faculties of Agricultural Science, Medicine and Urban Planning. The main entrance hall, the lecture rooms, the auditorium and the library are located in the 1st building, the labs in the 2nd, the canteen, the cafeteria and the students' centre in the 3rd.

ACCESIBILITY AND FLOWS
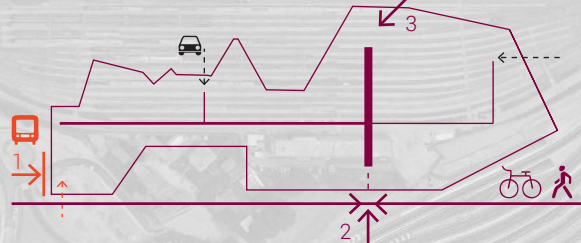
The accesibility system has been revised to give priority to the slow mobility. The ex Cardo street (now Expo park) assumes a key role as main entrance thanks to two new interventions: for the users coming from entrance 2 a new bike path is built on former train platforms, while in the North there is a new bike/pedestrian bridge (3).
Public transport and a new shuttle bus arrive at the West entrance (1).

FOOD OF EXPO

production in SPRING:
24% of the total

production in SUMMER:
32% of the total

ANNUAL PRODUCTION AND EXTENT OF THE AREA FOR EACH CULTIVAR
Values expressed in quintals (100 kg) and hectares (10.000 m²)

Apricots	200 q	1 ha		B. Sprouts	110 q	1 ha		Strawberries	180 q	0,9 ha
Peaches	225 q	0,9 ha		Carrots	360 q	1,2 ha		Radishes	012 q	0,4 ha
Cherries	120 q	1 ha		Cocumbers	100 q	0,5 ha		Chicory	098 q	0,7 ha
Plums	300 q	1 ha		Salad	260 q	1,3 ha				
Figs	36 q	1,2 ha		Spinach	120 q	0,6 ha				
Hazelnuts	30 q	1,2 ha		Onions	100 q	0,5 ha				
Apples	350 q	1 ha		Beans	180 q	1,5 ha				
Pere	280 q	1 ha		Potatoes	280 q	0,7 ha				
				Fennels	105 q	0,3 ha				
Tomatoes	980 q	1,4 ha		Eggplants	160 q	0,4 ha				
Cauliflowers	120 q	0,6 ha		Zucchini	250 q	1 ha				
Garlic	25 q	0,2 ha		Radicchio	105 q	0,7 ha				
Artichokes	36 q	0,4 ha		Bell peppers	210 q	0,7 ha				

ANNUAL FRUIT PRODUCTION
1.541 q

ANNUAL VEGETABLE PRODUCTION
3.791 q

production in FALL:
28% of the total

production in WINTER:
16% of the total

For the arable land of Expo I've chosen horticulture and fruit growing, and in particular the typical production of northern Italy agriculture: in fact the plants varieties have to stand the climate of the Po Valley.
The total production is of 5.332 q ...
How many people could eat with this amount of food?
The average daily consumption of fruits and vegetables in Italy is 450 g pro person (and it is also the recommended quantity by the WHO). Of these, 200 g are for vegetables and 250 g for fruits. Therefore Expo could provide yearly:

FRUITS for **1.689** people

VEGETABLES for **5.193** people

EXPO IN THE GREEN METROPOLITAN SYSTEM

STEP 7
IMPACT

Garbagnese//**FRIDAY**
weekly local market

2 Groane Park

3 WWF Oasis
Il Caloggio

Bollate//**TUESDAY**
weekly local market

Arese//**SATURDAY**
weekly local market

Weekly Markets,
sheltered daily markets
and **newborn markets**

Part of the food grown in Expo will be sold in local markets: these are the best examples of short production chain, where the products arrive fresh at the stand and at a good price. There will be a Expo stand in every weekly market of the hinterland, plus Expo will be present also at the farmers' market in the weekend and in the Metropolitan Market in the city centre, which was a parallel project of Expo exhibition.
This Metropolitan Market will be the reference for the upgrading of a sheltered daily market (San Leonardo) in Gallaratese, which is a parallel project of the Scenario Low Density. This market will be of new conception: it will provide not only stands and litle shops but also rooms for the community, it will be open also in the evening and it should work as gathering and bonding place (see also Mercato del Lorenteggio).

Beautiful Ugly
Market

Rho//**MONDAY**
weekly local market

Pero//**THURSDAY**
weekly local market

1 new bike path
Olona river

Existing Bikeway
and **new additions**

The slow mobility system is extremely important and sustainable: everyone in the metropolitan area should have at disposal a bike track for reaching the new Expo park.
Linear distances are easily coverable by bike, but often the existing paths are twisty and not complete. In my project I will support especially 2 kind of connections:
* Horizontal: Milano - Hinterland, by converting old train platforms into a new rapid track that goes from the hearth of the city directly to the park.
* Vertical: Connections of the green belt parks, by improving the existing cycle paths and creating alternative tourist itineraries.

3 tourist itinerary
**Agricultural Park of
South Milan**

Factory Cormano// 2x in a Month
Farmers' market

Bresso//**WEDNESDAY**
weekly local market

km

9

7,5

6

4,5

3

novate
mercati nenale sabato

1,5
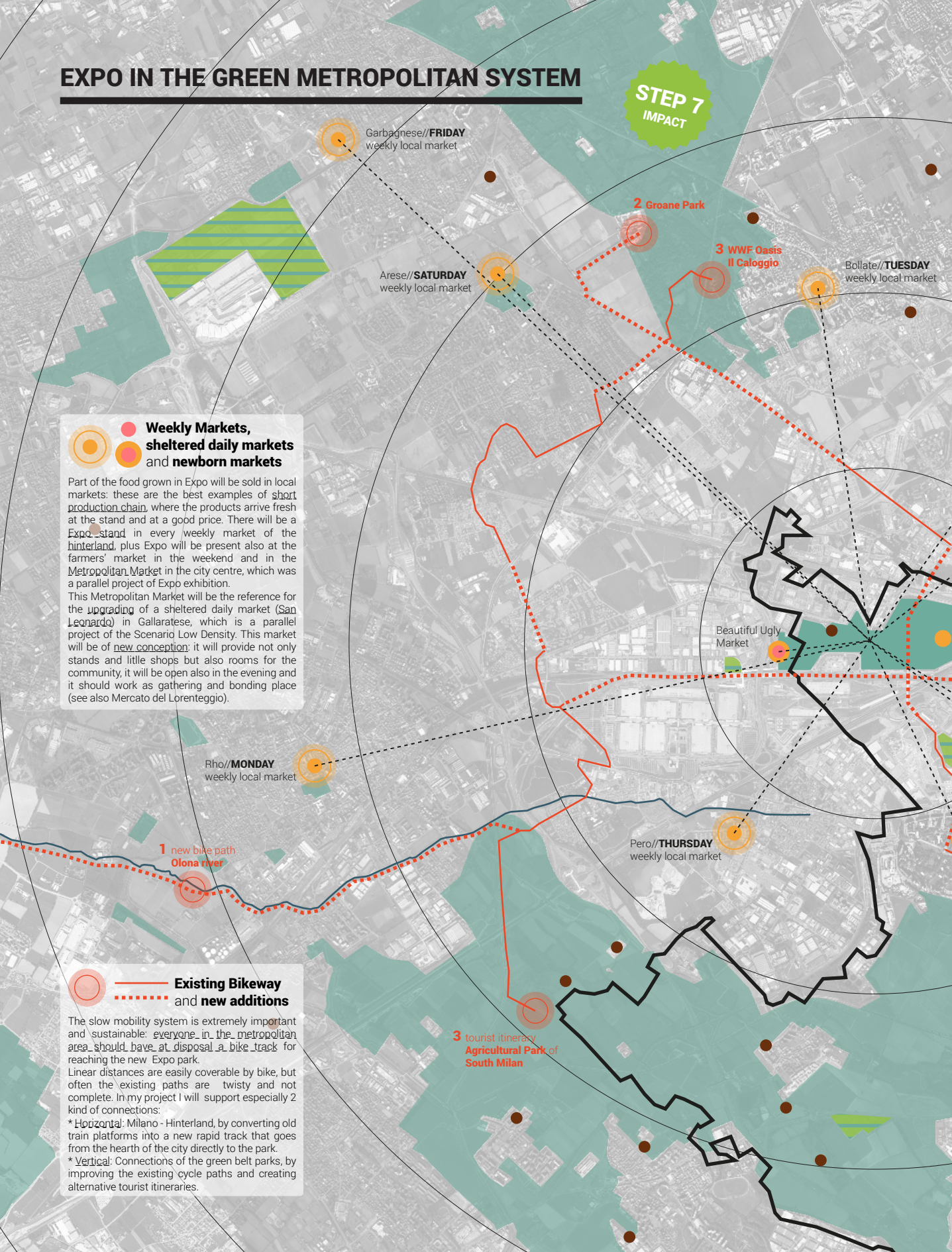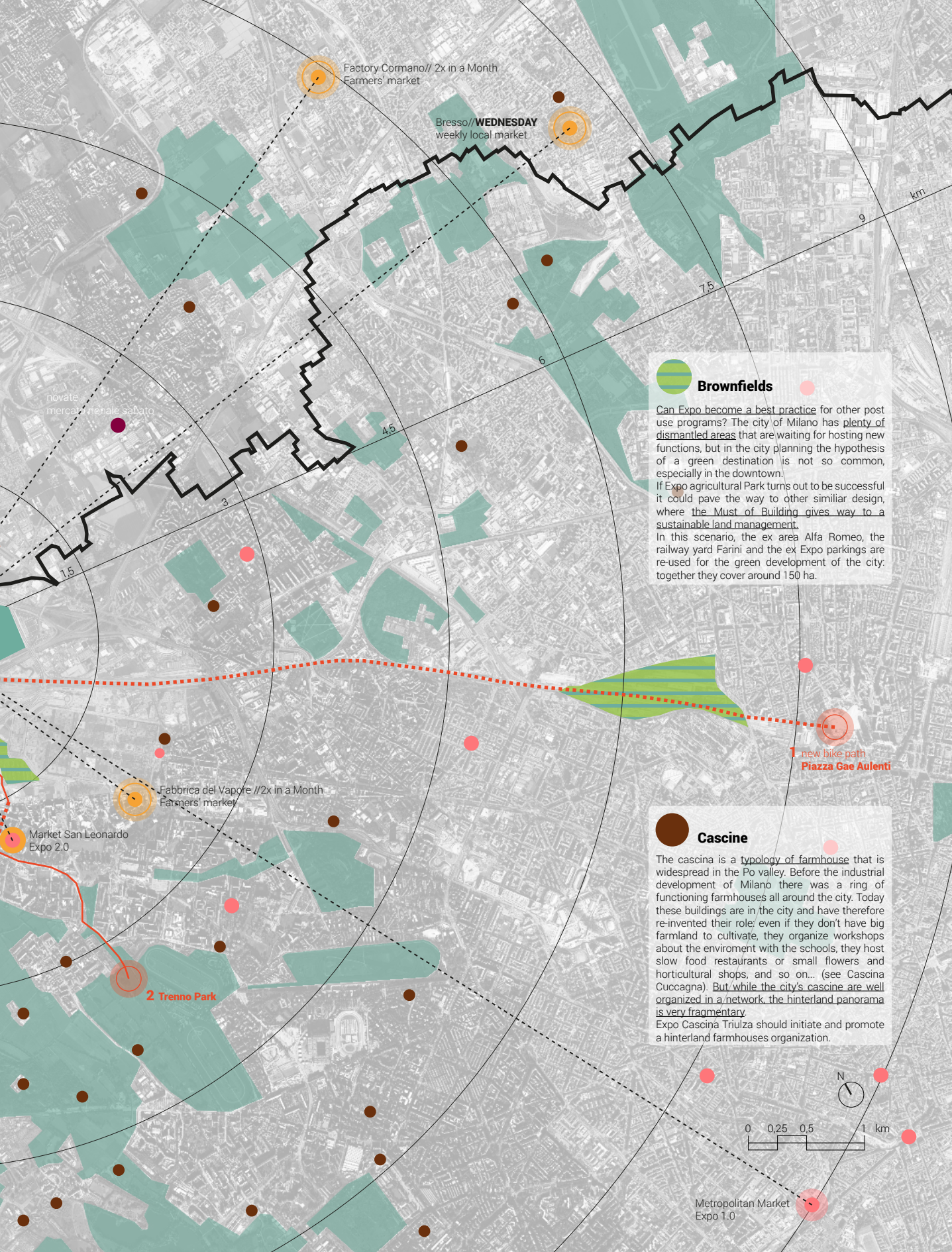
Brownfields

Can Expo become a best practice for other post use programs? The city of Milano has plenty of dismantled areas that are waiting for hosting new functions, but in the city planning the hypothesis of a green destination is not so common, especially in the downtown.
If Expo agricultural Park turns out to be successful it could pave the way to other similiar design, where the Must of Building gives way to a sustainable land management.
In this scenario, the ex area Alfa Romeo, the railway yard Farini and the ex Expo parkings are re-used for the green development of the city: together they cover around 150 ha.

1 new bike path
Piazza Gae Aulenti

Fabbrica del Vapore //2x in a Month
Farmers' market

Market San Leonardo
Expo 2.0

Cascine

The cascina is a typology of farmhouse that is widespread in the Po valley. Before the industrial development of Milano there was a ring of functioning farmhouses all around the city. Today these buildings are in the city and have therefore re-invented their role: even if they don't have big farmland to cultivate, they organize workshops about the enviroment with the schools, they host slow food restaurants or small flowers and horticultural shops, and so on... (see Cascina Cuccagna). But while the city's cascine are well organized in a network, the hinterland panorama is very fragmentary.
Expo Cascina Triulza should initiate and promote a hinterland farmhouses organization.

2 Trenno Park

N

0   0,25   0,5   1 km
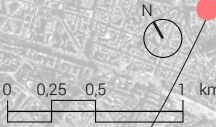
Metropolitan Market
Expo 1.0

Sunday morning at Expo Park...

scenario 2
MIDDLE DENSITY

pero

baranzate

under the parameter **middle density** you can find different art of land occupation:
the two predominant are **housing** and **industrial areas**

rho

arese

mazzo di rho

the **industrial areas** are characterized by factories of mainly moderate dimensions for **family-run businesses**

novate milanese

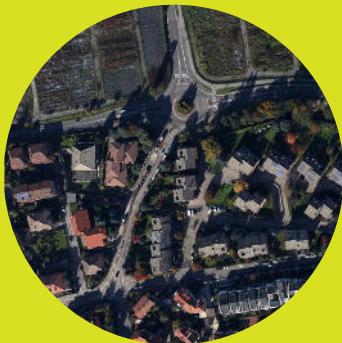novate milanese

rho

bollate

mazzo di rho

pero

rho

cerchiate

the **housing areas** present different typologies: the most common is the **single family house**, but you can also find complexes of multistories builidings and historical courtyard houses

baranzate

pregnana milanese

novate milanese

mazzo di rho

garbagnate milanese

bollate

arese

arese

N

0   50 m

Chart

MILANO
1.36 (1992) ... 1.24 (2003) ... 1.30 (2006)
2007 196 elderlies / 100 teenagers

HINTERLAND
2.37 (1992) ... 2.45 (2002) ... 2.56 (2006)
2007 126 elderlies / 100 teenagers
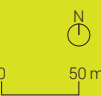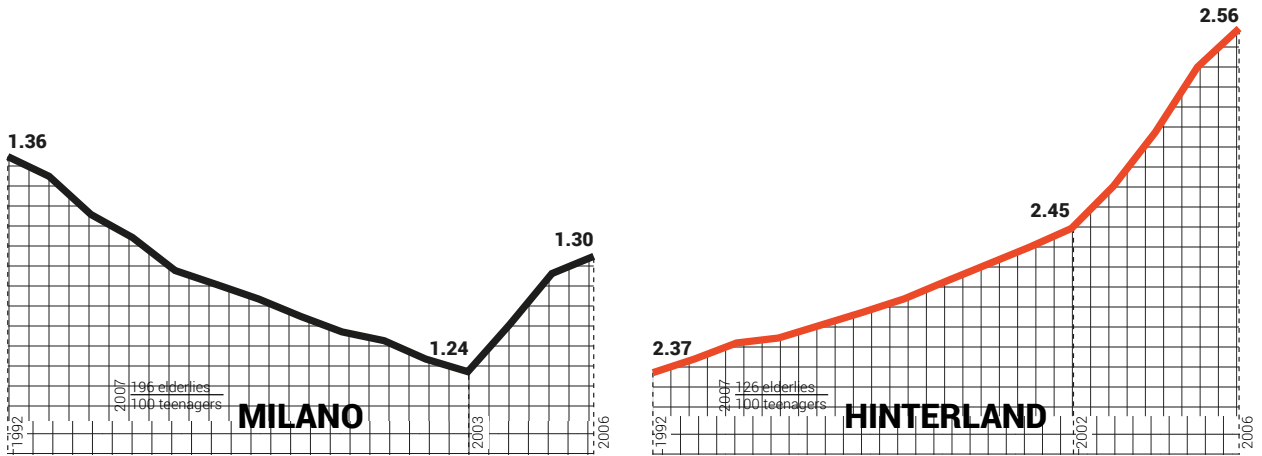
DEMOGRAPHIC TRENDS OF THE METROPOLITAN CITY

Value expressed in Million of people

MIDDLE DENSITY LOCATION

Meaning and history of the **hinterland** of Milano

The middle density textures are to be found in a specific area of the metropolitan city, that fades in at the limit of the compact city and heads outwards.
This blurred ring is called **hinterland**: it includes all the municipalities that are part of the metropolitan city, except for Milano. The hinterland establishes economic, cultural and social interdependences with the main centre.

The hinterland of Milano is also the output of a process of **urban sprawl** that started 50 years ago.
Between the '60s and '70s Milano experienced a change in its scale, becoming a metropolitan city.
The new demographic boom resulted in an expansion like wildfire, and the strict borders between city and land were cancelled by the continuous urbanization.
New low-income as well as high-income housing found place outside the city, where also factories were re-located in a chaotic way. Shopping malls and leisure time centers were built beside the big mobility infrastructure that were under costruction.
Furthermore in the '70s the possibility of living in the hinterland was more appealing since Milano was just a productive congested city.
Today **the hinterland keep growing because Milano has become much more attractive and therefore expensive**, and the majority of people has to move outside the city to afford a house.
That is also the reason why young families at the beginning of their career live mostly in the hinterland, while in the city centre the elderlies rate is very high.

STEP 2
LOCATION

housing

industrial areas

expo

compact city

city border

municipalities border

Sources

"Milano: la grande trasformazione urbana" C. Morandi, Marsilio 2005
"Provincia in cifre" Daniele Comero, National Statistical System, report 2007
"Un territorio che cambia: demografia e contesto sociale" S. Pasquinelli - S. Stea, 2008
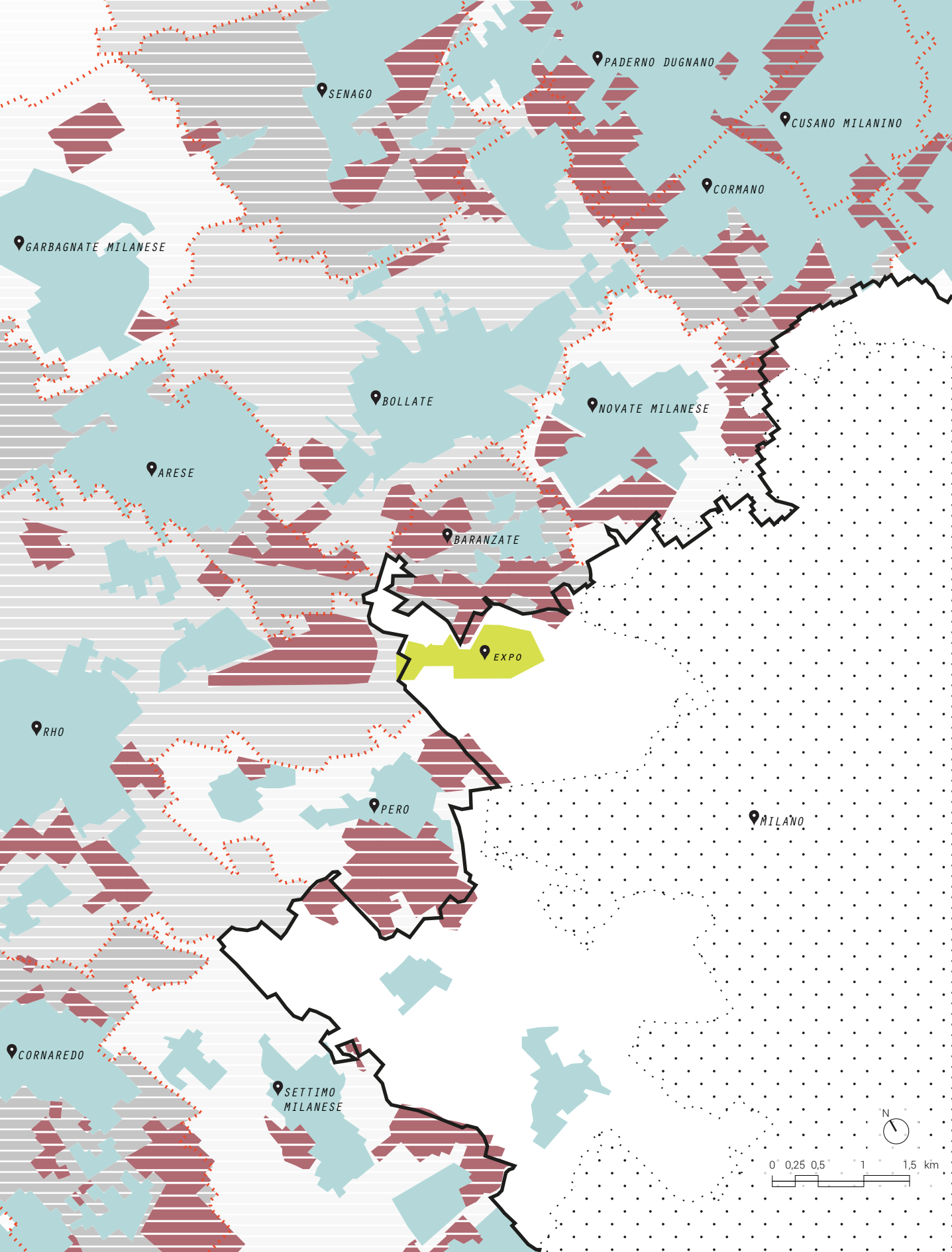
SENAGO

PADERNO DUGNANO

CUSANO MILANINO

GARBAGNATE MILANESE

CORMANO

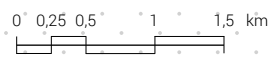BOLLATE

NOVATE MILANESE

ARESE

BARANZATE

EXPO

RHO

PERO

MILANO

CORNAREDO

SETTIMO
MILANESE

N

0 0,25 0,5   1   1,5 km

LIVING IN EXPO

And **moving fast** avoiding the traffic jams

From the analysis of the previous map emerges that the 2 main middle density textures recur in the hinterland in a balanced way. The formula is always the following: in each municipality there is a housing area plus one or more industrial areas of same dimensions, or slightly smaller.
Mazzo di Rho is an industrial hub beside the Expo that is even bigger than 100 he: if the formula is followed, and the **package living/production** is complete, **Expo** would look like as another of the many **housing settlement** of the hinterland.

One of the biggest problem of these settlements is connected to mobility: the majority of people living there commutes to go to work and hasn't access to an efficient public transport system. **Therefore everyday 70% of 900.000 people heading to Milano travels by car**. The need to use the car for everything, from going grocery shopping till taking the children to school, causes huge problems in air pollution and time management.
According to the latest researches, every commuter looses on average 52 hours pro year stuck in traffic, and needs 59% (morning) and 52% (evening) additional time to cover the same distance in rush hours.

In this respect **Expo represents an exceptional case:** even if outside from the compact city and moreover in the middle of an infrastructure junction, from the site **you can move fast** in both directions city center and outside. This is due to the complete public transport system (metro, city rail links, regional trains and high-speed trains) that was built for the exposition.
This strenght would relieve the daily life of many commuters and could give further credit to the housing scenario... but which other issues are related to this hypothesis? Who would live in the new Expo area?

Sources

„Milano, più di due giorni all'anno persi bloccati nel traffico. Ma la situazione (per fortuna) migliora" Milanotoday.it, 22.03.2016
„Pendolari d'Italia" conference report by CENSIS, 14.03.2008

5 km
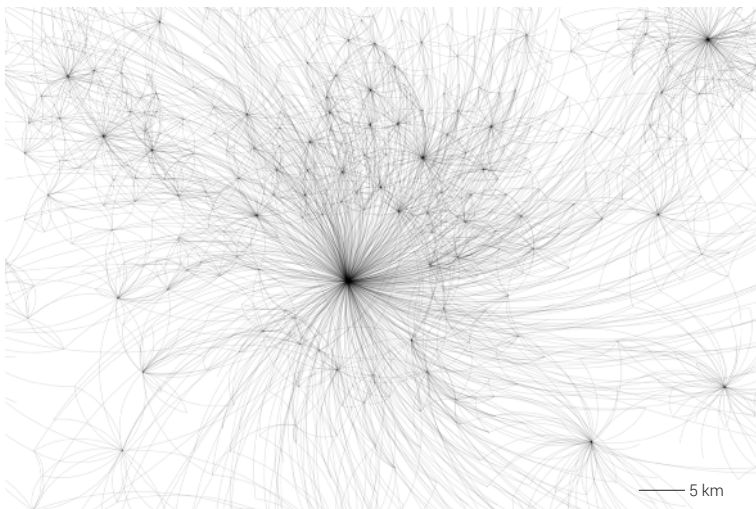
Commuters' flows _ 2011

Each arch represents >= 100 commuters
www.postmetropoli.it

STEP 3
COLLAGE

Hinterland housing texture projected in Expo

PEOPLE OF EXPO

If we reproduce the demographic situation of the hinterland, how many people would live in the Expo area? Of which age group and nationality? And how would their households look like?
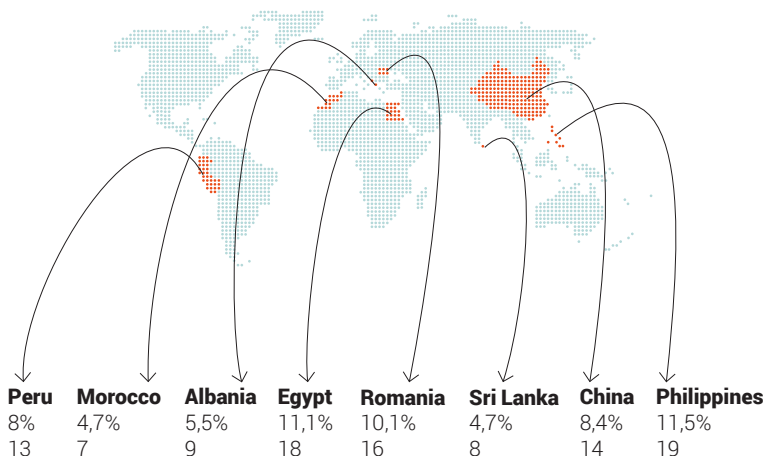
In order to understand the challenges that would emerge in the new Expo housing district I've made a projection of the society that would live there. I've used the available data and statistics on the metropolitan city of Milano, and in particular on the hinterland. The criteria of subdivision into cathegories have been age, origins and type of household.
The final remarks are the following:

- The majority of the population belongs to the working age (61,9%), the Europe-wide trend towards the ageing is confirmed also in Milano(22,2% over 65, of which 50% over 75) and the young people represent the smallest age group.
- The contribution of the foreigners affects only the young part of the population, because Italy has been experiencing the immigration since shorter time than other European countries, where the first immigrants have already reached the 4/5th generation. Moreover another characteristic feature of Italian immigration is that it comes from all over the world, and there is not an hegemony of one nation.
- Regarding the households, Milano is the capital of singles: they are the 42% of the population. The traditional Italian family is in crisis: new kind of families are emerging (single with chidren 7,2%) and there are fewer and fewer babies: the big families with more than 2 children are only the 8,3%.

Italian   Foreigner   Inhabitant over 18

each symbol represents 4 inhabitants

Where do the foreigners come from?

Peru	Morocco	Albania	Egypt	Romania	Sri Lanka	China	Philippines
8%	4,7%	5,5%	11,1%	10,1%	4,7%	8,4%	11,5%
13	7	9	18	16	8	14	19

1938 ihhabitants
(average density of the hinterland municipalities around Expo) X (area Expo)
= (2.584 inhabitants/km^2) X (0,75 km^2)
= 1938

161 foreigners
(the foreigners represent the 8,3% of the population living in the north-west hinterland)
= 8,3% of 1938
= 161

distribution of the hinterland/Expo population based on **age groups**
 0-17 : 16,5 % -> 320
18-34 : 17,4 % -> 337
35-64 : 43,9 % -> 851
65 + : 22,2 % -> 430

distribution of the **foreign population** based on **age groups**
 0-17 : 21,8 % -> 35
18-34 : 33,5 % -> 54
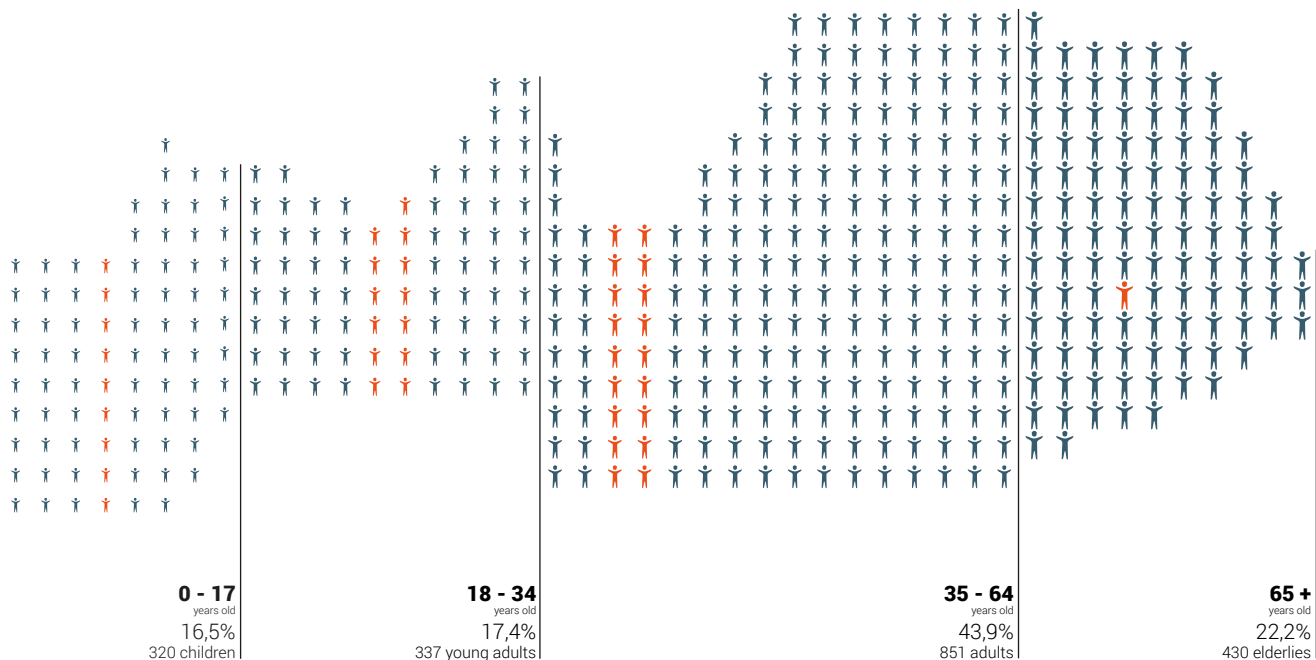35-64 : 42,5 % -> 69
65+ : 2,2 % -> 3

distribution of the hinterland/Expo population (children not included) based on **household types**
single: 42% -> 680
in a couple without children: 22,1% -> 358
in a couple with children 25,6% -> 414
1 child 51,5 % -> 214
2 children 40,2 % -> 166
3 children 7 % -> 28
4+ children 1,3 % -> 6
single parent with children: 7,2% -> 116
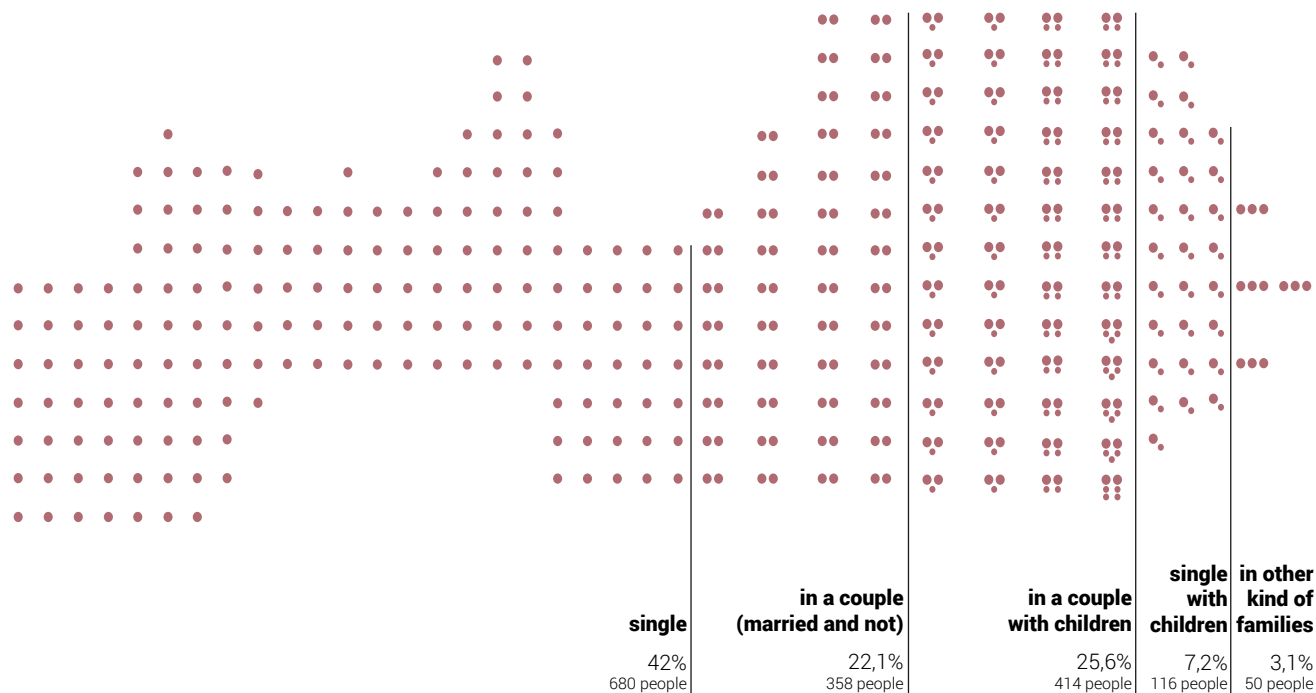in other kind of families: 3,1% -> 50

married couple: 88,3%
not married couples: 11,7 %
average age at the **first marriage**
women: 34,2
men: 36,6

0 - 17
years old
16,5%
320 children

18 - 34
years old
17,4%
337 young adults

35 - 64
years old
43,9%
851 adults

65 +
years old
22,2%
430 elderlies

single
42%
680 people

**in a couple
(married and not)**
22,1%
358 people

**in a couple
with children**
25,6%
414 people

**single
with
children**
7,2%
116 people

**in other
kind of
families**
3,1%
50 people

MILANO IS NOT AFFORDABLE

Legend:
- 8.300 - 6.000 €/m²
- 6.000 - 5.200 €/m²
- 5.200 - 4.800 €/m²
- 4.800 - 4.400 €/m²
- 4.400 - 4.000 €/m²
- 4.000 - 3.200 €/m²
- 3.200 - 2.800 €/m²
- 2.800 - 2.400 €/m²
- 2.400 - 1.700 €/m²
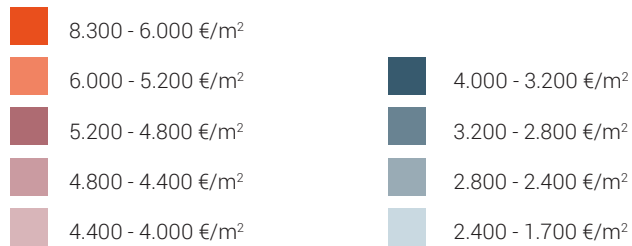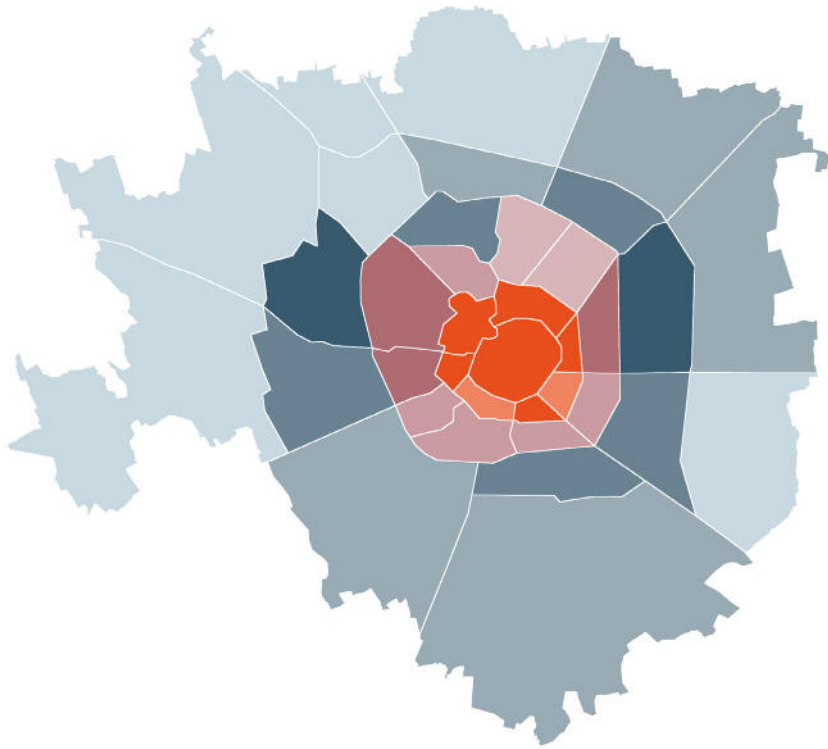
THE WEAK TARGET OF THE HOUSING MARKET

The big uncovered **demand for low/middle cost housing**

The demographic boom of the municipalities of first and second urban belt (+9,3% and +13,8% from 1991 to 2006) has been possible because the city of **Milano experienced during the same years a huge increase in the housing prices** (2000-2007: +60/70%).
The big demand for affordable housing was not covered neither by the public sector nor by the private-public residential interventions, which were in expansion at that time.
For example the new residential complex CityLife (Isozaki, Hadid, Libeskind) costs 8.000 €/m2.

The housing is *affordable* when less than the 40% of the household's income is spent for the rent of the house.

The people who "escaped" from the city center to the hinterland looking for more affordable solutions are to be found also in the demographic forecast for Expo. To the "weak target" of the housing market belong:

1. **Single people**, because they have to bear the cost of the rent alone.
2. **Young adults** (18-34 years old). The 66% of this age group still lives with the parents: they are the so called Mammoni. This is due to the fact that the 73% has not a full time job and isn't therefore able to afford a normal rent.
3. **New formation families**: when there is a newborn child there are also new expenses and the budget for the housing becomes smaller.
4. **Immigrants who have just setlled down**, and still don't have a fix job and the security to be able to pay the rent.

Therefore it is necessary to take steps to guarantee to all these people an affordable and quality living.

Sources

"The state of the housing in the Eu 2015"
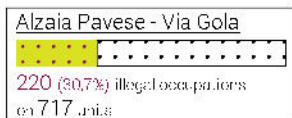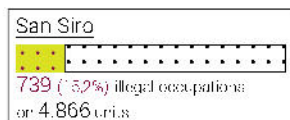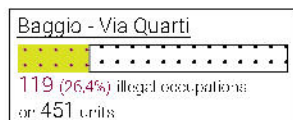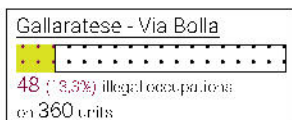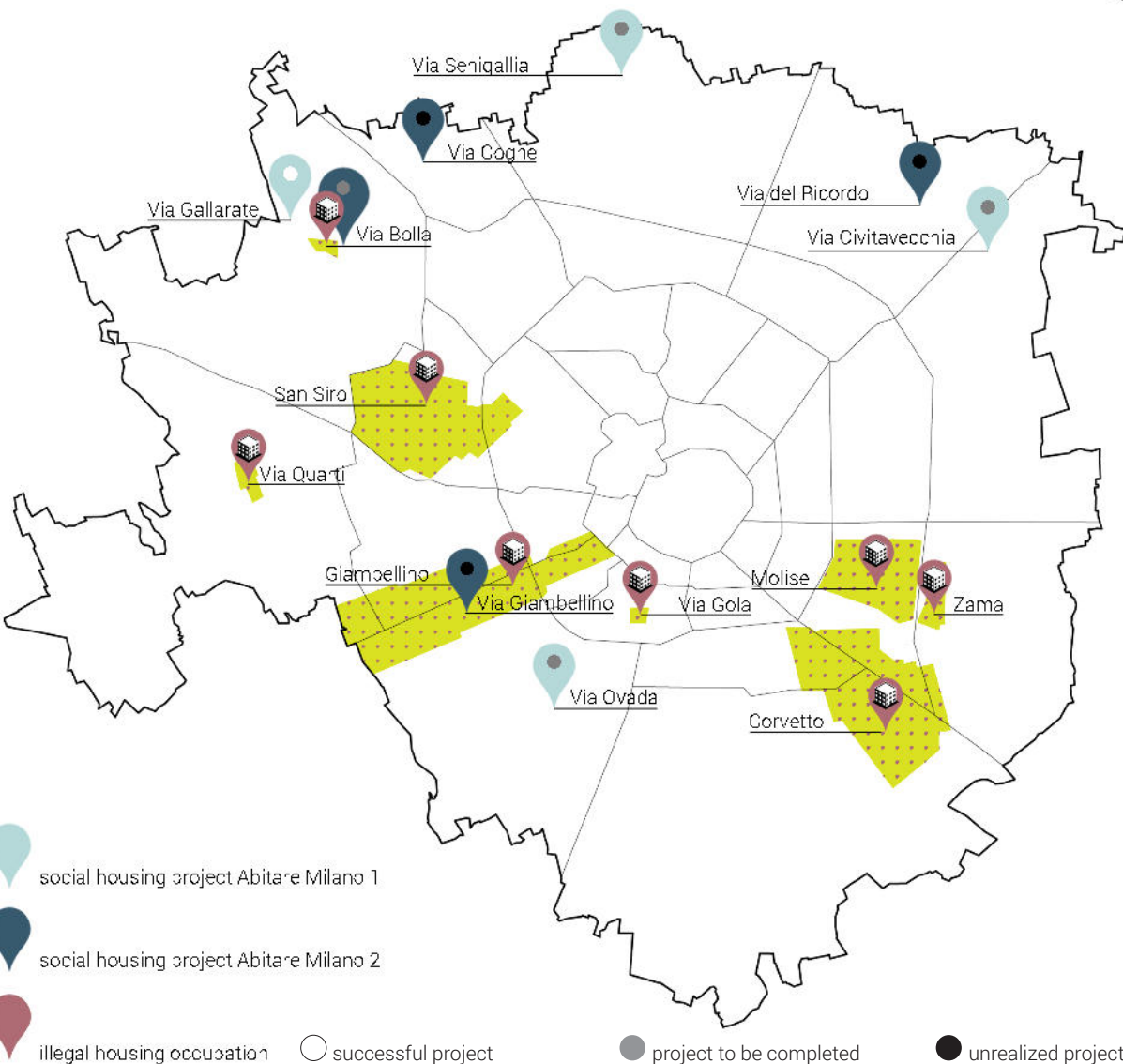J. Dijol - L. Ghekière - I. Kiss - A. Pittini,
Housing Europe 2015
"(Un)equal cities in Europe? The challenge of post-industrial transition in times of austerity"
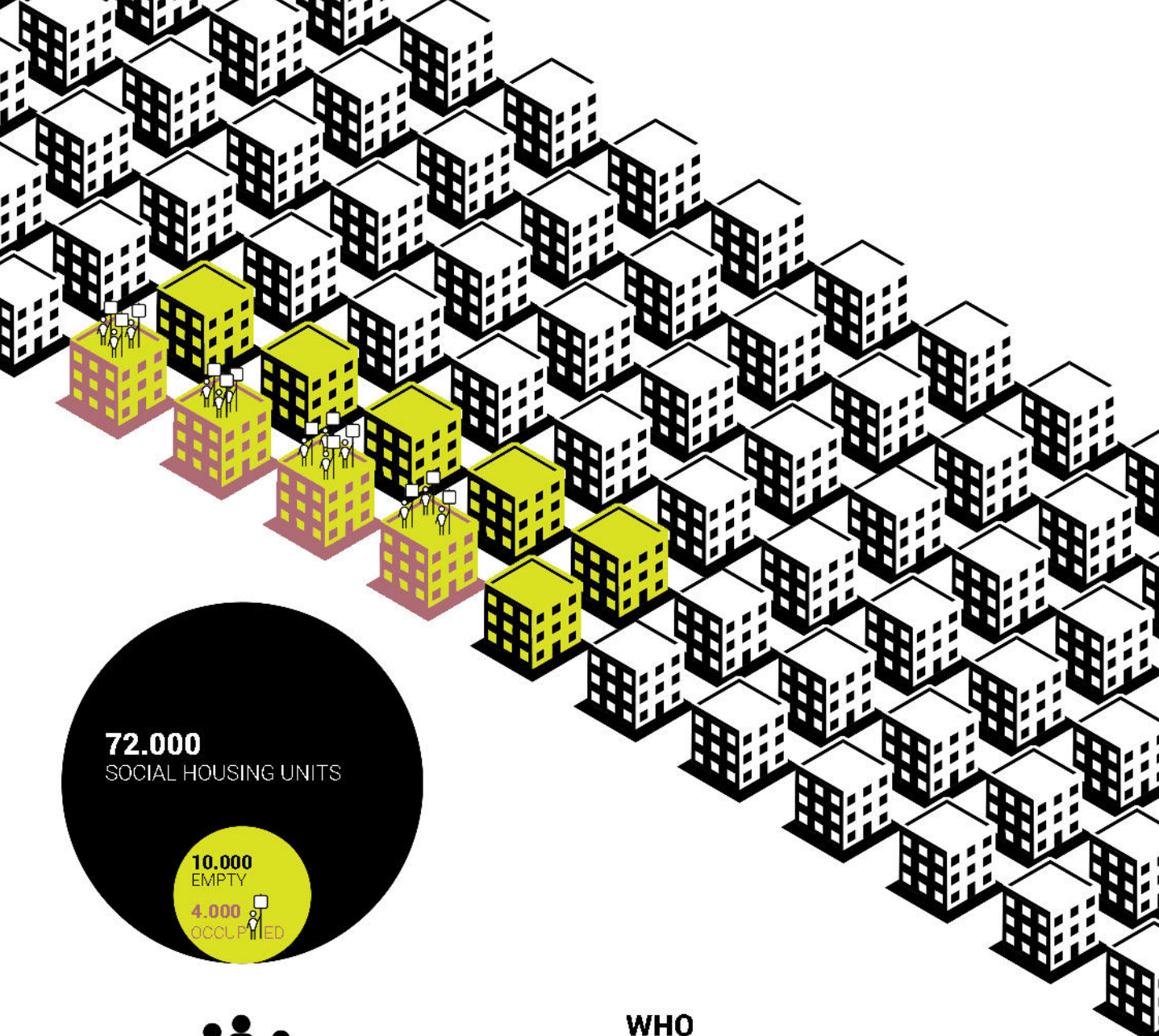R.Cucca - C.Ranci, 2015

Source graphic on the link page:
"Milano. Mappa dei prezzi di richiesta degli immobili"
immobiliare.it, 15.05.2016

STATE OF SOCIAL HOUSING IN 2015

Lack of new projects and **illegal occupation**

Via Senigallia

Via Cogne

Via del Ricordo

Via Gallarate

Via Bolla

Via Civitavecchia

San Siro

Via Quarti

Giambellino

Via Giambellino

Molise

Zama

Via Gola

Via Ovada

Corvetto

social housing project Abitare Milano 1

social housing project Abitare Milano 2

illegal housing occupation   ◯ successful project   ● project to be completed   ● unrealized project

Gallaratese - Via Bolla
48 (13,3%) illegal occupations
on 360 units

Baggio - Via Quarti
119 (26,4%) illegal occupations
on 451 units

San Siro
739 (15,2%) illegal occupations
on 4.866 units

Giambellino - Lorenteggio
479 (18,2) illegal occupations
on 2.631 units

Alzaia Pavese - Via Gola
220 (30,7%) illegal occupations
on 717 units

Mazzini - Corvetto
287 (9,8%) illegal occupations
on 2.939 units

Molise - Calvairate
203 (11,3%) illegal occupations
on 1.800 units

Zama - Salomone
59 (12,4%) illegal occupations
on 477 units

72.000
SOCIAL HOUSING UNITS

10.000
EMPTY

4.000
OCCUPIED

24.000
WAITING

HOUSEHOLDS
FOR A FLAT

WHO
LIVES IN SOCIAL HOUSING?
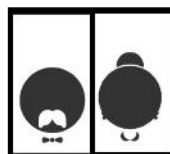
67,5% is OVER 65

53,7% has been living in the same house for more than 30 YEARS
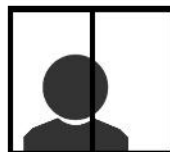
37,7% households of 1 PERSON

Sources

"Case, la ritirata degli abusivi" Corriere delle Sera - Milano, 14.01.2015
"Da Aler a MM: è momento di fare ordine" arcipelagomilano.org, 03.12.2014
"Case popolari, 10 milioni in arrivo e cinque strategie per il recupero" Corriere della Sera - Milano, 11.05.2016

"Chi sono gli inquilini delle case popolari?" chiamamilano.it, 12.02.2015
"Via Gola, occupata una casa su tre. Così i cantieri dei lavori si bloccano", Corriere delle Sera - Milano, 21.12.2015
"Tutte le bugie della Moratti sulle case popolari" linkiesta.it, 20.04.2011

A RESIDENTIAL SCENARIO

Planning with the **collage technique**

For the middle density scenario I've planned for Expo a mainly residential purpose, with a majority of dwellings at a reduced rent and the rest for the normal market.
I took this decision among the many possibilities of the middle density spectrum for 2 reasons already seen in the previous part, namely:
* because the inhabitants can **benefit a lower rent** (since the district is far from the city center) but a**t the same time a great mobility system**
* because **Milano lacks of low cost housing** while there is a big demand, and this could be the perfect occasion to begin to deal with the problem

Since I've developed a scenario and not a masterplan I've decided to use the **collage technique** and to copy/paste two examples of contemporary social housing in Expo. My point is to see in which way they work with the existing grid, with the public and private space and how many people find actually place.

I've picked up just 2 best practices because they are representative of **2 different philosophies** of living (**individual house or community**); if this scenario prevails, the masterplan should then define the right volumes and enrich the typological mixitè.

Even if the 2 best practices come from different landscapes, they were chosen because they meet the same criteria that are important to have also in Expo. They are:
*   **mixitè in typologies**: to offer each household the right size
*   **high qualitative space solutions**, because low cost doesn't mean low quality
*   presence of **open space** (private or semi-private)
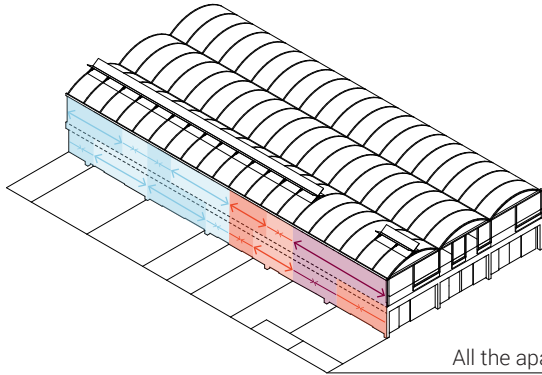*   **"domestic" atmosphere**

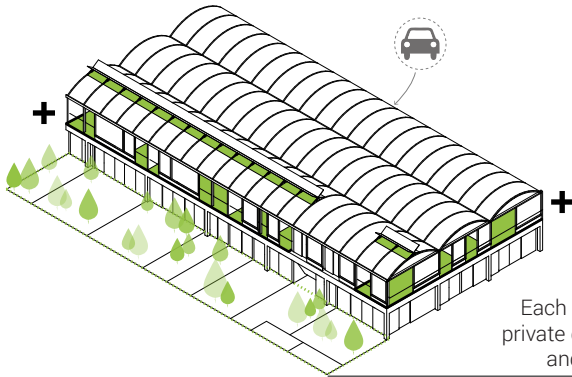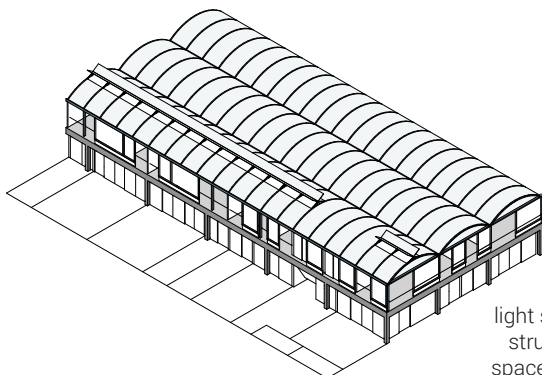ORGANIZATION OF THE SPACE IN THE BEST PRACTICES
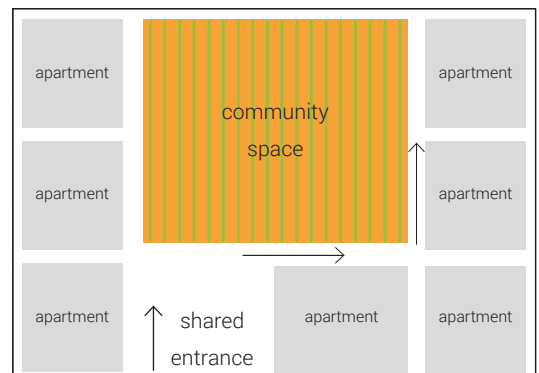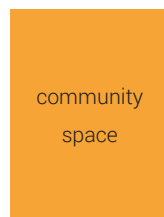
1

"Cité manifeste" social housing in Mulhouse, Lacaton & Vassal, 2005

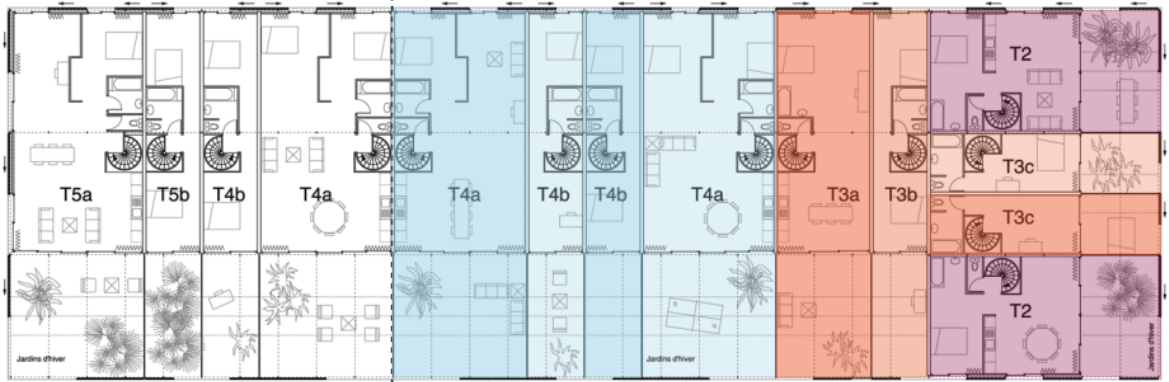All the apartments are duplex

Each apartment has a private garden, a garage and a wintergarden

Concrete (GF) and light steel/polycarbonate structure (1F): maximal space with minumin cost
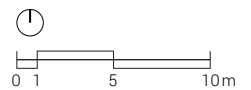
TYPOLOGY MIX

first floor

ground floor

— 40 m —
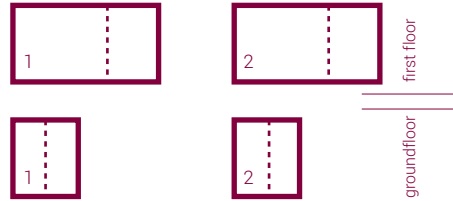
apartments selected for the proposal in the Expo area

0 1   5   10m

2 x
max 2 people

1. 70 m^2 + 25 m^2 winter garden + 18 m^2 garage
2. 70 m^2 + 25 m^2 winter garden + 18 m^2 garage
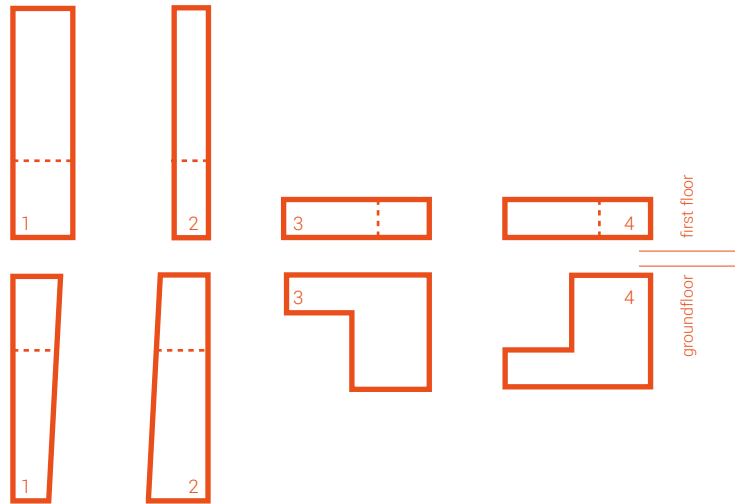
rent in Mulhouse (France) in 2005: 272 €/month

first floor

groundfloor

4 x
3 people

1. 100 m^2 + 30 m^2 winter garden + 24 m^2 garage
2. 95 m^2 + 20 m^2 winter garden + 26 m^2 garage
3. 98 m^2 + 12 m^2 winter garden
4. 98 m^2 + 12 m^2 winter garden

rent in Mulhouse (France) in 2005: 348 €/month

first floor

groundfloor

4 x
4 people

1. 130 m^2 + 45 m^2 winter garden + 25 m^2 garage
2. 140 m^2 + 20 m^2 winter garden + 18 m^2 garage
3. 140 m^2 + 20 m^2 winter garden + 18 m^2 garage
4. 130 m^2 + 45 m^2 winter garden + 25 m^2 garage

rent in Mulhouse (France) in 2005: 446 €/month

first floor

groundfloor
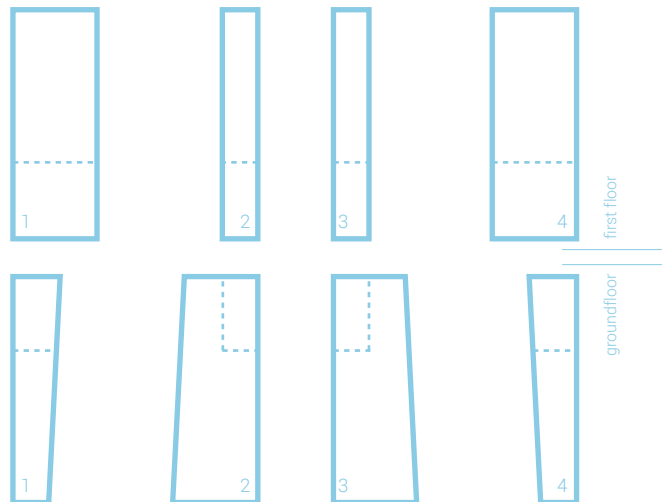
2 Social housing in Sa Pobla, Mallorca
Ripoll.Tizon
2008-2012

Single apartment units are formed by the combination of:

kitchen /
living room
46 m²

1.bedroom /
bathroom
22,5 m²
25,5 m²

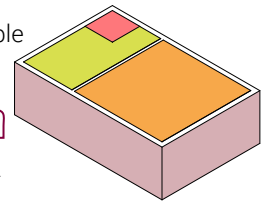2.bedroom
22,5 m²
19,5 m²

Type 1
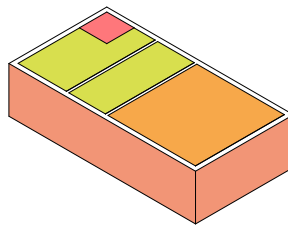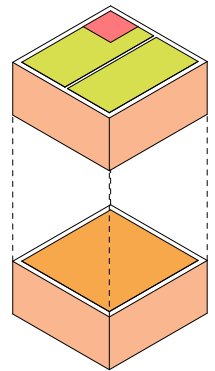6 x
2 people

68 m²

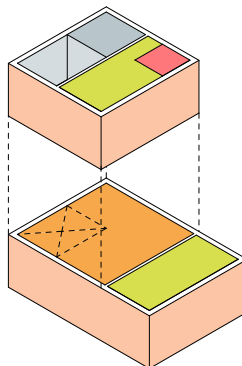**Type 2**
6 x
3 people

92 m²
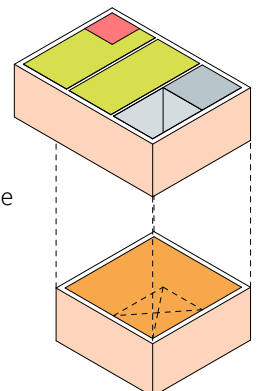
Type 3
4 x
3 people

92 m²

Type 4
7 x
3 people

114 m²

Type 5
5 x
3 people

114 m²
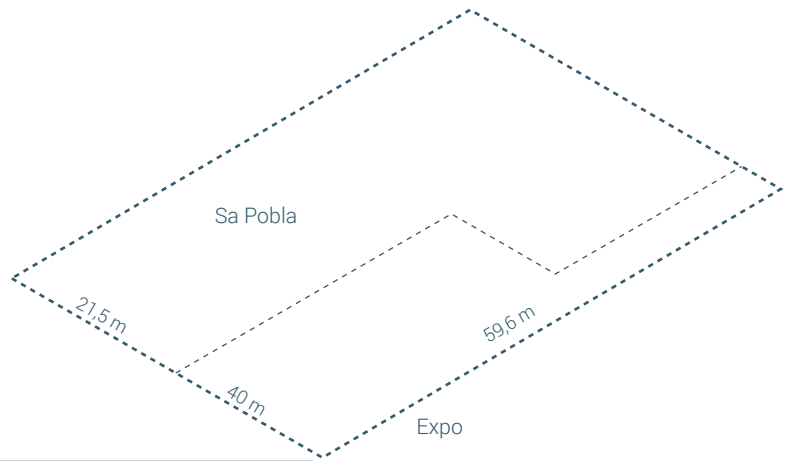
Plot dimensions of the complex in Sa Pobla
and for the proposal in the Expo area
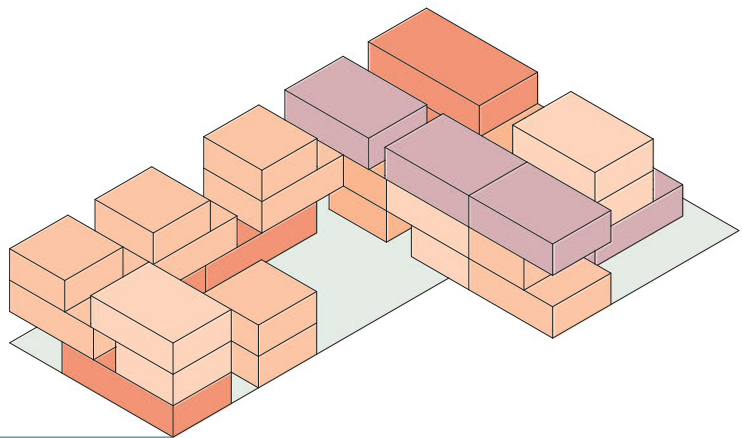
Spatial configuration of the social housing
complex in **Sa Pobla**.

The different possibilities of aggregation of
the single units result in a varied landscape,
in which each house is considered simulta-
neously as a unit and in relation to the
whole group.
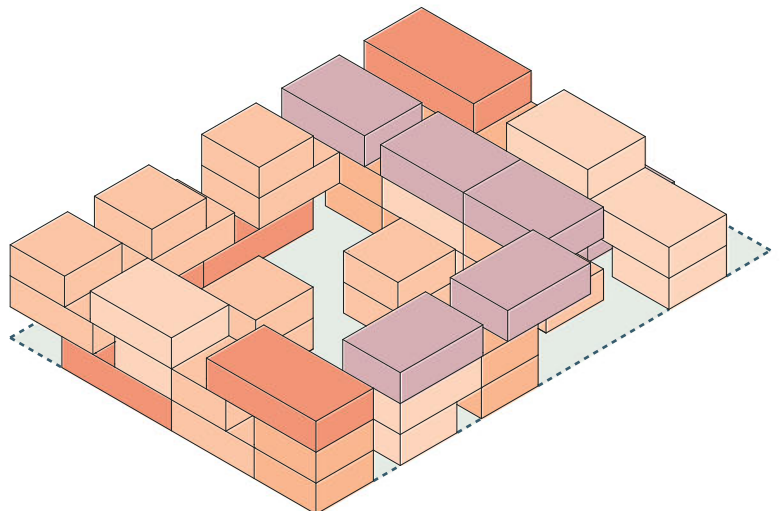
Spatial configuration of the social housing
complex adapted for the **Expo** area.

The original plot in L form is transformed in
order to fit in the orthogonal grid already
existing in the Expo area.
10 new units are added.

RELATIONS BETWEEN PUBLIC, SEMI-PUBLIC AND PRIVATE SPACE

ground floor

first floor

the courtyard

the private gardens

0 2   10   20 m
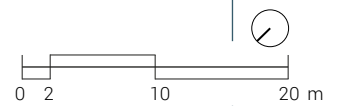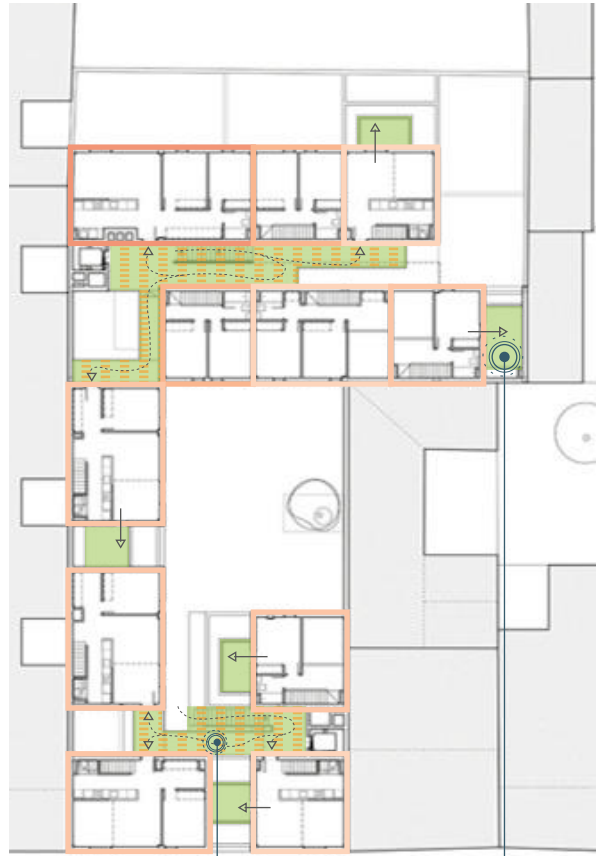
DIVISION OF THE OPEN SPACE OVER THE 3 FLOORS

public	0%	
semi-public	ground F · 1 F · 2 F	**65%**
private	ground F · 1 F · 2 F	**35%**
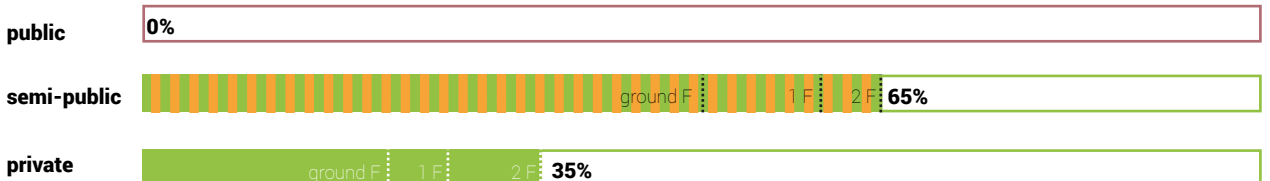
IMPORTANT CONSIDERATIONS FOR THE EXPO AREA

The collage of the best practices is important to get an image of the spatiality of the housing intervention.
These 2 examples are anyway a working tool and therefore they can be modified for solving **other questions** typical of Expo.

Multifunctionality

The intervention of housing in Expo is extensive and in order to avoid the risk of having a new dormitory town, where people leave to go to work at 7.00 a.m. and come back in the evening, many housing blocks will be provided with rooms dedicated to other functions: cafè, workshops, etnic shops, small businesses ...
These activities can find place either in the groundfloor or in the courtyard.

Social Integration

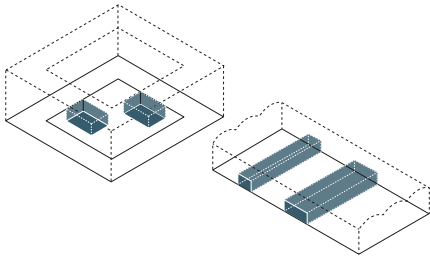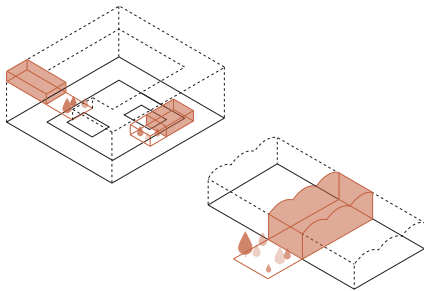The extent of this new housing neighborhood brings up also the question of the living together: the primary goal is to allow the developing of an active and united community.
To prevent social segregation there will be flats at a reduced rent together with flats sold/rent in the private market.
These ones could be bigger or benefit some special plus (own private garden, own terrace, penthouse floor, ….).
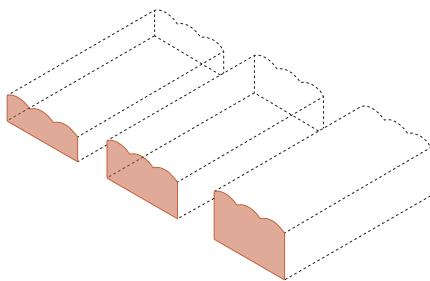
Density

The density depends on many factors: one of these is the financial support of the state. Since normally there is a lack of investments for social housing with few apartments, along the Decumano the buildings will be higher than the average: up to 5 floors.
It is a way to increase the number of dwellings while sticking to the middle density concept.
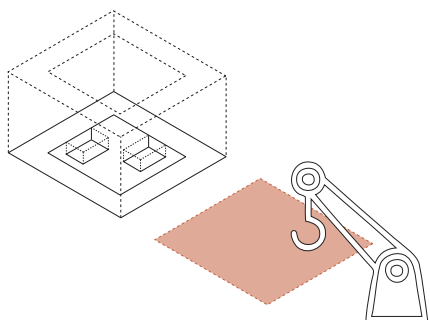
Young people rate

A common problem of the social housing projects in Italy is the progressive aging of the inhabitants. That's why in Expo there will be apartments blocks that best fit the needs of a temporary living, namely for young users who are of no fixed adobe (smaller, compact, common kitchen, ...).
Moreover the separate construction phases will allow a turnover over different years.

CONCEPTUAL MASTERPLAN

N

0 25 50   100   150   m

STEP 5
SPATIALITY

NIGHT HUB

EDUCATION HUB

→ milano

DENSITY

2 floors
3 floors
4/5 floors
4/5 floors
3 floors
2 floors
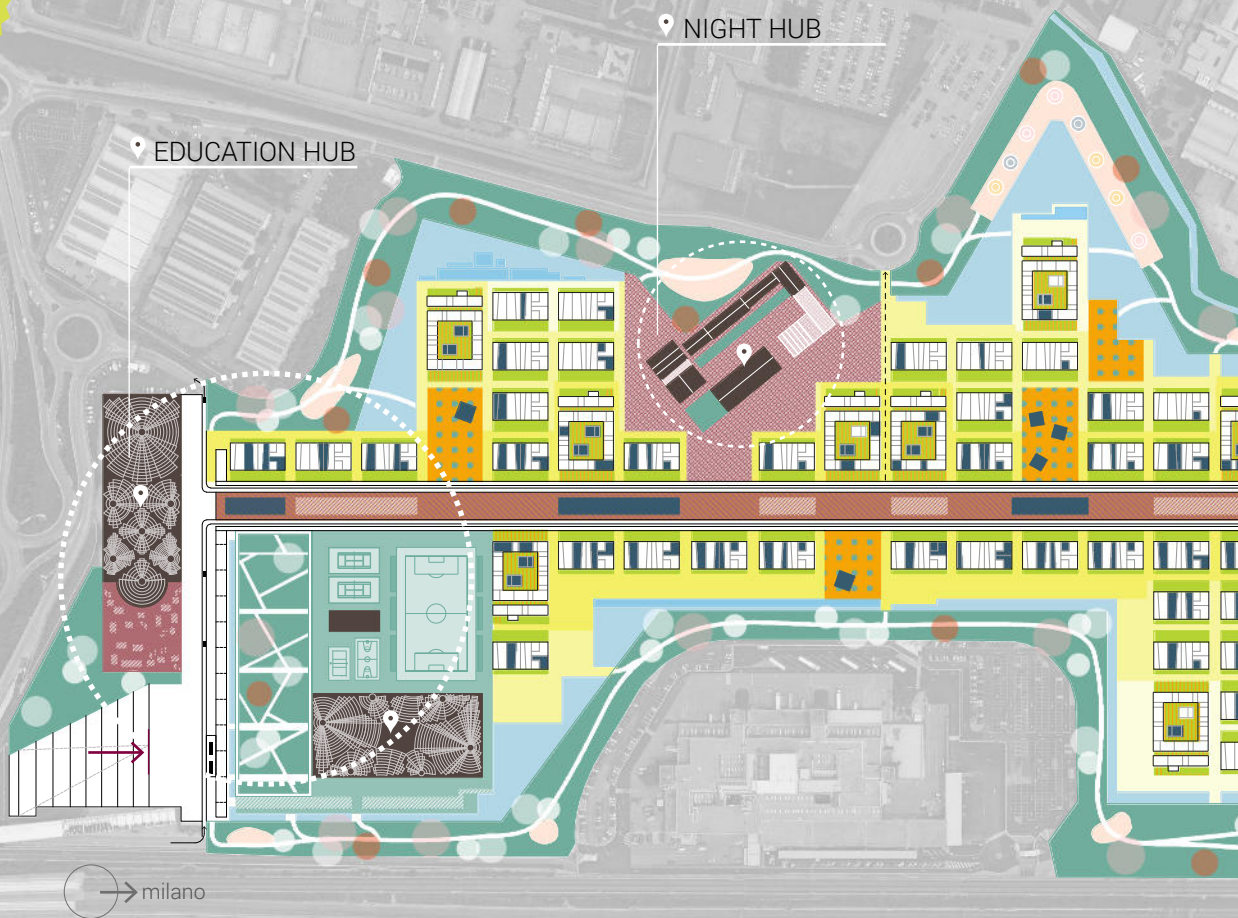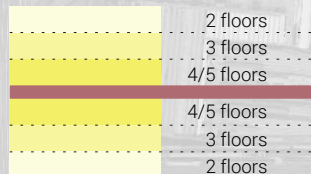
5.200 people
living in the Expo area

BUILDING TYPOLOGY

4 floors: 34 units
20 ap. x unit (-1,5 workshop)

3 floors: 38 units
15 ap. x unit (-1 ws)   x 3 people

2 floors: 14 units
10 ap. x unit (-0.5 ws)

5 floors: 11 units
38 ap. x unit (-4 ws)

3 floors: 5 units
28 ap. x unit (-3 ws)   x 2,5 people

2 floors: 2 units
18 ap. x unit (-2 ws)

OPEN SPACE AND USERS

private garden

shared courtyard

neighborhood square

neighborhood + expo users square

cardo & decumano

FUORI MILANO
EVENTS HUB

WORKSHOP HUB

PIAZZA METROPOLITANA
URBAN THINK TANK

baranzate
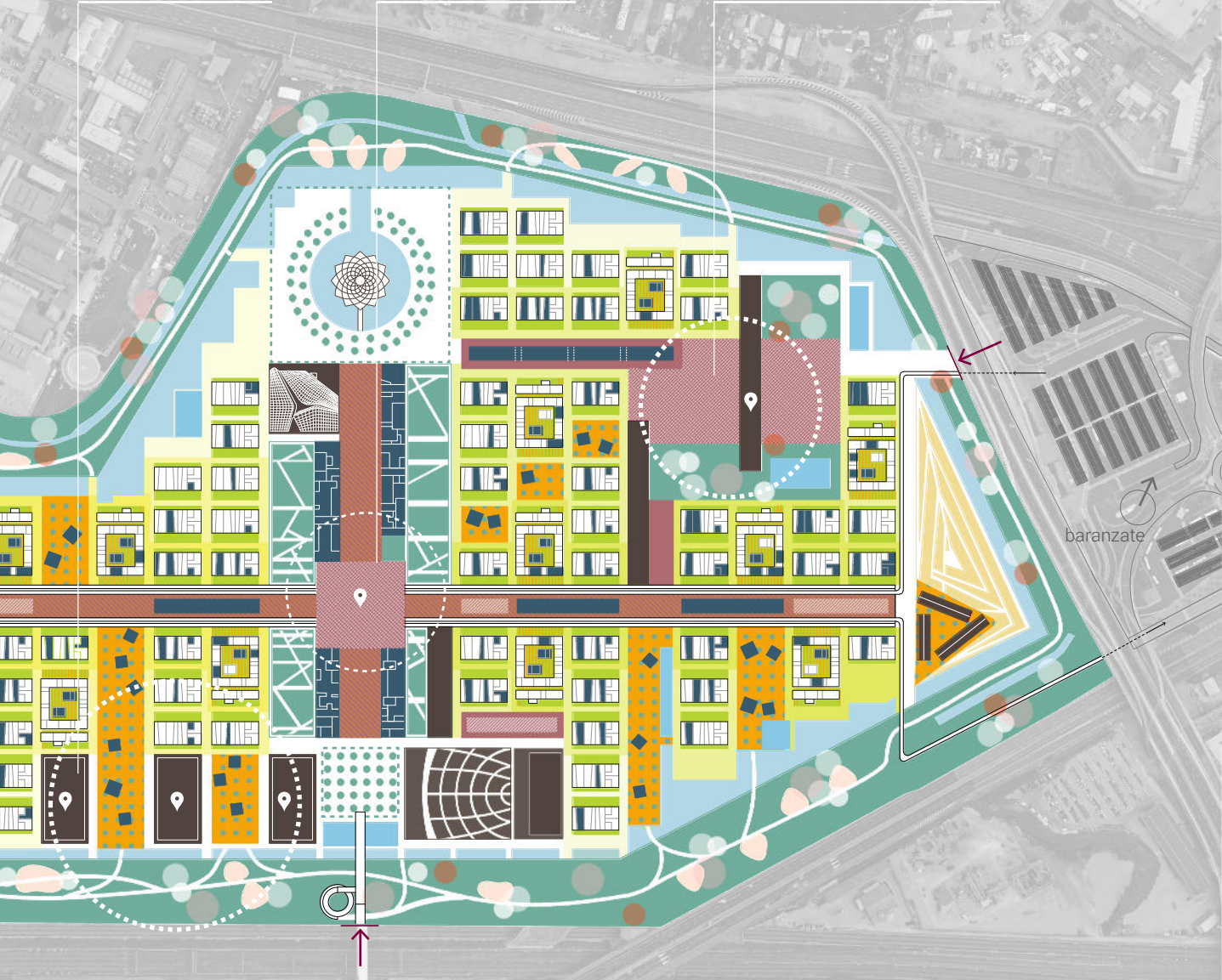
MULTIFUNCTIONALITY

- ⬜ housing
- 🟦 working station/shop
- ⬛ attraction of public interest
- 🟩 park
- ⬚ neighborhood
- 🟥 "main square"

ACCESIBILITY AND FLOWS

1
2
3
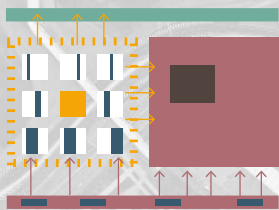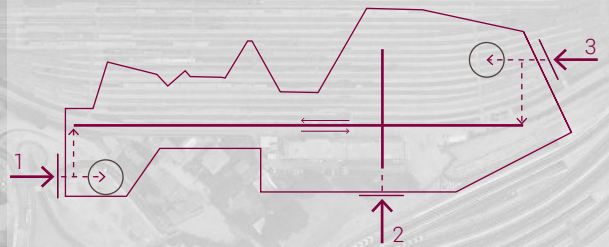
3 main entrances:
1. west entrance, for everyone who comes with public transport
2. south entrance, for pedestrian and bikes, it links Expo with the new social housing in Cascina Merlata (690 flats planned) and with the Sempione axis
3. east entrance: for who comes with own car or with bike

Only people living in the Expo can drive along the decumano to reach their home.

ATTRACTIONS OF PUBLIC INTEREST
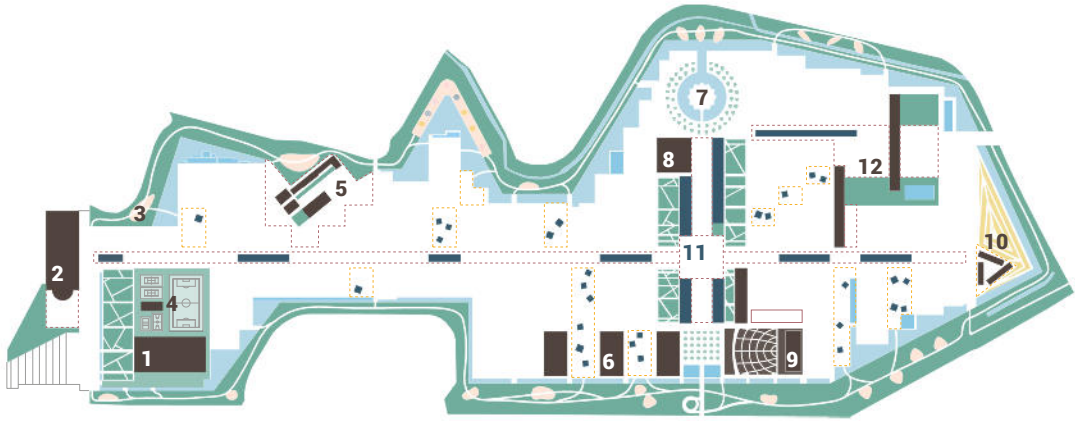
1
PRIMARY SCHOOL
ex ~~pavilion zero~~

The building will serve as nursery, kindergarden and primary school. The spaces at children' disposal redefine the traditional concept of classroom, promoting the interaction between different age groups.
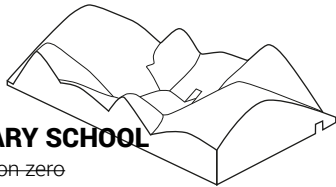
2
SECONDARY SCHOOL
ex ~~media center~~

The offer of this secondary school will be both vocational training and humanistic education. Focus is internationl cultures and relations, with strenght at extra UE countries. There will be as well language courses open to everyone.

3
LINEAR PARK
ex ~~green barrier~~

The former green barrier was used as visual and acoustic wall. Thanks to the removal of the road for the cars, the breadht of the park is doubled (up to 55 m) and it allows the turning into a real recreation spot.
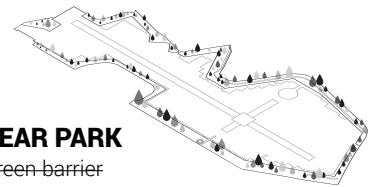
4
SPORT FIELDS
new

Right at the West entrance you can find a big green area with all the infrastructures for these sports: volleyball, basketball, tennis and football. The fields are meant both for private use and for the education hub.
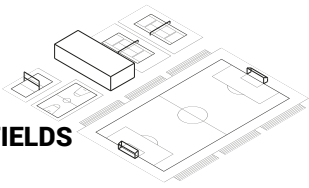
5
NIGHT HUB
ex ~~civil society pavilion~~

The restorated Cascina Triulza is perfect for the night life: you can sit down and eat in one of the many restaurants placed in the old stables, while at the meantime listening to a live music performance happening in the courtyard.
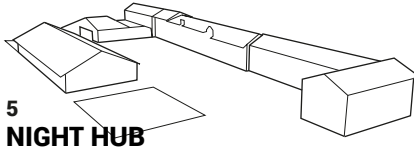
6
FUORI MILANO
ex ~~future food district~~

Fuori Milano is meant to bring the urban atmosphere of the city center in the periphery: every time that a big event is hosted in Milano, there will be parallel and complementary events in the Expo quarter, accessible to everyone.
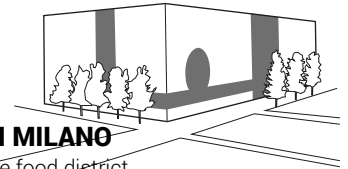
7
TREE OF LIFE

The icon of the Expo will live much longer than the exhibition: the lights and music show will be activated in special occasions (like Expo's birthday). It will remind, as a monument the origin, of the site and its transformation.
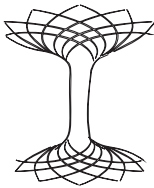
8
NEWSEUM
ex ~~Italian pavilion~~

The former Italian pavilion has turned into a contemporary museum that discusses the changings of the Italian society and culture. The goal is to understand the re-formulation of Italian identity and promote the tolerance.
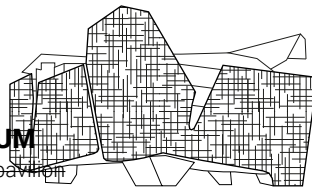
9
OPEN AIR THEATRE

The open air theatre is the only public structure that won't have any changes in its form or function. The capacity is for 6.000 people (La Scala: 2.800) and it's therefore suitable for high profile events of music, theatre and dance
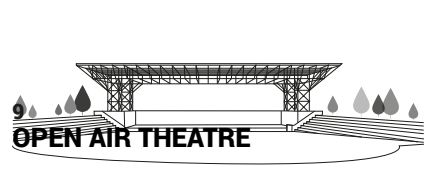
10
COMMUNITY CENTER
ex ~~slow food pavilion~~

This space is born of the understanding that the community that will live in Expo will need a space of self-organization(similar to the "centri sociali"). Here every no profit association can have its headquarter.

11
WORKING STATIONS
ex ~~regional pavilions~~

Expo will provide also affordable working stations. Nowadays in Milano common businessman's names are Hu and Ahmed: the multiculturality will be the strenght of these atelier and shops.
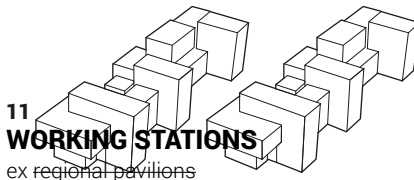
12
PIAZZA METROPOLITANA
new

The Piazza Metropolitana creates a new centrality in the hinterland of Milano: here are to be found city's hall offices, a metropolitan study center, a neighborhood center and many other functions that help solve everyday problems.

spring summer autumn winter
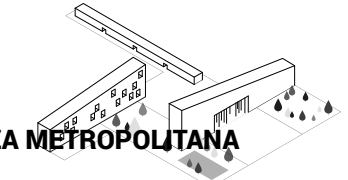
categories

activities

YOUNG
COMMUNITY

SPORT

URBAN
ACTIVITIES

CULTURE

FREE TIME

DIGITAL
COMMUNITY

- soccer
- tennis
- volleyball
- basketball
- skating
- swimming
- running
- gym
- open air gym
- bicycle
- urban skating
- sports' clubs
- nursery
- kindergarten
- playgrounds
- primary education
- lower secondary education
- summer camps
- youth center
- exchange programs
- upper secondary education
- exotic cuisine
- local cuisine
- evening school for adults
- atelier
- urban gardening
- shopping
- coffee house
- restaurants
- afternoon childcare
- concerts
- learning
- city hall's department
- aperitivo terrace
- theater
- language courses
- setting a business
- interactive museum
- doing research
- live music
- ice-cream parlor
- bars
- seniors' center
- pic nic
- sunbathing
- light show
- neighborhood center
- metropolitan studies center
- wi-fi area
- local associations center

Italian league
Public viewing

Expo summer
Escape the city

Giro d'Italia
Expo bike race

Carnival
Expo parade

Book city
Public reading

Food week
Food trucks parade

Design week
Expo Contest: smart living

December
Christmas market

10. August
Expo blackout

Triennale
Fuori Milano

Fashion week
Emerging talents show

1. May
Expo's birthday

Film festival
screening the metropolis

3 stories of Expo
DAILY LIFE

STEP 7
IMPACT

YOUSSEF

* 9 years
* pupil
* italy (1. generation)

7:40
sleepyhead

8:00
PAVILION ZERO
primary school

0.6 km
3 min

1 km
5 min

13:00
33 years
fashion designer
Morocco

SALMA (mother)

REGIONAL PAVILIONS
affordable working stations

14:00
afterschool program

1 km
5 min

18:00
coming home

0.6 km
3 min

0.2 km
3 min

20:00
DECUMANO
sport court

0.2 km
3 min

21:30
too late to bed
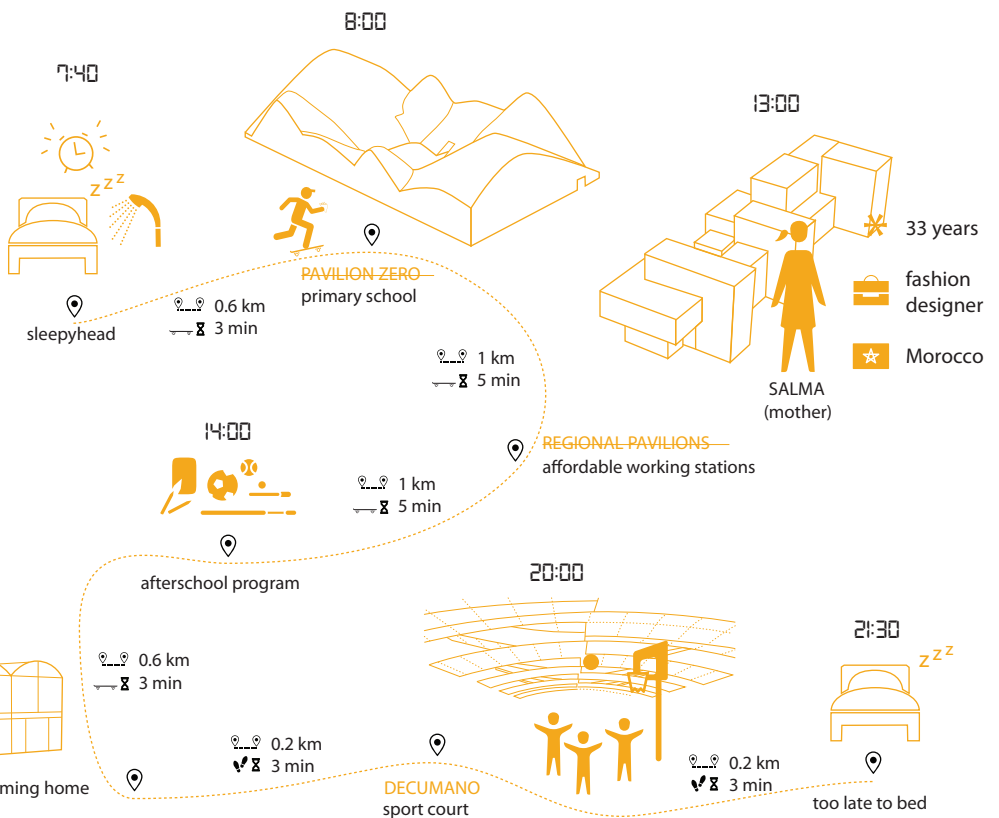
SARA

* 28 years
* stock exchange internship
* Italy

6:00
EXPO LINEAR PARK
morning sport
1x 4.5km

7:00
getting ready
0.4 km
5 min

8:30
M
Rho Fiera
underground
15 stations + 0.3 km
25 min

9:00
working
Piazza degli Affari

19:30
coming home
15 stations + 0.7 km
30 min

22:30
CASCINA TRIULZA EXPO
dinner
3 stations
7 min

21:00
FUTURE FOOD DISTRICT
TRIENNALE - City after the City
1 km
15 min
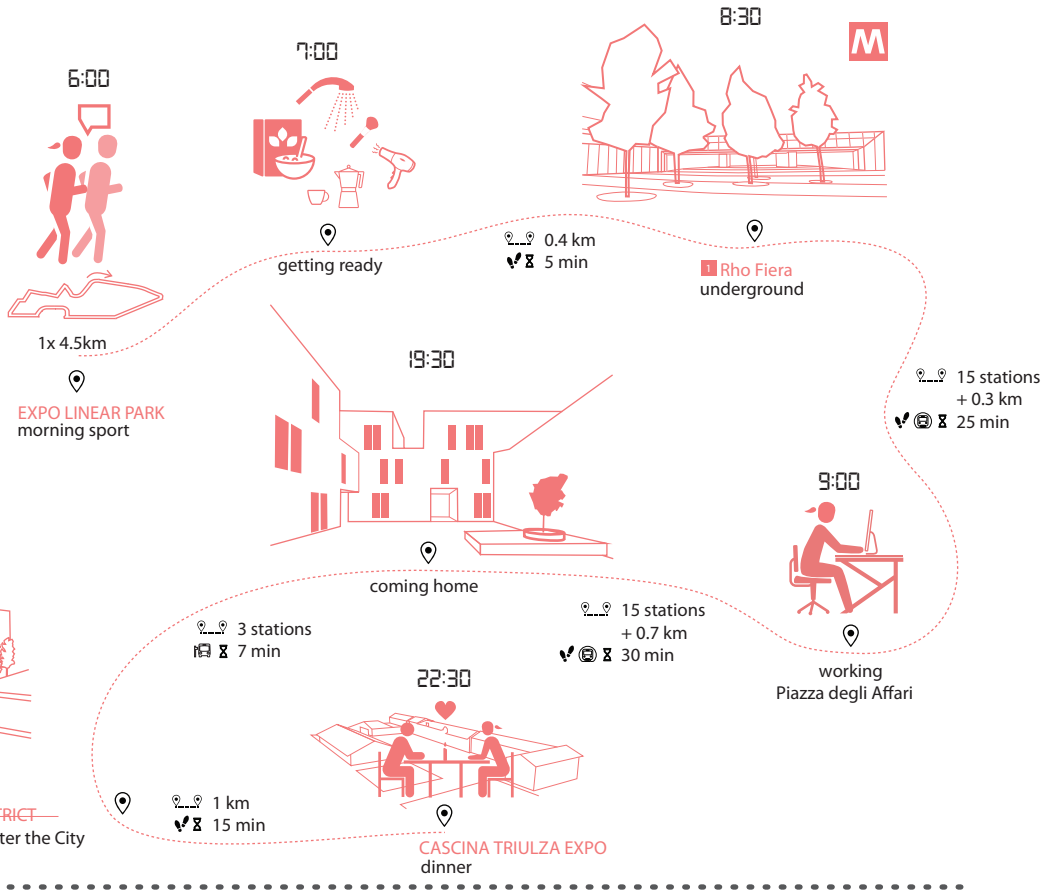
ANNA & ABRAMO

* 40 years married
* retired
* Italy

9:00
breakfast
0.6 km
3 min

10:30
SLOW FOOD PAVILION
gardening club
0.6 km
3 min

12:00
preparing lunch

14:00
SWIMMING POOL
sunbathing
9.1 km
17 min

EXPO - HINTERLAND BUS

GALLARATESE
visiting daughter

17:00
EXPO PARKING LOT
picking up friends
0.6 km
8 min
0.4 km
6 min
0.2 km
3 min

17:30
PIAZZA ITALIA
dinner

OPEN AIR THEATRE
Andrea Bocelli Concert

20:00
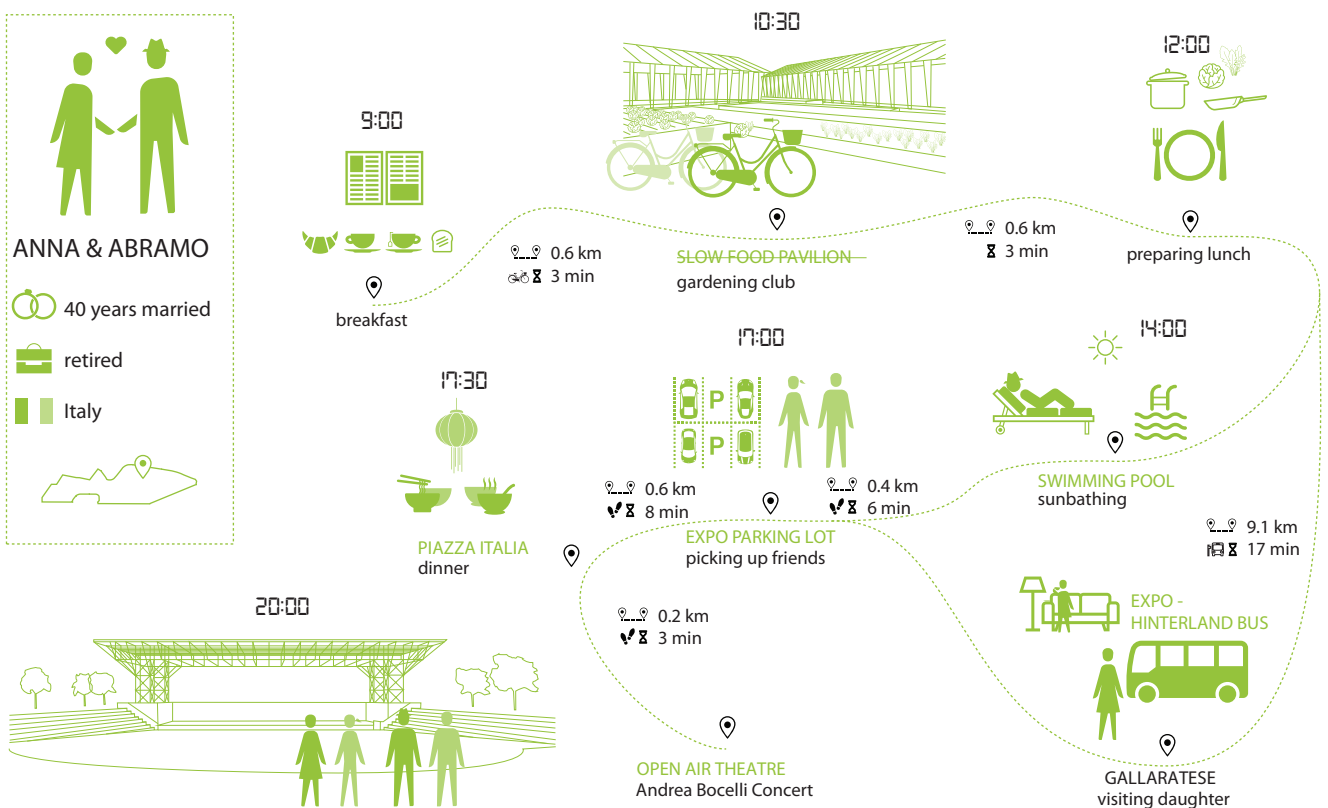
A summer night at the Decumano...

scenario 3
HIGH DENSITY

for the **high density** parameter I've chosen its most modern development: **the skyscraper**. In Italy Milano is the city with the most skyscrapers: there are 30 buildings over 70 metres

torre breda
1954

torre martini
1958

torre velasca
1958

torre galfa
1959

grattacielo pirelli
1960

torre di porta romana
1965

the first spur to vertical construction was **after the II WW**, when Milano was dealing with a hectic urbanization. At the time were built two of the most beautiful skyscrapers of the city: **torre Velasca** by Studio BBPR and the **grattacielo Pirelli** by Giò Ponti

torre servizi tecnici comunali
1966

torri ligresti
1988
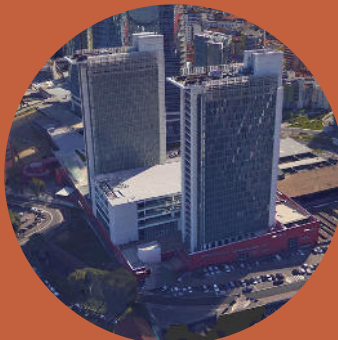
torri garibaldi
1992

gemini center
1995

rcs headquarters
2007

the **second wave** of intensive vertical construction is more recent: since the **last decade** Milano is working at ambitious projects to shape its skyline. The two large-scale interventions are *Porta Nuova* and *CityLife*

hotel nh
2009

torre hotel boscolo
2011

palazzo lombardia
2011

torre diamante
2012

torre solaria
2014

bosco verticale
2014

torre unicredit
2014

giax tower
2014

torre allianz
2015

torri cascina merlata
2015

SKYLINE OF MILANO IN 2015
Picture of francescomecucci.wordpress.com

HIGH DENSITY LOCATION

The new Milano is in **Porta Nuova**

The skyscrapers of Milano are grouped in designated areas of the **city centre**: the most recent and largest complex is **Porta Nuova**, which is always referred to as the symbol of the **new Milano**.
It includes the towers "Diamond, Salaria, Vertical Forest, Unicredit" and the new seat of the region Lombardy.
Porta Nuova is located near the train station Garibaldi, and it's the result of a process of **urban regeneration** that lasted 10 years.
A second project that is already important for the **image of the city**, even if not complete, is **CityLife**, built on the area of the first Expo in Milano(1906). It's a design for 3 towers starring 3 famous names of the architecture world: Zaha Hadid, Daniel Libeskind and Arata Isozaki.

It is interesting to notice that even if Milano has a relatively small number of skyscrapers, they cover a broad spectrum of "aesthetic expressions". The case of CityLife is illustrative: the 3 designs are the representation of **3 different brands** (the world famous architects' styles) **that suit perfectly the globalized Milano** (but that could have suited also any other "globalized stage").

These buildings are therefore not only an architectural issue, but they carrry also an important weight for the world of the economy. They are both the **symbols of a city with an active market** and also are themeselves **source of revenue**: for example the whole project Porta Nuova has been bought by the sovereign of Qatar. He is now the owner of the towers that host the headquartes of Unicredit bank, Google, Nike, many luxury fashion labels and exclusive apartments.

STEP 2 LOCATION

city blocks

railways

expo

Milano fair

skyscrapers

parks

city border
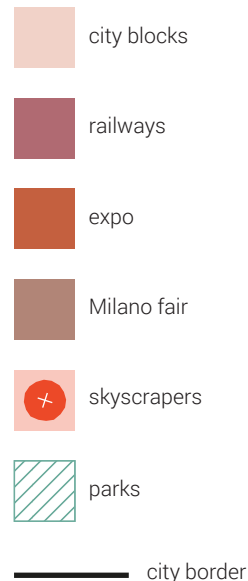
Sources

"Milano, i grattacieli di Porta Nuova passano tutti al fondo del Qatar" La Repubblica, 27.02.2015
"I grattacieli di Milano, ecco i magnifici dieci" Corriere della Sera - Milano, 03.02.2016
"CityLife, da Starbucks all'Anteo,corsa al mall tra le torri. E spunta il «Curvo»" Corriere della Sera - Milano 27.06.2016
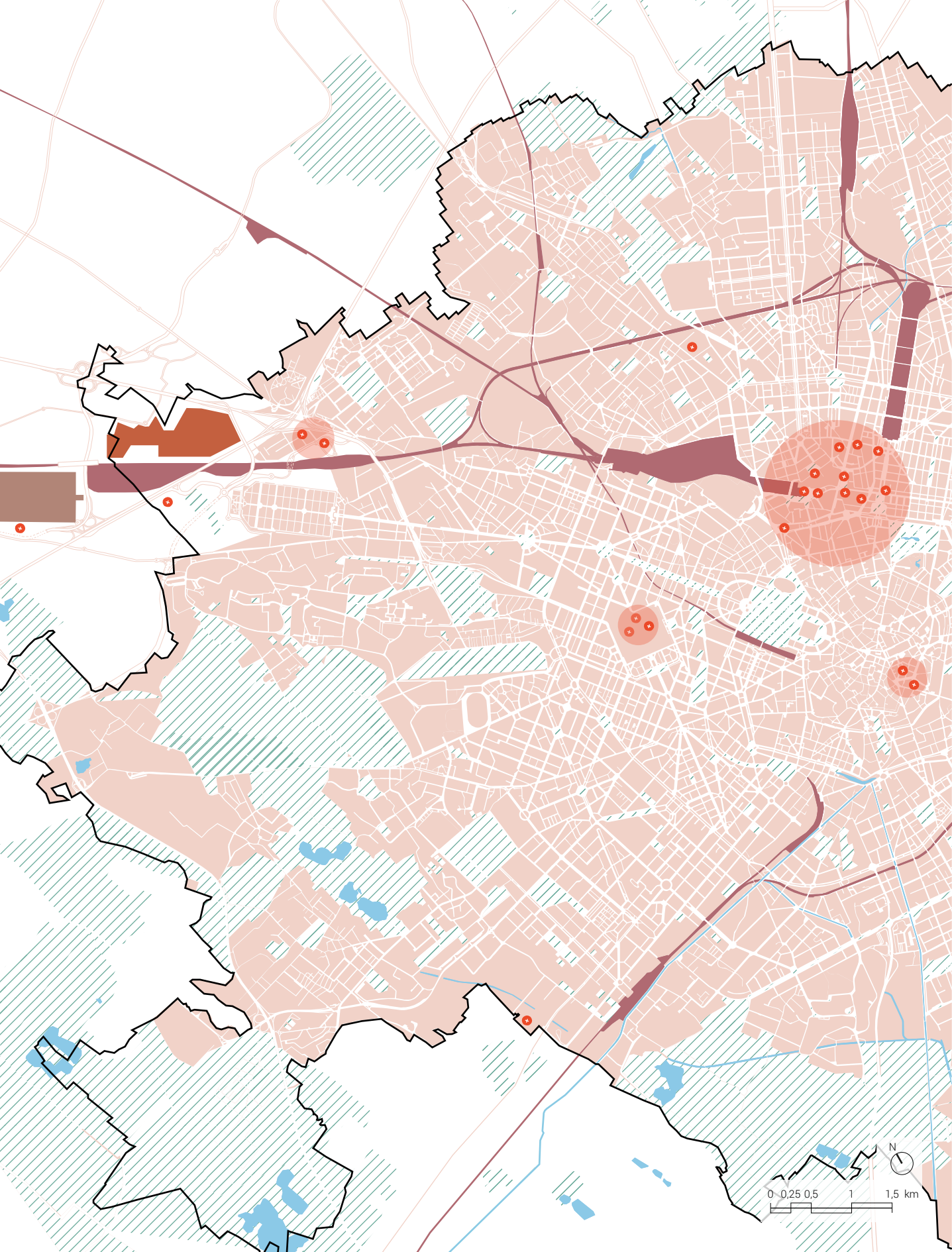
A NEWBORN PART OF THE CITY

Which are the issues related to this **city's extension?**

If we apply to Expo to the high density textures the result will be quite similar to Porta Nuova, the new city's district born over the past decade.

Obviously such an image means the raising of many issues: first, the fact that the high-density in the construction should match with a **high density in the number of people** who would come to Expo, and second, that this would mean **designing a kind of miniature city**, with all the necessary services and functions that cover the 24 hours.

Furthermore in recent years Milano has planned his extensions based on the **thematization of the city**, that means that groups of functions belonging to the same family have been set in a precise sector of the metropolitan area: the city of health, the sport village, the belt of the shopping malls... is there a lack in this system for which Expo could represent the solution? And what does it mean this kind of urban planning for the multifunctionality of a single neighborhood?

The image on the right page reminds of Porta Nuova for the similar spatial organization: the **cluster of skyscrapers**. But would it fit with the Expo surroundings? It's interesting to note that the typology "tower" is known throughout the axis Porta Garibaldi - metropolitan area: in this context there are both the older towers of the Stephenson area (which actually never took off) and the new social housing buildings of Cascina Merlata.

One last important point is undoubtedly the **media coverage** that an urban and economic operation of this kind would recall, not to mention that there is always a big attention of what happens in the post mega-events phase: it would be an incredible opportunity for Milano to emerge in innovation on an international scale.

CASCINA MERLATA SOCIAL HOUSING
May 2016

High density textures projected in Expo

MILANO /// WIEN

1,3 million people /// 1,8 million people
181 km² /// 414 km²

All data refer to 2015.
Sources:
numbeo.com , comune.milano.it , fahrradwien.at , who.int , "Prices and earnings 2015" report by UBS , istat.it , ec.europa.eu , versus.com , goeuro.de , atm.it , wienerlinien.at , it.wikipedia.org , langenacht.orf.at , "Quality of life report 2016" by Monocle , topuniversities.com , areu.lombardia.it , wien.gv.at , kickstarter.com , milanomalpensa-airport.com , viennaairport.com

sustainability

people moving on foot/by bike
M 10% - 4%
W 35% - 7%

air pollution
M PM₂,₅: 30
W PM₂,₅: 18

city bike stations
M 285
W 120

economy

working time for a big mac
M 18'
W 12'

unemployment rate
M 8%
W 15,3%

cost of living

gini index
M 0,33
W 0,29

one espresso
M 1 €
W 2 €

one beer 0,33 l
M 4,6 €
W 3 €

m.rent for one-bed ap. in centre
M 910 €
W 710 €

yearly public transport ticket
M 340 €
W 365 €

education

museums
M 66
W 134

daily newspapers
M 14
W 9

% international students
M 8%
W 30%

municipal libraries
M 26 + bibliobus
W 38 + mobile Büchereien

quality of life

sunny days
M 153,2
W 89,7

ambulance response time
M 10'
W 12'

average age of the inhabitants
M 45
W 41

drinking fountains
M 480
W 900

paid vacation days per year
M 26
W 27

24/24 h

dinner at restaurant after 22.00?
M quite difficult
W difficult

global

clubs
M 118
W 50

facebook users
M 37,7%
W 34,4%

language schools
M 85
W 111

kickstarter projects 09/16
M 255
W 230

international routes
M 200
W 166

94

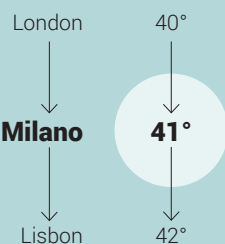# HOW WELL IS MILANO DOING ON A GLOBAL SCALE?

STEP 4
URBAN ISSUES

5 RANKINGS

The Economist Intelligence Unit Global Liveability Ranking 2016

Milano outside the top 10

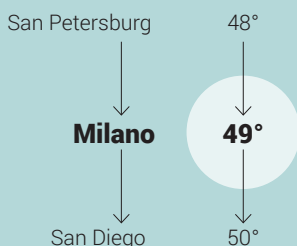Monocle's Quality of Life Survey 2016

Milano outside the top 25

Mercer Quality of Living 2016

London   40°
↓   ↓
Milano   **41°**
↓   ↓
Lisbon   42°

Cities in Motion Index 2016

Manchester   43°
↓   ↓
Milano   **44°**
↓   ↓
Prague   45°
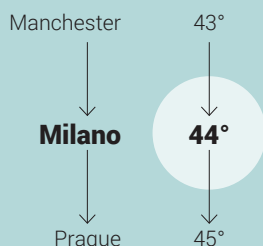
Innovation Cities Index 2015

San Petersburg   48°
↓   ↓
Milano   **49°**
↓   ↓
San Diego   50°

Sources

"The Best Cities to Live in the World 2015"
Global Finance, 21.09.2016
"Cities that score well barely qualify as cities"
dezeen.com, 04.09.2014
"Quality of living: Milan beats New York according to
Mercer" Il Sole 24 Ore, 26.02.2016
"Is Milan the Real Capital of Italy?"
The New York Times, 26.04.2016
"The World's Leading Cities for Fashion"
citylab.com, 07.09.2012

The skyline of Milano is only one of the many aspects that confirms the **international flair** of the capital city of Lombardy: more than Roma, Napoli or Torino it has succeeded in playing in the arena of global competition among cities.

But speaking about competition, **which are the aspects that score well** and define the city a winning one?

To answer this question we should have a look at the many **rankings** that since a decade are measuring the "good work" of the cities all around the world.

Even if each ranking is made for a specific purpose and therefore it will reward differently the criteria in relation to that, by confronting 5 different indexes I've drawn up a list of the issues that matter for reaching a good position.

They are: good economics and low unemployment, working health system, low crime and corruption, sustainable urban planning and high use of public transports and bike, accessible housing, good percentage of population with a higher education, public spending on culture and on innovation and fast connection to other cities, both physical (flights) and digital (internet).

In general **these rankings judge a city as it were a corporative business** and they are often criticized as dangerous, first because they don't take into account aspects that matter but are not measurable (like the history of the city) and second for leading the cities to resemble each other, in order to fulfill the same targets.

Monocle's quality of life survey is in this sense interesting: targeted at the wealthy, mobile and cosmopolitan reader it includes a group of criteria that goes under the "liveability assessment": from the availability of outdoor seating, to the chances of finding an open restaurant at night, till the number of indipendent bookshops.

In this **rankings panorama**, how is performing **Milano**?

Milano is always the first Italian city that appears in the index but the result is not so thrilling: in the most recent surveys it stays **between the 40th and 50th place**.

Its **weaknesses** are first the **enviromental issue** as air pollution and soil consuption and then the high price of the **housing**.

Its **strenght** is the **economic power**: Lombardy is one of the richest region in Europe, included in the so-called "blue banana", and Milano with its low rate of unemployment attracts young people from all over the world.

Milano plays its ace in the global competition when it comes to **finance, fashion, design, advertising and art.**

The idea of a fashion or a design capital has become a part of broader strategies of metropolitan boosterism that give prominence to what have become known as **"creative industries"**.

To these creative businesses are also linked the two most important events in the city: *il salone del mobile*, the annual furniture fair, and *la settimana della moda*, one of "the big four" fashion week in the world together with Paris, London and NYC.

MILANO AND THE CREATIVE INDUSTRIES: FASHION, DESIGN AND MEDIA

The meaning of this **emerging business**

What goes under the sphere of "creative industries"? And who belongs to the creativity class?

The concept of creative and cultural industries is a recent one: it has developed in parallel to the emerging role of the **quarternary sector, which is a knowledge-base part of the economy** which requires highly educated workforces and it is therefore more present in well-developed countries.

The theorist **Richard L. Florida** describes the distinguishing characteristic of the **creative class as "engagement in work whose function is to create meaningful new forms**. The super-creative core of this new class includes scientists and engineers, university professors, poets and novelists, artists, entertainers, actors, designers, architects, as well as the "thought leadership" of modern society: nonfiction writers, editors, cultural figures, think-tank researchers, analysts and other opinion-makers".

The city with the highest rate of creative class is San Francisco.

The **Italian cultural and creative system** has succeeded in going **against the trend of economic recession** (2011-2015) and accounts for the 17% of the GDP.

The booming sectors are design, food culture, videogame and music production.

Milano is the star city in the cultural and creativ system, with **10,5% of the workforce of the metropolitan area occupied in this sector**.

As confirmation of the leader role the city plays, Milano hosts every year the most important events related to design and fashion.

The furniture fair was this year a record edition, with +4% of visitors (400.000), 70% of which coming from abroad.

Sources

"Cities and the creative class" R. Florida, Routledge 2004
"The rise of the creative class" The Washington Monthly, May 2002
"Io sono cultura" Fondazione Symbola, report Unioncamere 2016
"Le industrie culturali e creative e l'Italia. Una potenzialità inespressa su cui scommettere", Pier Luigi Sacco, 2011

55 years of history

In 2016
400.000 visitors
70% foreigners

parallel event
Fuori salone
in the city centre

The Furniture Fair
Il Salone del Mobile

Milano Fair Rho

every Spring
for one week

58 years of history

In 2015
Vogue Fashion
Night Out
200.000 visitors

parallel events

Fashion Hub Market
Fashion Film Festival

The Fashion Week
La settimana della moda

different locations in
the city centre

2x year
Feb. & Sept.

WHAT IS NECESSARY FOR CREATIVE INDUSTRIES TO FLOURISH

1 <u>A cluster situation in one place.</u>
Creative industries are spotted always in high concentrations, because the cluster spatial organization wins in economic efficiency.
A tight linkage between people belonging to the same sector allows a constant update and moreover co-location has positive mutual benefits, the so-called "spillovers", for the businesses of all dimensions.
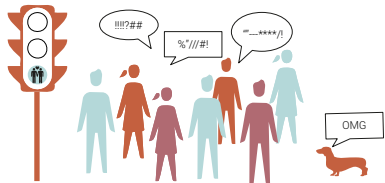
2 <u>A positive attitude towards diversity</u>
One thing that creative people look for when they settle in a city is a tolerant and open enviroment. Different cultures, sexual orientations or lifestyles that happily coexist in one place are a sign that a city is ready for different opinions and new ideas.
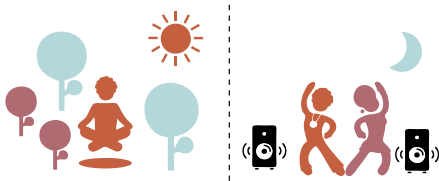
3 <u>A thrillling urban lifestyle</u>
It's not all about working. Moreover the best ideas come while you are enjoying the pleasure of an afternoon in the park ar a dinner in an ethnic restaurant. The lack of these amenities is considered a problem for the creative class, and is also the main problem of clusters like Silicon Valley.
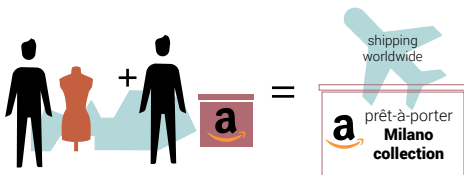
4 <u>Policies that support the launch of new businesses</u>
Governance plays an important role for the creative industries: since this kind of activities normally foresees a late return on the investments the government should provide sufficient financial support, charge low fee for newborn activties and publicize the talents of its region.
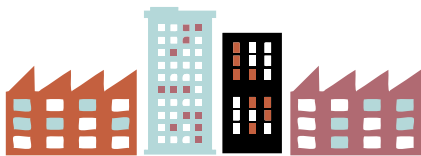
5 <u>An affordable workspace for medium/small size businesses</u>
The most famous creative industries have become firms with hundreds of workers. But the majority of these businesses has a small or medium size, normally with less than 10 people. The need of affordable studios is proved by a parallel phenomenon: the gentrification of ex productive neighborhood that provide cheap ateliers for artists.
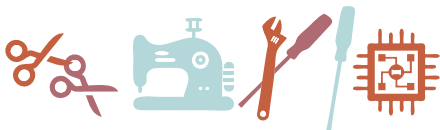
6 <u>Proximity of craft workshops</u>
The light industry within the city not only creates jobs for skilled craftsmen but also with a little bit of noise it gives a soul to the neighborhoods.
It also important for creative businesses to cooperate with these artisans and have, for example, the possibility to test a prototype at once.
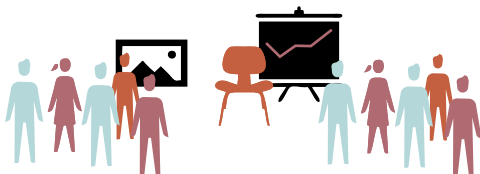
7 <u>Events</u>
Events are one of the best advertisement: there is a whole kind of tourisms around them (and Milano knows it well). The possibility to show a new product to the mass media attention plus thousands of people coming from all around the world is a big boost for creative industries.

A CREATIVE HUB SCENARIO

The **human capital** of Expo pushes Milano forward

The **high density scenario** transforms the former exhibition area into a **new urban neighborhood** with a special focus for the creative industries.
Indeed, it proposes a functional program aimed to boost further this kind of economy and create new jobs.
This **scenario** has a peculiarity: instead of working at the weaknesses of city it **deals with its strenghts**, economic power and talented people, and makes an operation of **city-branding** for the global panorama.

To this scenario belong two important issues:
* the **actual ability to be a hotspot** for the creative class and
* the **multifunctionality** of the newborn neighborhood

About the **attraction factor**, as analyzed before, it depends largely on the **city's reputation**, the **governance** and the overall **quality of life** of the new part of the city.
In this sense Expo has an advantage because included in a city's frame that is already catching for the creative class.
Moreover, this development foresees government **policies** that support the raise of new creative businesses and that are meant especially **for the beginners** in this field, not only the big "famous names".
What Expo should not become is a concentration of headquarters internationally renowned, but rather an interesting mix of these with smaller companies.
Quality of life and multifunctionality are in a close relationship: the **more functions** I can count around me, the **more vibrant** and liveable will appear the place where I live.
That's why in the functional program there are also the terms infrastructure, living, and free time, with a special part dedicated to the **entertainment** industries, that make the area active also in the **night**.

The creative hub is not only for people who work in these sectors, it is meant as an open, dynamic and flexible neighborhood, where to settle for long or short time and sense the dimension of big, global city.

STEP 5
FUNCTIONS

parking lots

i n f r a s t r u c t u r e

schools

basic urban kit

bank,
police station,
doctor clinic,
grocery shops,
pharmacy,...

temporary living:
hotel
with
conference rooms

"plug and play" community:
a community easy to access, where the integration happens quickly.
Great importance
is given to the shared spaces, like community kitchens, dining rooms, urban gardens...

l i v i n g

different size of fl
with a majority
**apartments fo
singles**

ultrabroadband internet
next generation network

nursery and kindergarten

primary and middle school

architects, urban planners, engineers, sociologists, statisticians, geographers, economists, ...

craft workshops

working

urban think tank

dot.com firms: amazon, dropbox, skype...

fashion

design

philosophy:
creative industries develop normally a new vision of the working issue:
the people still work hard and long, but there is a flexible schedule, dress codes are relaxed, studios are 24/24 h open and there are many rooms for recreation...

illustration

media

photography

web design

advertisement

S co-working spaces
M personal studios
L headquartes

shops

events

concerts

theater

clubs

creative package:
flat + studio
at an affordable price

exhibition

entertainment industry

gastronomy

cinema

a significant percentage of the apartments is for social housing

free time

urban gardening

sport

park

CONCEPTUAL MASTERPLAN

N

0 25 50   100   150 m

MEDIA:
ADVERTIS
ILLUSTRAT
PHOTOGR
WEB-DESIG

URBAN THINK TANK

URBAN OASIS

PRODUCT DESIGN
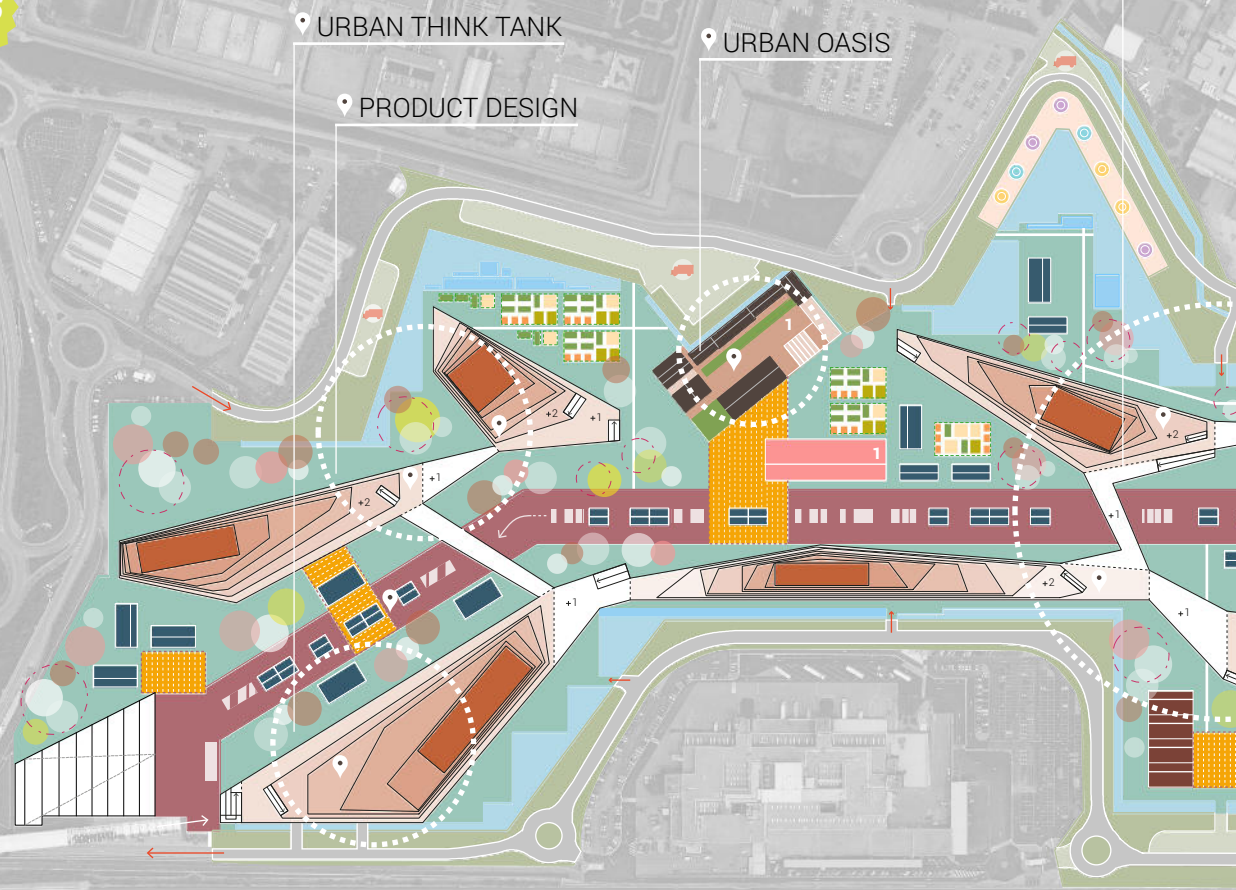
THE SKYSCRAPERS
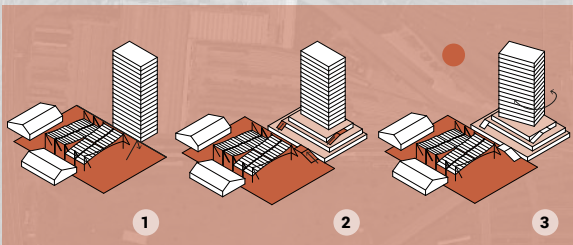
The skyscrapers represent the most impressive mark of the new Expo. Their design has the purpose of transforming a normally exclusive building into a space open to everybody.
They host a mix of public and private functions distributed on the vertical axis, while for what concerns the horizontal axis the expansion of the plinth is meant to value the accessibility from the street.

THE LOW DENSITY "VILLAGE"

the pavilions:
studios, shops, restaurants, craft workshops, …

co-working spaces

1.nursery & kindergarten 2.primary & middle school

1.Cascina Merlata & 2.Slow Food pavilion

The skyscrapers surround a vast area that resembles a village.
Along the Decumano and the smaller streets are located many one-storey buildings: these "pavilions" are epicenters for the people who live, work and come to Expo. They host schools, working spaces, shops connected to the creative industries (fabric store, tailoring, print shop,…) entertainment areas, restaurants and so on…

FASHION

DOT.COM FIRMS

+1

+2

+1

+1

2

+2

+1
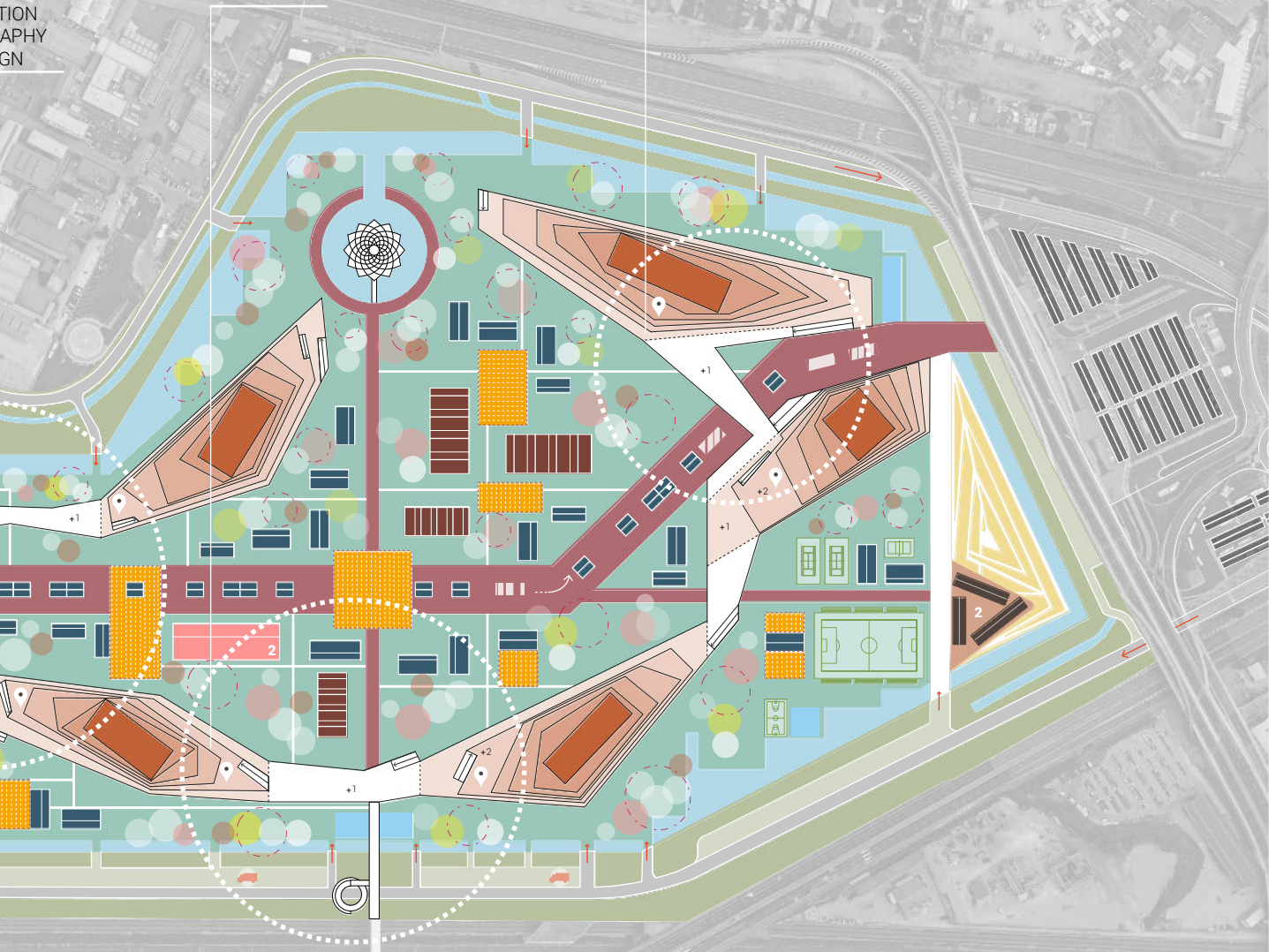
THE OPEN SPACE

the park: a natural sprawl

Decumano & Cardo

new covered "piazza"

urban oasis

The open space is characterized by an extensive park which occupies all the surface area of the "village". In this project there is not a clear division between what is natural and what is artificial, but rather the nature system coexists among skyscrapers and pavilions. New outdoor community centers are provided by the "piazza", squares covered with the sails structure that was on the Cardo and Decumano.

ACCESIBILITY AND FLOWS

1

2

3
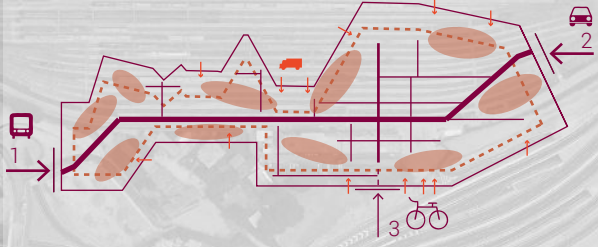
The accesibility system is basically no different from the time of the exhibition, except that cars can now drive along the Decumano and exit then to the service road shared with the trucks. What is changed are the internal flows: the orthogonal grid has been replaced by a more sinuous Decumano that gives the direction. Also the buildings are placed differently: they follow the perimeter and create an "offset" of the Expo.

A CITY ORGANIZED IN LAYERS

The new Expo neighborhood is characterized, through the construction of **ten new towers**, by an intense vertical development.

The towers reach a maximum height of 90 metres and they have a wide "ziggurat" base and a more slender and taller central part. Moreover to standard coating solution like glass are preferred other materials, like ceramic or polycarbonate, in order to give a unique character to this new part of the city.

The organization of the public, semi-public and private space occurs then also on the vertical axis, and I've tried to have a **distribution that avoid a clean cut**, on a certain floor, **between public and private functions.** For this reason I've planned:

* an outdoor system of ramps, staircases, elevated routes and terraces that steers the **vertical movement**. There are no gates along this path that connects the main street to the towers because they are accessible for everyone.

* important **public functions** like library, cinema or swimming pool are located on the **attic floor** of the towers: it's an important switch for an architectural dimension (the attic) often linked with exclusivity. The new Expo neighborhood prefers the model of a dense city that offers the same possibilities to all at every height.

* the **living areas**, located from the 4th/5th floor up, are provided with **spaces for the co-housig**, like the public living room.

1 : 1.000

SECTION A-A

PUBLIC ATTIC AND ROOFTOP

SHELTERED PIAZZA

CASCINA

PUBLIC LIVING ROOM

TERRACE

ELEVATED ROUTE

SECTION C-C

URBAN MANUFACTURING

PHOTOGRAPHIC AND
RECORDING STUDIOS

EXPO AND THE CITY: A SYNERGIC SYSTEM?

Analysis of the relations Expo/Milano depending on the **users**

N

0   0,25   0,5   1   1,5   km

The yuccies:
the young urban creative

An important target of the "studios for renting" in the new Expo are the so called Yuccies: a term coined by the blogger David Infante that stands for young urban creative: in other words, young adults who care about making money and use their creative power to reach their goals.
This generation has similar lifestyles and normally settle in a neighborhood when there is a good mix between cheap ateliers and vibrant community: by analysing the yuccie movement in Milano you can notice how they are slowly moving away from the downtown to the suburbs.
In this outwards flow Expo would represent an unique destination for them: it wouldn't be an ex industrial neighborhood to discover, but rather an ad hoc project that not only offers studios at an affordable price but also proposes functions to build a new centrality for the north west of Milano.

The pioneers:
the inhabitants of Expo

The high density scenario foresees, alongside the creation of new jobs, an important operation of housing. The pioneer of Expo is diverse: Italian, foreigner, with a job, student, retired, single, gay, with a big family... it doesn't matter.
What's matter is that everyone can have the possibility to live in Expo, and make the neighbor-hood real, not a city with empty skyscrapers.
This can be possible thanks to a significant percentage of social housing, that can be funded with the sale of the offices/headquarters to private investors.
The social issue is extremely important: the pioneers of Expo partecipate in the decisions about the next planning phases and are motivated to form associations.
The pioneer of Expo doesn't need a car, because he/she can move quickly with the public transport.

The tourists for events
and business

The Expo area is born because of an event and in this development program it will continue to host conferences and exhibitions in relation to the new umbrella topic "creativity".
Expo could establish a cooperation with the Milano fair, which is on the other side of the railways, and expand the yearly offered program.
Moreover was proved during the Expo that even if the event is located far from the city center, there is a positive economic feedback for the latter. During the 6 months of the exhibition that was an increase of the tourism of + 27%, with peaks of + 35%.
A winning formula for the circulation of people that is also already proved is the event with many locations: in this sense Expo could have a base in the downtown and viceversa.

Can the
**STEPHENSON
AREA**
benefit from Expo and
be the next upgrading
project?

the neighborhood **BICOCCA** was one of the most important renovation program of the last decade. It hosts a teather, a seat of the university, research centres, Pirelli headquarters, new housing, a park and a museum of contemporary art..

LOGIN
100€/month
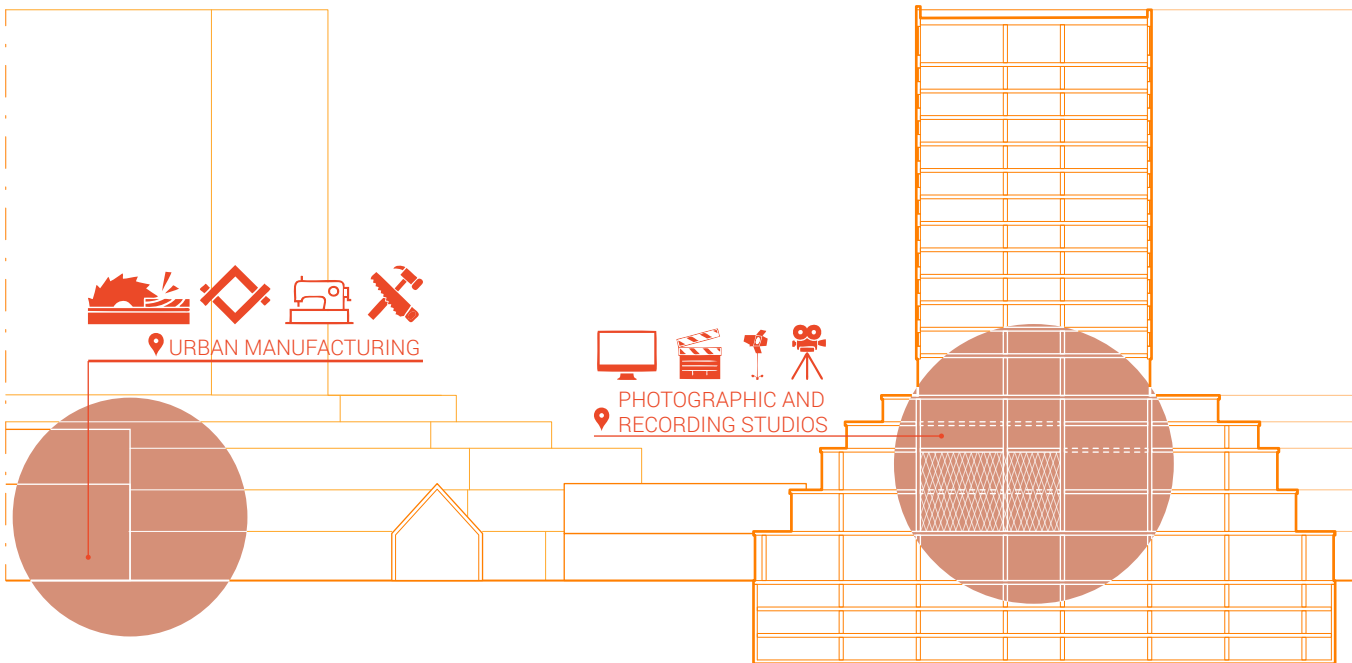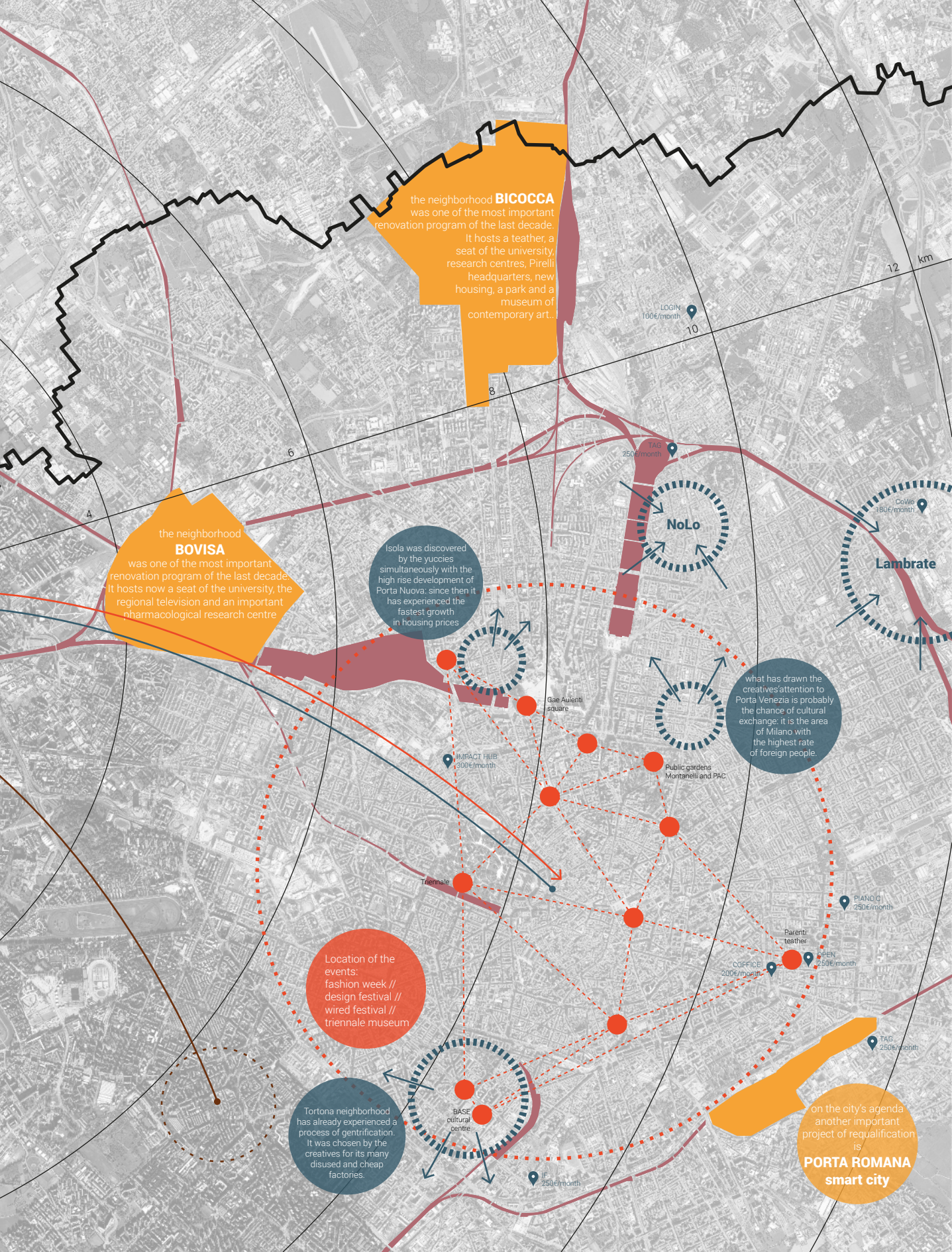
12 km

10

8

6

4

the neighborhood **BOVIS A** was one of the most important renovation program of the last decade. It hosts now a seat of the university, the regional television and an important pharmacological research centre

Isola was discovered by the yuccies simultaneously with the high rise development of Porta Nuova: since then it has experienced the fastest growth in housing prices

TAG
250€/month

NoLo

CoWe
180€/month

Lambrate

Gae Aulenti square

IMPACT HUB
300€/month

what has drawn the creatives'attention to Porta Venezia is probably the chance of cultural exchange: it is the area of Milano with the highest rate of foreign people.

Public gardens Montanelli and PAC

Triennale

PIANO C
250€/month

Parenti teather

PEN
250€/month

COFFICE
200€/month

Location of the events: fashion week // design festival // wired festival // triennale museum

TAG
250€/month

Tortona neighborhood has already experienced a process of gentrification. It was chosen by the creatives for its many disused and cheap factories.

BASE cultural centre

on the city's agenda another important project of requalification is

PORTA ROMANA smart city

IF
250€/month

Monday morning at the Expo Village…

CONCLUSION

The 3 scenarios represent 3 alternative stories for the future of the Expo site. It is impossible to say which one is the best destiny of all, but it is possible to evaluate the scenarios in relation to specific criteria.

	scenario **LOW DENSITY**	scenario **MIDDLE DENSITY**	scenario **HIGH DENSITY**
RECYCLING EXPO			
technological platform	●	●●●	●●
pavilions	●	●●●	●●
grid - cardo and decumano	●●	●●●	●
accessibility	●	●●	●●●
TIME MANAGEMENT			
shortest implementation time	●●	●●●	●
necessity of temporary uses	●	●●	●●●
ECONOMY			
profitability	●	●●	●●●
lower risk exposure	●●●	●●	●
CITY PLANNING			
amount of urban qualities	●	●●	●●●
flow of people	●●	●	●●●
integration in the city's context	●●●	●●	●
conformity to the city's vision	●●●	●●	●●
urban urgencies	●●●	●●●	●●

RANKING AMONG THE 3 SCENARIOS

best solution in relation to the criterion ●●●
intermediate solution in relation to the criterion ●●
worst solution in relation to the criterion ●

RECYCLING EXPO

Expo was a farmland, therefore lacking in all the necessary infrastructures for the working of an event.

The area has been provided with an underground technological platform where are located the power grid, the water network, the sewage system, the fire-fighting facilities and the wi-fi cables. Above this, the walkable area has been designed to support peak of 250.00 people per day.

technological platform

The whole technological platform has costed ~200 milion euros.

scenario **high** density

scenario **middle** density

scenario **low** density

The re-use has to do with numbers and dimensions: the technological platform works with a building density similar to the one of the pavilions, while the width of the big boulevards, the cardo and decumano, is justified by the crowd expected for Expo. It is nearly impossible to recreate at the same levels the steady crowding of the fair, therefore in each scenario the pedestrian streets are re-thought as a multifunctional space.

On the opposite the technological platform can be used as it stands in the scenario m.d., since the housing has a similar density to the pavilions.

In the h.d. scenario the platform can be partly used (in the "village"), and partly has to be strengthened (for the skyscrapers). The possible cost of removal of the platform is a real problem for the scenario l.d., which needs very few infrastructures compared to those provided: in this case the area must be re-naturalised, by activating a cycle of recovery and treatment of the existing concrete.
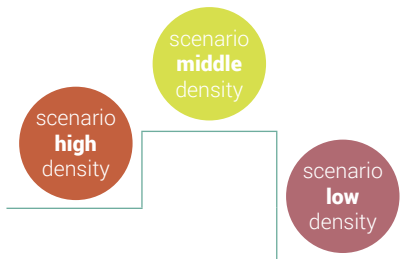
Expo Milano broke all previous editions' records by having 53 self-built pavilions, that means pavilions designed and financed by the guest countries.

The other buildings of the fair are: a media centre, 9 clusters (pavilions focused on one topic, which host more countries simultaneously), 3 thematic areas (pavilion zero, children park, biodiversity park), a newly restored traditional farm, 3 TCP (steel constructions for future food district, conference centre, auditorium), 12 service clusters, a theatre, the iconic tree of life.

pavilions

scenario **high** density

scenario **middle** density

scenario **low** density

As already mentioned in the first chapter, the recycle of the pavilions is particularly difficult when these are not designed with an unitary concept.

The scenario with the highest number of re-used pavilions is the m.d. scenario: here almost all the public functions are allocated in the existing constructions. Also in the h.d. design there is the chance (but is not a necessary condition) to re-use the Expo buildings as working halls in the "village". The l.d. scenario is the one with the lowest number of recycled Expo structures, only 6.
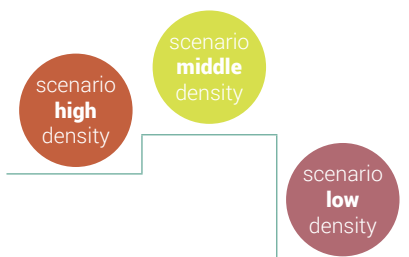
The clear orthogonal matrix according to the Roman Cardo and Decumanus represents the spatial solution to the complex shape of the plot.

Both Cardo and Decumanus are 35 m wide, while the first is 400 m long and the second 1500 m. Each 40 m the Decumano is spaced by a perpendicular street, 8 m wide.

The access to Decumano happens both at the West and East entrance thanks to a connection street.

grid
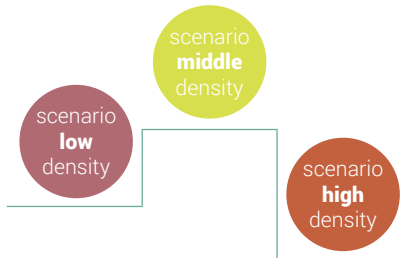
The m.d. scenario maintains exactly the same grid, but, instead of two pavilions, in each 40 m wide block finds place a residence building. The entrance to the Decumanus occurs not only through the zig zags connection street but also, in a more fluid way, through the park/metropolitan centre.

The l.d. scenario traces with the layout of the fields the same orthogonal organization. The Decumanus as boulevard is halved, the Cardo is transformed into a big park.

The h.d. scenario revolutionizes the urban setting: the tower buildings are freely placed along the complex perimeter, the Cardo is thinned and the Decumano makes two new clicks to enable the direct entrance from the access points.

scenario **middle** density

scenario **low** density

scenario **high** density

The access to the fair is "hidden."

There are two main entrances: the West entrance is for those who come by public transport, and you get there via a long underground path; the East gate is located under the highway overpass, and is reachable only by car. There is also a pedestrian entrance to the South and a service road that surrounds the site.

accessibility
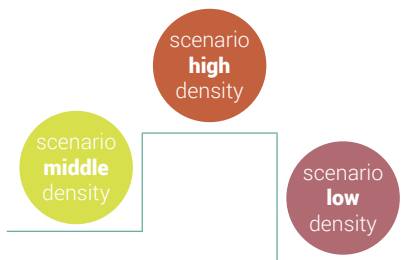
In the h.d. scenario the accessibility system is reproposed as it stands, moreover the cars can circulate also along the Decumanus.

In the m.d. scenario the flow of cars is transfered from the service road to the inner main street, and in doing so the perimeter is left free for a linear park.

The l.d. scenario intervenes deeply on the accessibility system by strenghtening the slow mobility. A major new pedestrian bridge for the North connection is built, snails for bikes are added and the service road is transformed into a park as in the m.d. scenario.

scenario **high** density

scenario **middle** density

scenario **low** density

TIME MANAGEMENT

An intelligent and slimmed-down planning of the various phases of the project is very important both for its success and for the positive perception by the public opinion about the progress of the building site.
Which is the scenario that could be achieved more quickly?
Which one would leave for less time the site "vacant"?

shortest implementation time
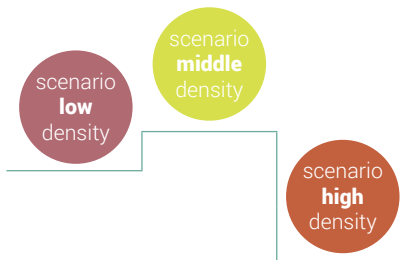
For some works there is a need of long time to draw up the design, organize the process, raise the funds and then build.
Other works are more "simple" and can be put in place quickly.

scenario **low** density
scenario **middle** density
scenario **high** density

The design which requires more time to be completed is definitely the one of the h.d. scenario. Not only there is a demanding building task (first dismantle the pavilions and then build the towers) but also the process takes long time: the public has to find the funds and the private companies, with which it may constitute a partnership.
In the l.d. scenario the main task is substantially dismantle, since the "only" new building is the hypogeous research center. The demolition of the platform (and its recycling process) is a long-lasting phase, but in the meantime the agricultural park project can be carried out in earth tanks or with the soilless farming.
The m.d. scenario is the one that recycles most, and therefore requires less time; in addition the residences are relatively simple buildings.
In all cases the implementation process takes place in stages.

necessity of temporary uses

When is a temporary use necessary? When the construction kickoff is planned late on the schedule or when not the whole area is involved by the building activities: in these cases there is a time gap in which the site (or part of it) remains abandoned.
The temporary use can also lead the way for an eventual public destination, bringing people in advance to the area.
Which scenario has more necessity of temporary uses?

scenario **high** density
scenario **middle** density
scenario **low** density
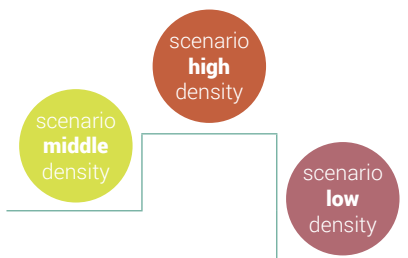
Since Expo has a surface of 100 ha we can assume that the construction works will occur in stages: therefore the temporary uses represent a good solution for all the scenarios. The temporary functions can be allocated in the pavilions that have been left after the end of the exhibition.
The h.d. scenario is the one that needs the most time to be finished, and therefore also the one that needs most that in the meanwhile something happens in the area. In this way there is also the benefit of introducing slowly but steady the new part of the city to the inhabitants of Milano.
The l.d. and m.d. scenarios have similar times of implementation, however the m.d. scenario could need more a temporary use since it has two steps of work (dismantle and re-build); on the opposite, the final goal of the l.d. scenario, the park, can be partly implemented already in the dismantle phase.

ECONOMY

Which is the scenario with the greatest financial return?
And which is the safest investment?
The economic gain is a decisive evaluation criterion.
As already seen Expo has started at very high costs, since the municipality had to buy the exposition area from privates: this first investment has to be now justified with a high economic return.
Thinking in terms of money is therefore obligatory for verifying the feasibility of the project.

profitability

What is meant by the term "profitability" is the ability of a project to generate an economic return for those who developed it.
Since Expo's owner and developer is the State, the chance of gain is represented by private stakeholders' participation.
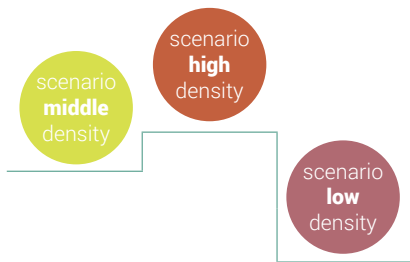
The h.d. scenario has the highest profit, because the State can sell or rent a large number of apartments and spaces for work.
Also in the m.d. scenario the public can have an important economic return by renting or selling the apartments, the majority of which is in subsidized rent, and the working stations.
The agricultural park scenario is undoubtedly the least advantageous in terms of money: a minimum return is made by the renting of the urban gardens (max. 200 € per year for 30 m^2 garden) while the biggest entry is represented by the rent of fields to one or more agricultural companies.

scenario **high** density

scenario **middle** density

scenario **low** density

lower risk exposure

By this criterion it is meant the capacity to carry out a financial project without other variables coming into play and causing an economic damage.
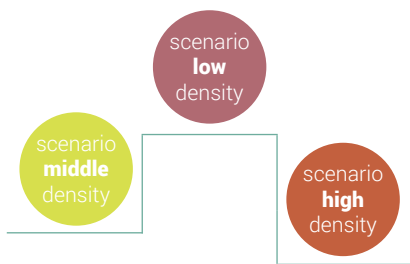
For this criterion the rule is the less you risk, the less you earn, and vice versa.
Therefore the l.d. scenario represents a very low risk, the m.d. scenario a medium-high and the h.d a high risk.
This is because the h.d. scenario in based on the assumption of a great cooperation between public and private and a great ability of Expo to attract new companies and creatives in the area.
But certain economic and social processes are not fully controllable, so if this doesn't happen, despite the adopted policies, there is an economic damage and a plan b must be prepared.

scenario **low** density

scenario **middle** density

scenario **high** density

This group of criteria aims to investigate the urban features of the scenarios and their relationships with the metropolitan city.
From a city planning point of view, which is the design that best fits the current situation in Milan? Why?
Which scenario establishes the strongest centrality and the richest urban enviroment?

amount of urban qualities

Which scenario has the largest number of urban qualities?
Obviously arises the question of what an urban quality is: is a park an urban quality? Or has the "urban" to do only with what is built?
An urban quality is a function of the complex system "city": it indicates a positive ratio between the concentration of flows and functions and the territory. The "urban" stands for this quantity, while the "quality" is given by the ratio, that has not to exceed a certain threshold otherwise can produce adverse effects.
So yes, a park in an urban context is a urban quality.

scenario **high** density

scenario **middle** density

scenario **low** density
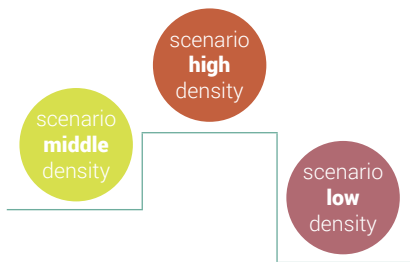
The design with the highest number of functions and flows is to be found in the h.d. scenario: a real miniature city where there are all the necessary infrastructures for the living, the working and the leisure time.
The m.d scenario is in large percentage dedicated to the housing; the rest is a set of public functions, oversized with respect to the Expo neighborhood: in fact it supposed to work as new hub for the hinterland area. We can say that for a mostly residential neighborhood there is a good mix of urban qualities.
The l.d. scenario focuses mainly on the park, and all the planned functions revolve around the theme of sustainability. Although the park is in itself a great urban quality for the context of the Milanese suburbs, the monothematic spectrum of urban qualities places the design as the last in the ranking.

The flow of people that circulates through Expo not only defines the urbanity of the area, but also legitimates the scenario as the heir to a great event that brought 22 million visitors on the site.
The exhibition site has to operate as big attractor to make up for its unfortunate position between the highways: the desire to go to the "Post Expo" must be stronger than the hassle of reaching a destination that is perceived as distant for both those who live in the centre and those who live in the hinterland.

flow of people

scenario **high** density

scenario **low** density

scenario **middle** density
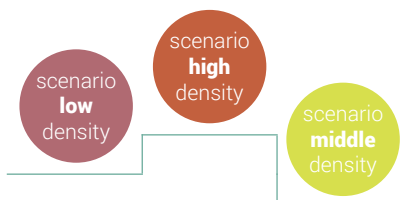
In order to define which scenario will attract a greater number of people some hypotheses are necessary: the park certainly draws a great number of inhabitants, both from the hinterland and from the centre, and probably the peaks will be on Saturdays and Sundays. In addition to those who want to enjoy the park there are also the scholars of the Nourishment Centre and the field workers.
The social housing design is appealing thanks to schools, work spaces and the metropolitan centre on weekdays, thanks to

the night life hub, the events hub and the museum on holidays. Probably the people who gravitate here come from the hinterland, since the proposed functions are to be found also in the centre.

The h.d. scenario has a strong daily business call, moreover here will be organized many events: people of the hinterland and the centre are expected, mostly on the weekdays but also on holidays. In this context the three scenarios play almost even, nevertheless probably the m.d. scenario attracts less people since its impact area is more restricted, at the second place we find the park and in first position the creative city.

What does integration mean? An urban project is integrated in the context if the people living in the neighborhood start to use and interact with the new intervention, and, vice versa, if the newcomers enjoy and move about the whole district.

It may be because the new design foresees new functions that are missing, or because functions already present in the context are repeated as a winning formula.

Since Post Expo is a recycle project, what kind of integration has been pursued in the exhibition months? Can it be a pattern?

integration in the city's context

Probably this is the most difficult criterion for classifying the scenarios, as Expo undergoes the "island effect" that I have already mentioned and there is no real context if not infrastructures for the mobility. For this reason and for the world's fair function, the integration of the site has happened on a city scale rather than on the district level.

The h.d scenario proposes the same integration pattern on a metropolitan level: it continues, as the fair did, to attract people from far away but it doesn't particularly affect the surroundings.

With the new park of the l.d. scenario the lack of green in the area is stemmed; moreover the park works as an attractor on more scales, which leads to the nomination as best integrated scenario.

The m.d. scenario re-proposes one of the historical functions of the Sempione axis,the social housing, in addition to the many new attractions of public interest: this design develops also a good level of integration with the city's context.

scenario **low** density

scenario **middle** density

scenario **high** density

Until the end of the fair there hasn't been a real debate on the Post Expo issue.

However in 2011 the Milanese administration organized a referendum, in which the citizens where asked whether they wanted the park to remain after the conclusion of the exhibition. This park was at that time in programm in the concept masterplan, but eventually has not been realized. 95% of voters opted for yes. The direct consequence of the referendum was the subdivision of the site in 2 big areas: the Eastern part, ie 56% of the site, should have become, as requested by the majority of people, a theme park, while only the Western part, 400.000 m^2, less than the half of the plot, would have been at disposal for the construction of new buildings.

In this sector is planned the Human Technopole, which occupies around 30.000 m^2.

conformity to the city's vision

scenario **low** density

scenario **middle** density

scenario **high** density
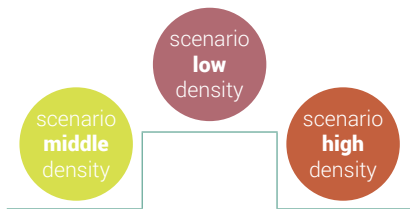
95% of citizens participating in the referendum of 2011 approved the park destination for the Post Expo. That's why the l.d. scenario is the one mostly in accordance with the vision of the city, city that is meant not as administration but as a whole of people.

Although much of the area is still reserved for a green project in conformity with the program agreement, the State has begun the planning of the Post Expo focusing on the building areas.

According to the density the m.d. scenario is the one closest to the official renderings about the future of the site, while the h.d. scenario has more connection points with the official vision for what regards the functional program.

It is important to underline that also the scenarios social housing and creative city integrate a park among the others functions.

urban urgencies

In the city's agenda there are always some issues that are more urgent than others: these must be resolved quickly in order to avoid repercussions even more serious.

Which scenario deals with the Milanese urban urgencies?

scenario **middle** density

scenario **low** density

scenario **high** density

Among the 3 scenarios there is a big difference: there are 2 scenarios that act on the threats of the city while 1 that acts on the potentialities.

The l.d. scenario responds to a serious environmental issue that has always worried Milano: the ground consumption and the abandoning of the farmland. It is a problem that does not manifest in sensational episodes but that will weigh heavily on future generations.

The m.d. scenario represents an unfreezing from the stagnation phase of the social housing construction, that has led to a large illegal occupation movement from 2013 on. The crisis has been partially contained by actions of eviction, but still lacks the answer.

On the contrary, the h.d. scenario relies on a strenght of Milano: the human and economic capital. This vision pushes the city even further in the labour market, already among the most steadfast in Europe.

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