

FILLING.URBAN.GAPS

RETHINKING CENTRAL AREAS IN SÃO PAULO

LUND UNIVERSITY - LTH

SUSTAINABLE URBAN DESIGN . MASTER THESIS

MARTIN NÄF

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LUND UNIVERSITY - LTH
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MAY 2019

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ABSTRACT

Filling Urban Gaps, is a study on a dense and central area of São Paulo, Brazil which is cut by an elevated highway. Its construction affected the development of the whole area, decreased its value, and affected many people around it. In recent years the debate of transforming the highway in a park, and opening it for pedestrians on weekends boosted the area as a cultural spot. Now the city announced the construction of a park over the Highway, the area became very attractive and will quickly be transformed.

The Highway park project, or Parque Minhocao, is very welcome to the city, that in general lack of green areas. However this park will not solve the problems that the original structure brought to the site. It is important to plan for the future densification and find the gaps to act in such a complex area.

New opportunities and investments will come, and the park must be used as a driver for positive changes. The Thesis explore strategies on how to deal with some local issues, like flooding, overcrowded streets and problematic built landscape, and how to bring solutions that are financially viable for the city. It explores a plan implemented through a long period, and takes advantages of the huge park potential. It aims to ensure that the area, its people and the city as a whole will benefit from the park.

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UNDERSTANDING

1

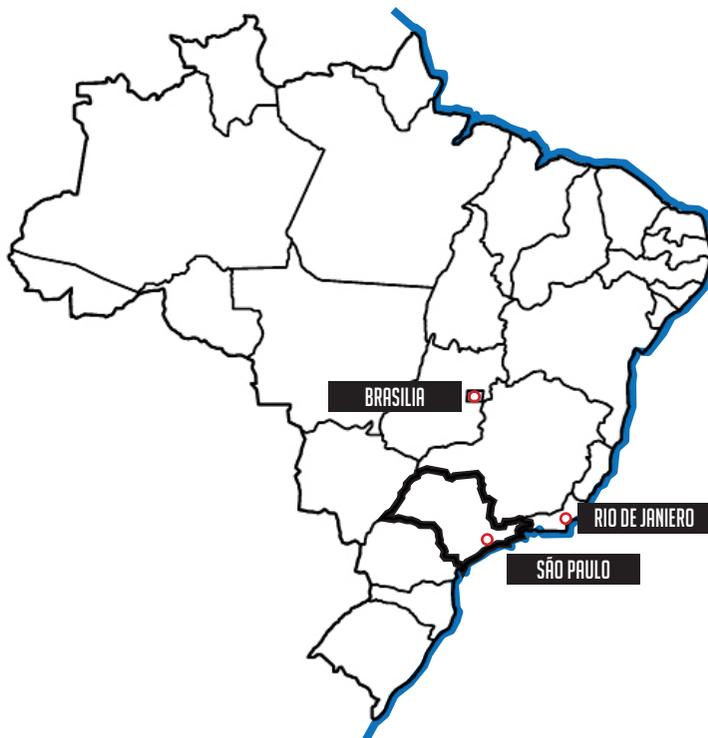
WHERE?

The thesis take place in the City of São Paulo, in the State of São Paulo, Brazil.

Brazil is the biggest country in South America, with a population of near 210 Million inhabitants, according to the last official data IBGE 2017(Brazilian Institute of Geography and Statistics). As a comparison, São Paulo State alone has approximately the same dimension as the UK.

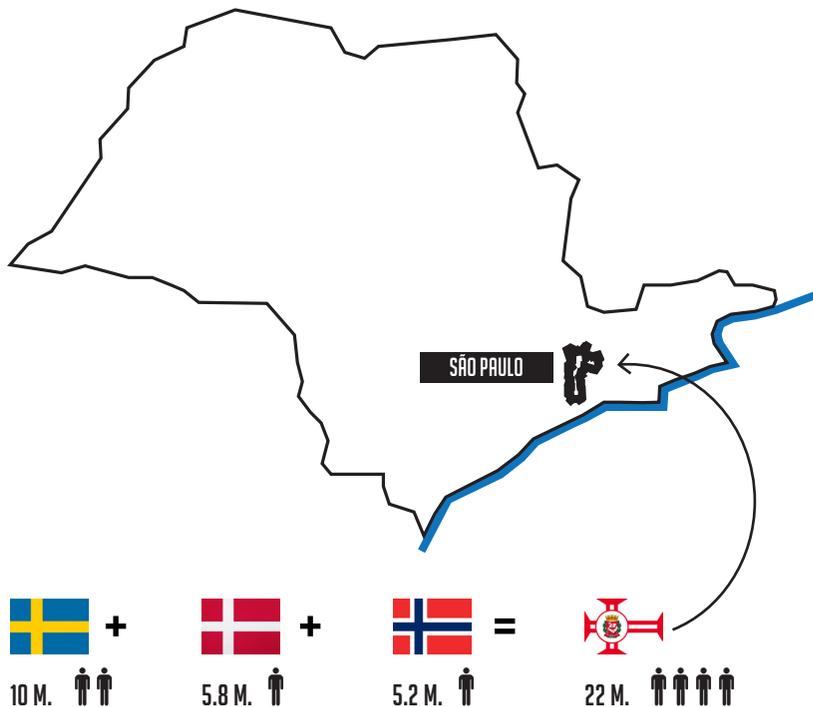
Across its land it is possible to find many types of people, landscapes, and socioeconomic situations. To be specific to the Thesis scenario, São Paulo State is the most populous, and rich state of the country. Mostly composed by European and African immigrants.

Important to notice that Brazil a certain type of social economic data , that can be compared to poor or developing countries. That figure changes when we look to São Paulo state itself. Whose social and economic indicators can be compared to some countries in Western Europe.



São Paulo city is the State capital, financial center of the country, and probably of whole South America. Urban area extends beyond the city's borders and create a huge metropolitan area, usually referred as Grande ABC. This region combines the cities of São Paulo, Santo André, São Bernardo, São Caetano and Diadema.

The metropolitan region, is home for 22million people. Just to make it a bit more graphic, that would mean that everyone in Sweden, everyone in Denmark and everyone in Norway live in the same city.



CITY OVERVIEW

Sao Paulo is a city that is very straight connected to the whole country's history, it was there where Brazil got its independence from Portugal and where most of the country's commerce was made.

In more recent times, it received large migration from all over the country, specially from norther areas, due to its economic attractively, which made the city grow from a small town, to a huge metropolis.

It also is well-known for its examples of modernist architecture, most of them using the best technology available at its time.

Nowadays the city is presents a multicultural scenario, with tons of history and time layers overlapping each other, in a very rich social and cultural landscape.



Image 03



Image 04



Image 05



Image 06

CITY AND THE SITE

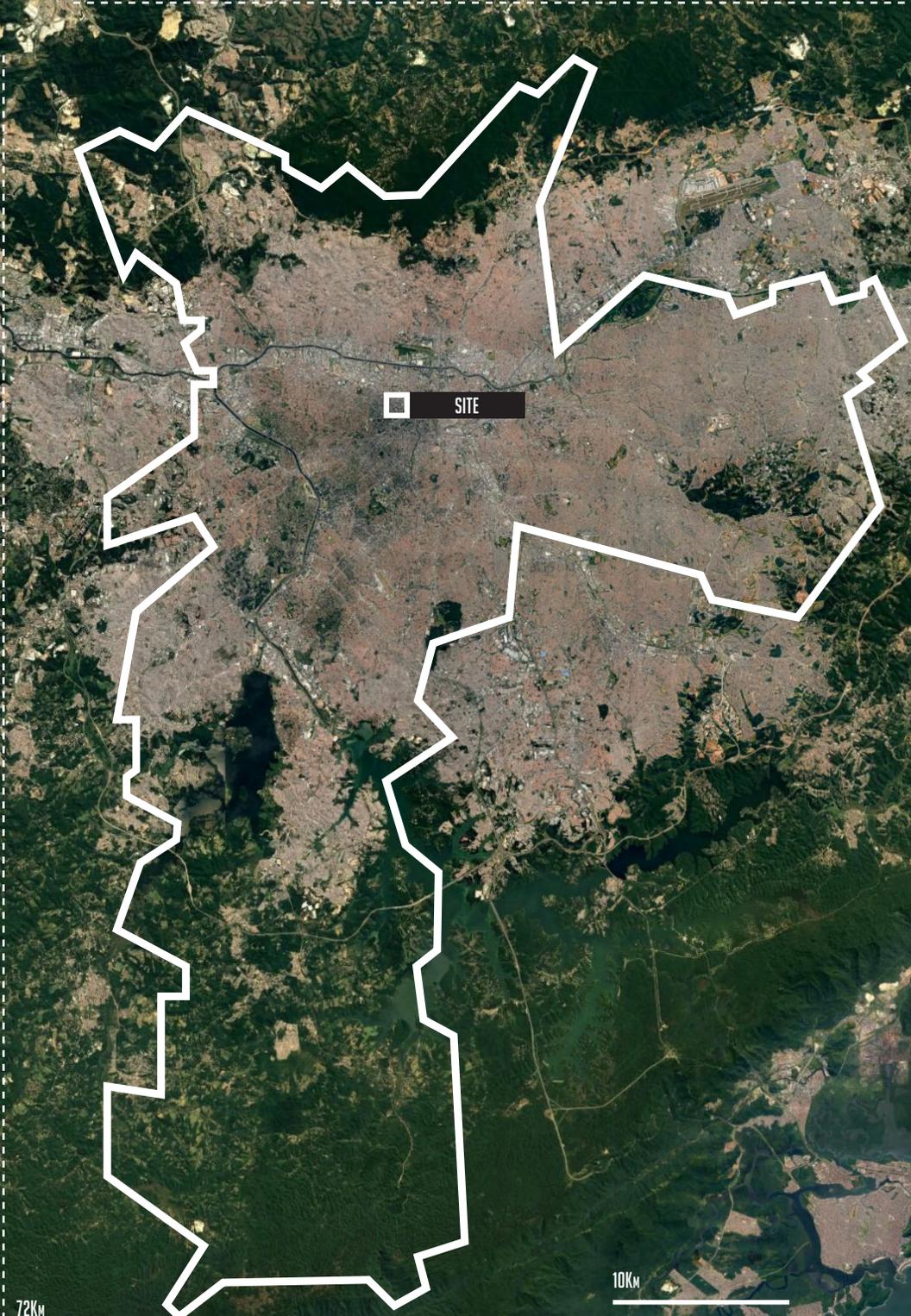
In the map, we see São Paulo's official boundaries, but the metropolitan area combine several other cities. These boundaries are impossible to notice when moving around the city, as if the city worked as one.

The site is located in a very central area, close to important road and train connections, that work both locally and that extend to the whole São Paulo State. For this reason it is a very interesting area for densification, as it is stated in the new Strategic City Plan (PDE 2014)

Due to the site location in between the highest points of the city and the rivers, it is in the way of all rainwater flow. Since the area lacks permeable surfaces, has a very old drainage system, and has mostly old buildings that can't retain or reuse rainwater, it is very common that floods occur. In addition to that, the city lacks of a clear and efficient trash collection, specially regarding recycle. It is common that many times water can't be drained due to the trash and garbage accumulated on the sidewalks and drain holes.

It is also noticeable the lack of big green spaces in the city in general, but specially in the city center. The ones existing in the area are mostly related to historical areas or not well-kept. It is culture of the city to have mostly dry plazas, or even streets that get closed on weekends in order to people to use them as leisure places.

56Km



72Km

10Km



CITY AND THE SITE

1. ROAD CONNECTIONS

City works in a radial avenue system, one of the main ones, Elevado Joao Goulart, cuts through the site.

2. RAIL CONNECTIONS

Area located next to a historically important railway station, Estacao Julio Prestes. Was responsible for the whole city center development and country connection.

3. MAIN BUS ROUTES

Area has 2 bus terminals, a train station and several metro stations, making it very well connected to the rest of the city, This makes it very attractive to and convenient to densification.

4. SIGNIFICANT BLUE AND GREEN AREAS

City is cut by 2 big rivers on north and west, noways with 6 lanes highways on each side, and has very few significant green areas in its center, and next to the site.

5. CITY CENTER AND EXPANDED AREA

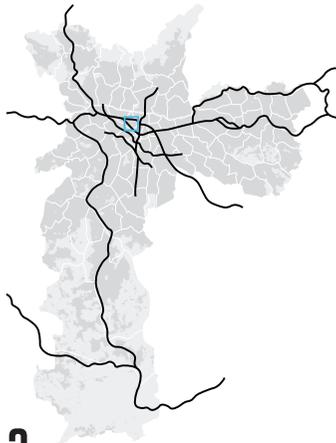
City divide itself with the historical center, in black, and the expanded center, in dark gray. Site sits just outside the historical area.

6. DISTRICTS DENSITY

Districts in black represent over 15.000 thousand inhabitants/hect. The area has a high density already nowadays. But city sees potential to increase it.



1.



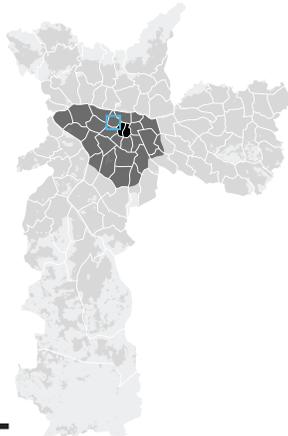
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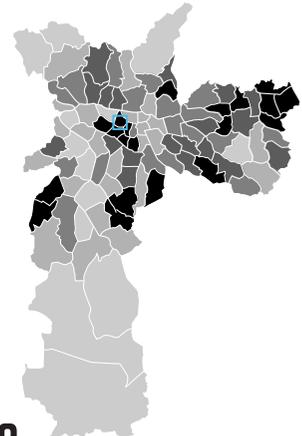
3.



4.



5.



6.





An aerial photograph of a dense urban area, likely in Brazil, showing a grid of streets and buildings. A prominent feature is a highway, the Elevado João Goulart, which is highlighted with a dashed black line. The highway runs horizontally across the upper portion of the image. The surrounding area is filled with residential and commercial buildings, with a mix of colors and textures. In the bottom left corner, there is a large, circular structure that appears to be a stadium or arena, with a green field in the center. The overall scene is a complex urban landscape.

THE SITE

The site is cut by a highway, called Elevado João Goulart, most commonly known as Minhocão. This connects to the city radial system, and is planned to become a park, with its construction starting around October 2019. And Limited by Important avenues in the region.

Since 2014 the perspective of having a new green axis in such a central area is already raising developers interest, and concern about what should be the area role to the city.

Of course the idea of having a new green axis is positive. This idea exists ever since its construction, and was constantly debated. However, the neighborhoods around it, that nowadays is home for 200 thousand people, lacks of a specific vision for the future.

It is likely that due to new regulations, the density in this area will rapidly increase, which is positive for the city, as long as it receives investments to receive all these new inhabitants.

The area has a quite lively street life, and mixed population, but that has been neglected in infrastructure and improvements ever since the highway was built. And nowadays it collects problems, many of them caused by the construction of the highway, and that won't be solved only by building a park.

As the highway park will most surely become a reality, and although not publicly know, must already have a project. The Thesis studies the will not be to design the park, but to explore how can it become a driver for change in this area close to the city center, and later to the other sections that are influenced by it.

This area, limited by important avenues in the area, and is densest and complex one, showing different characteristics from other areas cut by the park. It is not a clean slate, and it needs careful examination to find gaps on how to act, and implement change.

I believe that due to its complexity and proximity to the city center, the relation that this area will establish with the new highway park will define how the surroundings will develop.



AL. NOTHMAN

AV. RIO BRANCO

R. DAS PALMEIRAS

R. DONA VERIDIANA

AV. IPIRANGA

AV. CONSOLAÇÃO

500m

SÃO PAULO . PROJECT SITE

130 Hectars



Aprox. 200.000



Green/Built ratio
Visual estimation

500m

LUND . SWEDEN

130 Hectars

 Aprox. 30.000 - 40.000

 Green/Built ratio
Visual estimation

500m

MINHOCÃO, “THE BIG WORM”

The processes that created this region are intimate related to the Highway, making it impossible to understand and design it, without looking it in a more detailed way.

This section aims to raise some important questions that define the area, that are key to the new design.

WHY IS IT THERE?

HOW IT INFLUENCES ON THE HISTORY OF THE PLACE?

WHAT HAPPENS NOW?

WHAT WILL HAPPEN NEXT?



Image 15

SÃO PAULO
AVENUE PLAN
1930

HIGHWAY
CONSTRUCTION
1970

FIRST PEOPLE
OPENINGS
1989

STRATEGIC PLAN
UPDATE
2014

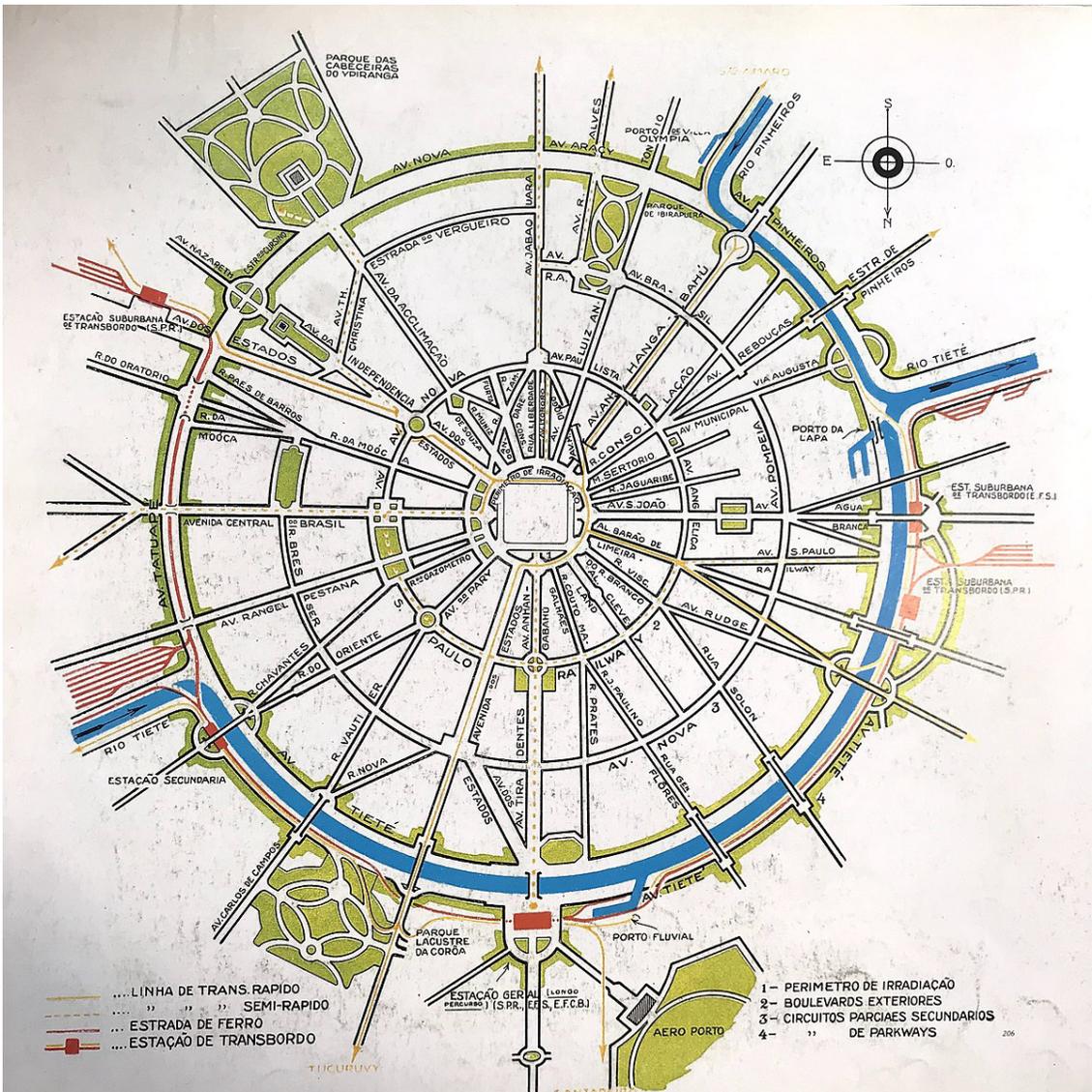


Image 16

NEW LOCAL
ACTIONS
2016

PHASE 01 PARK
CONSTRUCTION
2019

HIGHWAY HAS TO
BECOME A PARK
2030

?
2050



AVENUE PLAN

The city opted for a Radial system of avenues, based on the Paris model. This would create easy connections to the city center, and later sprawl to outside the city.

This put in priority the mobility by cars and motorized transportation, that later on led to the removal of the whole tram system of the city, and also sub utilized the train system, since most trans transportation system was substituted by trucks and buses.

It led the city to build over natural assets such as rivers, valleys, and water streams, using the topography as structural elements for the main avenues and highways. It is important to understand that at its time many of those water structures were polluted and represented treat to public health, so the construction of highways and avenues over them also put these water bodies underground.

The Minhocão Highway is a direct consequence of this plan implantation.

SÃO PAULO
AVENUE PLAN
1930

HIGHWAY
CONSTRUCTION
1970

FIRST PEOPLE
OPENINGS
1989

STRATEGIC PLAN
UPDATE
2014



NEW LOCAL
ACTIONS
2016

PHASE 01 PARK
CONSTRUCTION
2019

HIGHWAY HAS TO
BECOME A PARK
2030

?
2050

On the images it is possible to notice the tram lines where we later see the highway. Also, important to note the proximity between the highway and the buildings, sometimes reaching less than 5 meters, and raised around 6 meters from the ground.

It created a very noisy, shaded and dangerous area, almost freezing the area developments.

Ever since it was built it raised discussions about its existence and what to do with it. Soon after it came, it started to have the car traffic stopped on the weekends and open for people, situation that still present today.

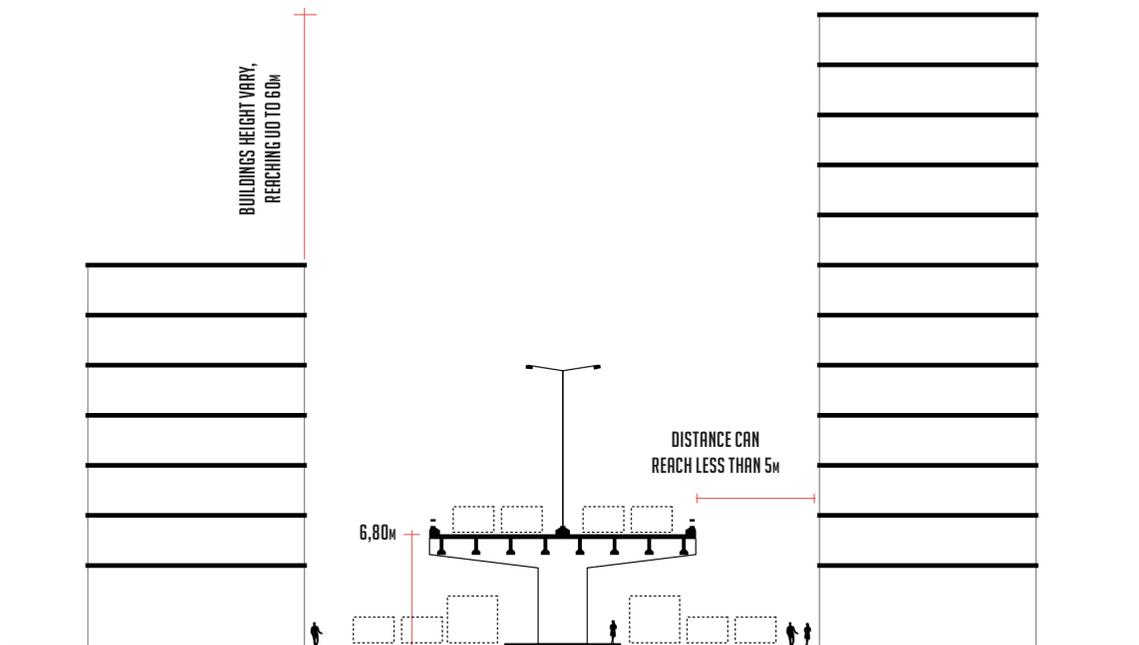


Image 18

SÃO PAULO
AVENUE PLAN
1930

HIGHWAY
CONSTRUCTION
1970

FIRST PEOPLE
OPENINGS
1989

STRATEGIC PLAN
UPDATE
2014

WORKING DAYS



NEW LOCAL
ACTIONS
2016

PHASE 01 PARK
CONSTRUCTION
2019

HIGHWAY HAS TO
BECOME A PARK
2030

?
2050



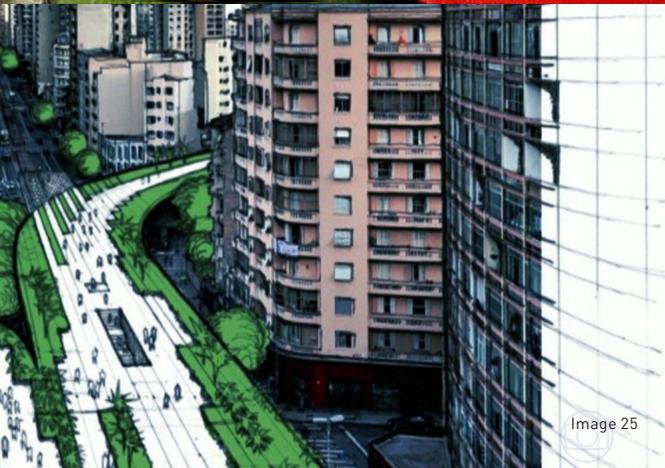
Image 20

SÃO PAULO
AVENUE PLAN
1930

HIGHWAY
CONSTRUCTION
1970

FIRST PEOPLE
OPENINGS
1989

STRATEGIC PLAN
UPDATE
2014



NEW LOCAL
ACTIONS
2016

PHASE 01 PARK
CONSTRUCTION
2019

HIGHWAY HAS TO
BECOME A PARK
2030

?
2050



DISCUSSION AND IDEAS

KEEP AS IT IS?

DESTROY?

TURN INTO A PARK?

SÃO PAULO
AVENUE PLAN
1930

HIGHWAY
CONSTRUCTION
1970

FIRST PEOPLE
OPENINGS
1989

STRATEGIC PLAN
UPDATE
2014



Plano Diretor Estratégico do Município de São Paulo

Lei nº 16.050, de 31 de julho de 2014

Texto da lei ilustrado

Image 27



DISCUSSION AND IDEAS

~~KEEP AS IT IS?~~

~~DESTROY?~~

TURN INTO A PARK.

In 2014, the city approved the new Strategic Plan that changed how the area and the highway should evolve.

Among with new regulations, that allow higher buildings, and more densification around main transportation nodes, it also created a law that the Highway should be turned into a park by 2030, but without specifying any specific date for it to happen, or even a strategy plan on how to do it.

This instantly changed the scenario, and is attracting many new developments to the area. It raised concern around what should happen to the neighborhood when the park is done.

SÃO PAULO
AVENUE PLAN
1930

HIGHWAY
CONSTRUCTION
1970

FIRST PEOPLE
OPENINGS
1989

STRATEGIC PLAN
UPDATE
2014

Around 2016 the area really kicked off as a cultural axis, and started to demonstrate huge potential to change in the area.

Some area problems, such as the lack of quality public space, lack of greenery, and the ugliness of the blank building facades, that dominate the area, started to receive interventions. These interventions are key to understand the need for a development plan in the area.

Most of them now are presenting fails or can't sustain themselves. The vertical gardens, made as a partnership between building residents, private companies and the Municipality, are nowadays abandoned, due to lack of resources for maintenance. Some have already been taken out. And the graffitties, that divided the public opinion ever since they came to the area, are also suffering from similar problems.

The park now is facing overcrowded situations, and more than once had to be closed due to safety risks.

Interventions are very focal on the Highway itself, and do little to structure the surrounding neighborhood.

NEW LOCAL
ACTIONS
2016

PHASE 01 PARK
CONSTRUCTION
2019

HIGHWAY HAS TO
BECOME A PARK
2030

?
2050



SÃO PAULO
AVENUE PLAN
1930

HIGHWAY
CONSTRUCTION
1970

FIRST PEOPLE
OPENINGS
1989

STRATEGIC PLAN
UPDATE
2014

Recently the city announced the construction of a Phase 1 Highway park, or as it is known, Parque Minhocão. So far only a few hand sketches were released to the press, and they do not explain in details what the new characteristics Minhocão will gain.

Of course, it immediately brings the thought of the Highline in New York, many times referred by the city as the main reference for the future park.

That raises some questions regarding the current occupation of the Highway, its new uses and how can the city benefit from it? What are the gaps in which we can act, to improve the region?

The Highway nowadays has a very particular identity, although it can sound weird, the fact that it is little or not designed at all, allow it to adapt and change its uses. If the city should follow the Highline guidelines, biking, events, sports and other people initiated activities might disappear, and the very reason that made this place a cultural axis, might need a new place to happen.

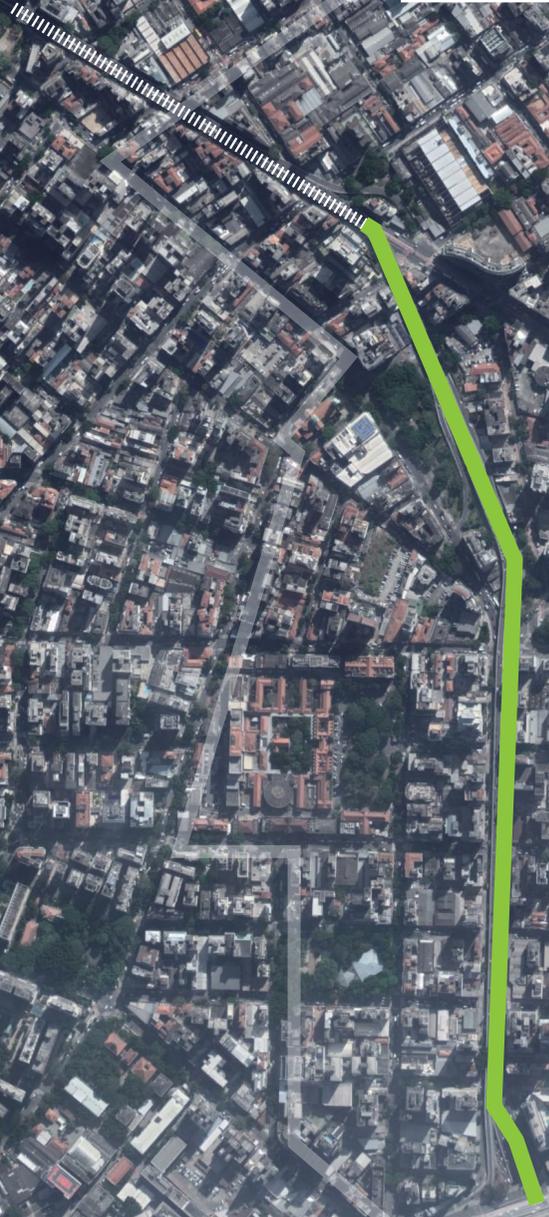
More than the new park itself, the high demand for spaces can be a huge potential and driver of change in the area, specially if the density will increase.

NEW LOCAL
ACTIONS
2016

PHASE 01 PARK
CONSTRUCTION
2019

HIGHWAY HAS TO
BECOME A PARK
2030

?
2050



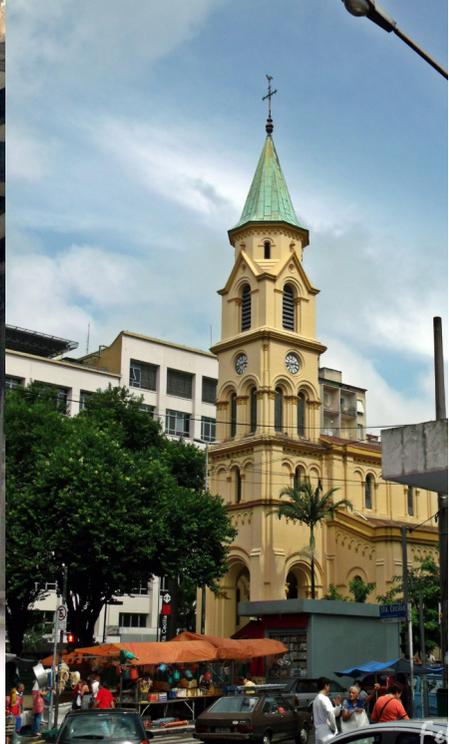


A PATCH OF INFLUENCES

Now that we know the importance of the Highway to the area, it's time to remember that it is not the main object of study, but the surrounding region, and the system of relation it can establish with the city and future developments next to it.

Since the area became very unattractive since the construction of the Highway, it never fully developed or acquired a very specific identity as did the surrounding areas. It instead became a patchwork of its surrounding areas, receiving influences from it.

A plan developed for this area should be able to gather each different area the best qualities and use them to fix its downsides. It also should be a build up on the city 2014 Strategic Plan, which established good urbanization parameters but are very general and don't consider some very specific problems this area faces.





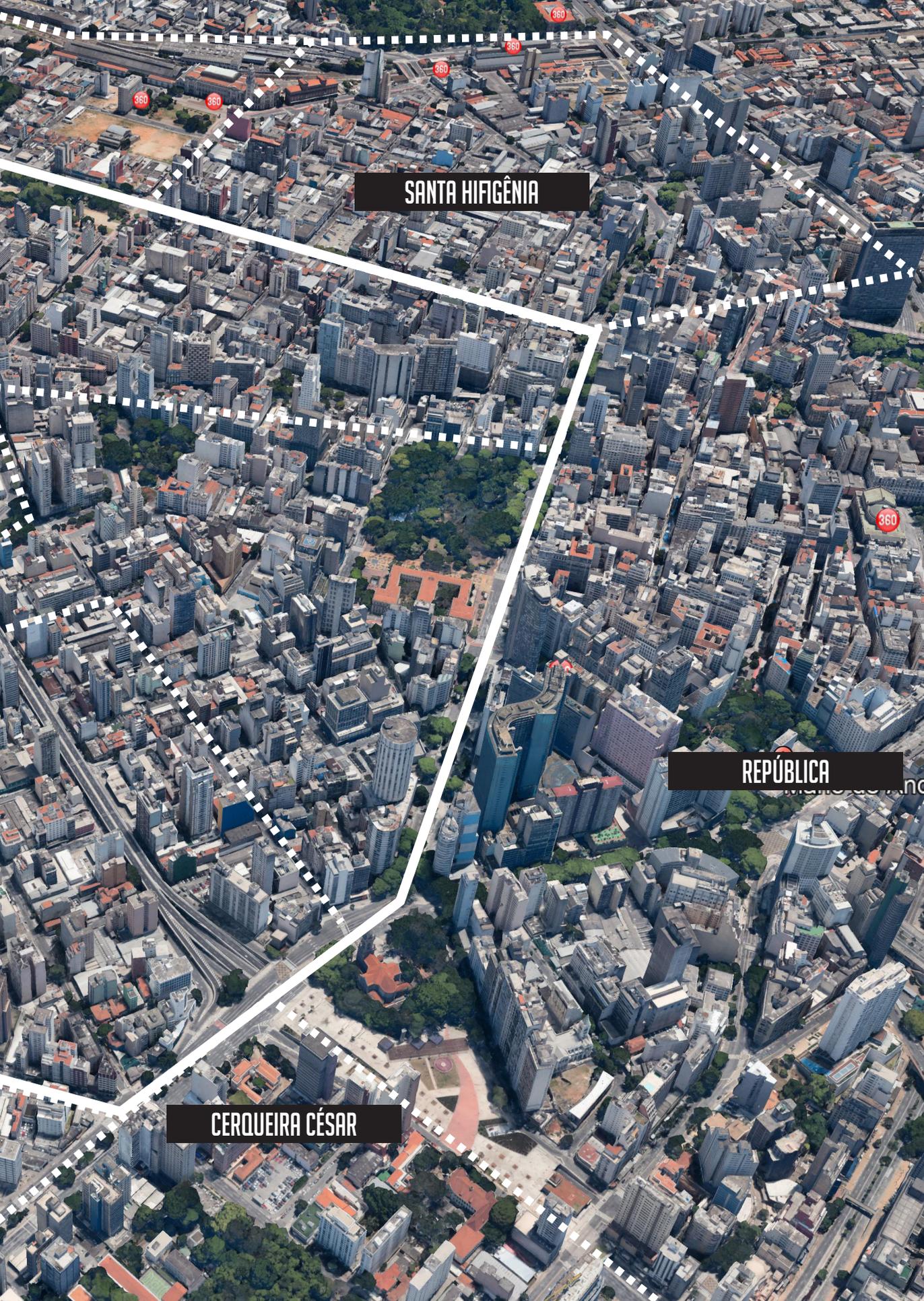
BARRA FUNDA

CAMPOS ELÍSEOS

SANTA CECÍLIA

VILA BUARQUE

HIGIENÓPOLIS



SANTA HIFIGÊNIA

REPÚBLICA

CERQUEIRA CÉSAR

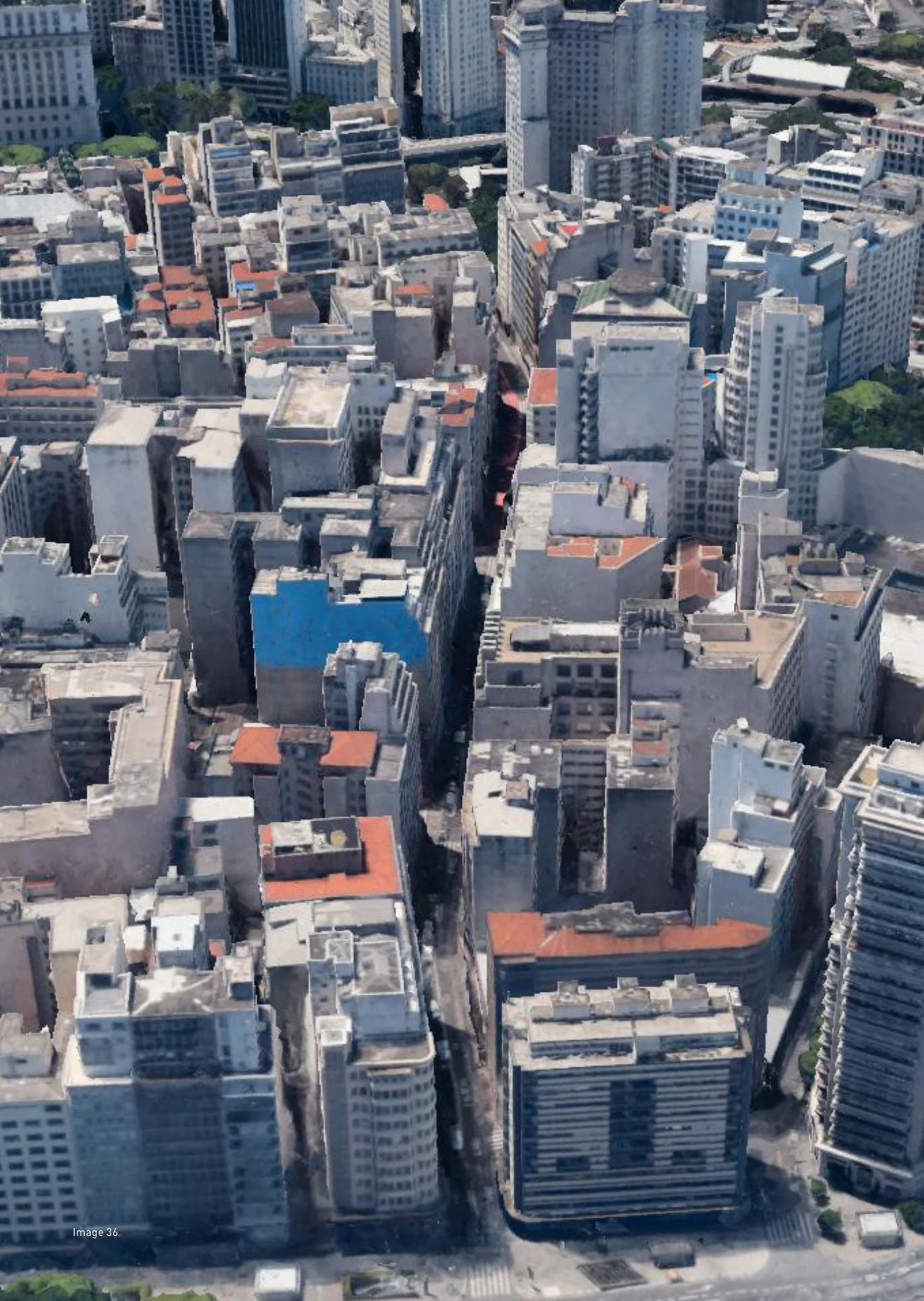


Image 36.

REPÚBLICA

To the East side of the study site we find the República area, is known as part of the historical city center. "Centro Novo" or new city center area, has as a recognizable and famous identity in the city.

The area presents big blocks with buildings attached to each other, as if they were forming a courtyard. During time the inner part of the block was almost completely filled with construction.

A big part of this neighborhood is closed for cars and destined only for pedestrians and street commerce. It creates a very lively and dynamic city life, filled with restaurants, shops and stands, along with a system of shop galleries that cut through the blocks.

Most of cities public buildings, as the city hall and departments also are around this area.

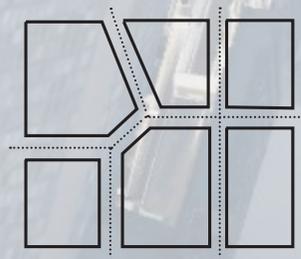




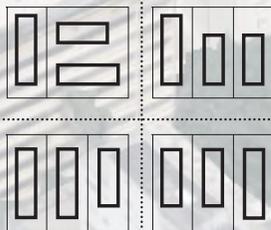
Image 37

HIGIENÓPOLIS

Resembling the word Hygiene. This neighborhood was built in opposition to the bad condition of the city on its time, around 1960s. Many buildings are excellent examples of the modernist thinking, with contributions from architects all over the world.

The blocks are big with buildings detached from each other, as if they were sculptures in the middle of the plot. This type of construction are the most commonly seen even nowadays in the city.

It is known to have wide streets and sidewalks, pleasant to walk with plenty of greenery. Mainly a residential area with some small pockets of commerce.



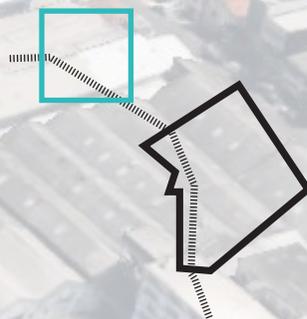
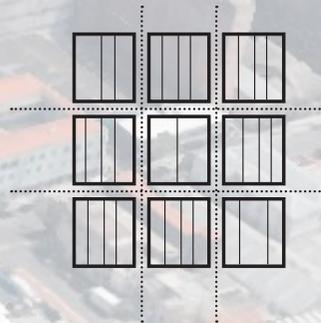


CAMPOS ELÍSEOS

The first planned neighborhood of the city, was home of many coffee barons at its time, many of those resist even nowadays the changes of time, mostly due to private initiatives that see potential in the preservation of those structures.

It is also possible to find many warehouses and deposits used to store goods coming from the countryside. The railroad combined with the Highway contributed to the stagnation of the regions development.

Nowadays is a dangerous neighborhood, due to a drug problem in the city, and illegal electronics commerce. But still is one of the few places close to the city center where you can still see the old mood of the city, where kids play in the streets and neighbor put the chairs on the sidewalk to chat with each other.

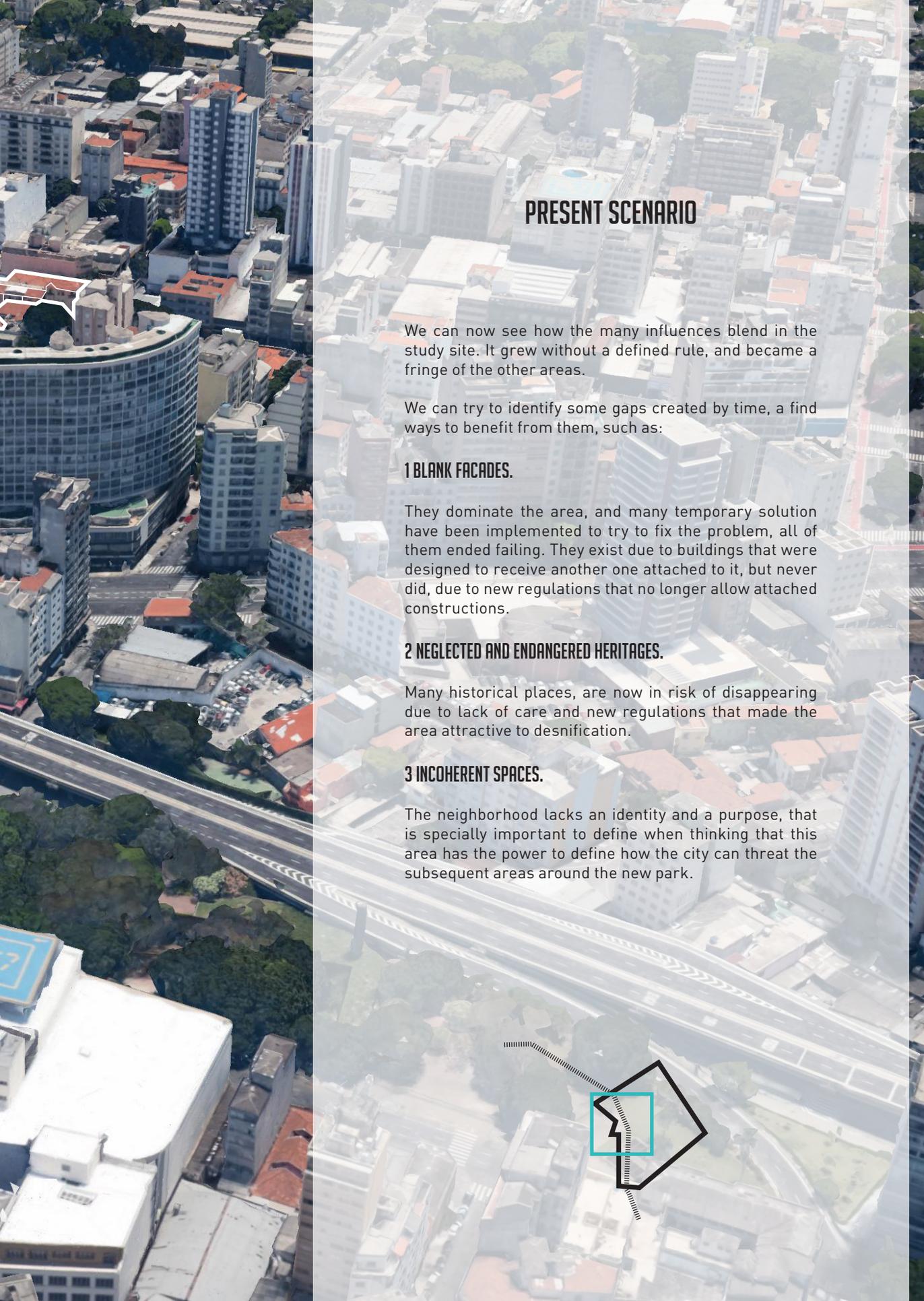




2

1

3



PRESENT SCENARIO

We can now see how the many influences blend in the study site. It grew without a defined rule, and became a fringe of the other areas.

We can try to identify some gaps created by time, a find ways to benefit from them, such as:

1 BLANK FACADES.

They dominate the area, and many temporary solution have been implemented to try to fix the problem, all of them ended failing. They exist due to buildings that were designed to receive another one attached to it, but never did, due to new regulations that no longer allow attached constructions.

2 NEGLECTED AND ENDANGERED HERITAGES.

Many historical places, are now in risk of disappearing due to lack of care and new regulations that made the area attractive to desnification.

3 INCOHERENT SPACES.

The neighborhood lacks an identity and a purpose, that is specially important to define when thinking that this area has the power to define how the city can threat the subsequent areas around the new park.





Image 40



DETAILED LOOK

In order to get a more pragmatic look on what is actually on the neighborhood, it is interesting to highlight some areas and local conditions.

The place has huge potential as a cultural area, not only due to the highway, but its historical related squares constructions and street commerce. Open fairs and markets that use the street on day of the week, have been losing space due to busy traffic.

It is also easy to notice how the latest developments in the area happened. The small houses that still exist in the area will quickly vanish and become buildings. Of course, in a central area like this, the houses that have no historical meaning should give them space. They create gaps where new buildings can appear a give new identity to the area. As a parameter, by observing how real state development happens in the city, some guidelines can be established to identify which areas are likely to develop.

As parameters, we will read every single family house, warehouse, abandoned areas, single floor parking lots and small building up to 5 floors as a potential to develop.

The area is also very well-connected to the whole site transportation system, with the addition to the historical city center pedestrian area. In the latest years the city is shifting some of its investments in motorized vehicles, and directing them to pedestrian and bicycle structures, as part of a new mobility strategy. As it shows on the latest commuting research, 1/3 of all cities commute is made exclusively on foot. And people using Bus or Subway system also use the sidewalks and streets during daily trips.

The city has also experimented gain of property value and street commerce in areas with pedestrian infrastructures, are they temporary or permanent. In this area it can be a way to connect the adjacent neighborhoods to Minhocão park. It also open a new gap, since space for infrastructure development is so difficult in this area, turning streets into pedestrian alleys may allow the Municipality to implement new public services.

It is important to identify which streets can or should be turned into pedestrian places, and which one are important to the movement inside and across the study site.



1 SANTA CECÍLIA CHURCH

Image 41



2 PRINCESA ISABEL SQUARE

Image 42



3 REPÚBLICA SQUARE

Image 43



4 LUZ TRAIN STATION

Image 44

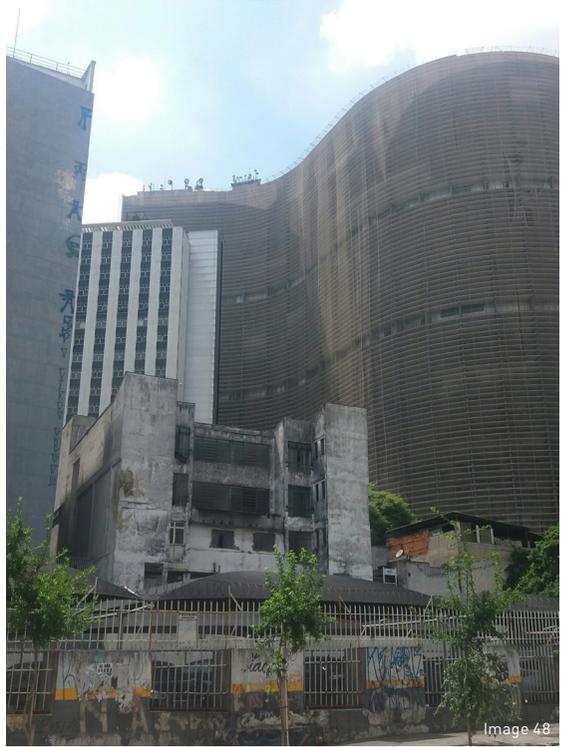


5 HISTORICAL HERITAGE (PLACES WORTH PRESERVING)

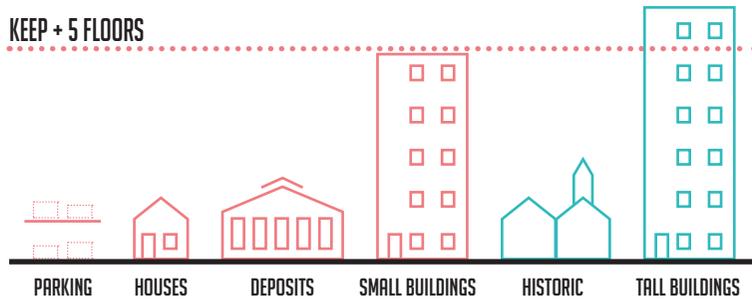
Image 45



MAIN GREEN AND CULTURAL PLACES



KEEP + 5 FLOORS





POSSIBLE TO TEAR DOWN
ACCORDING TO PREVIOUS PARAMETERS

BUILDING POTENTIAL



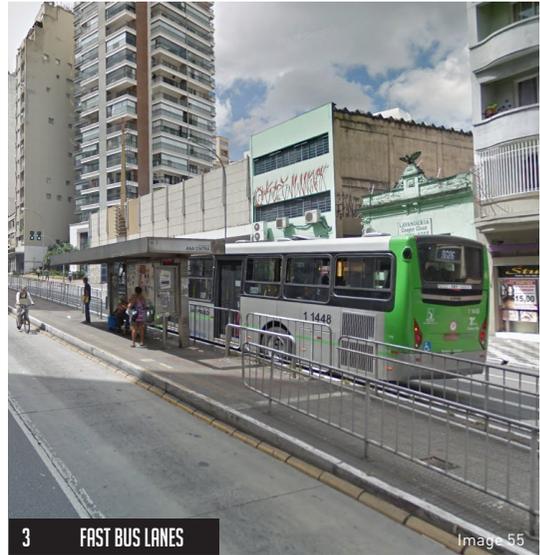
1 PEDESTRIAN AREAS

Image 53



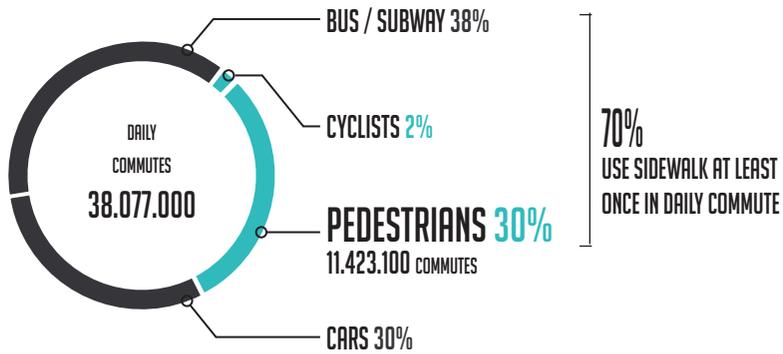
2 CICLE LANES

Image 54



3 FAST BUS LANES

Image 55





MOBILITY AND CONECTIONS

Image 57



1 WATER ON THE HIGHWAY

Image 58



2 WATER ON THE HIGHWAY

Image 60



4 WATER RUNOFF

Image 61



3 WATER UNDER THE HIGHWAY

Image 59



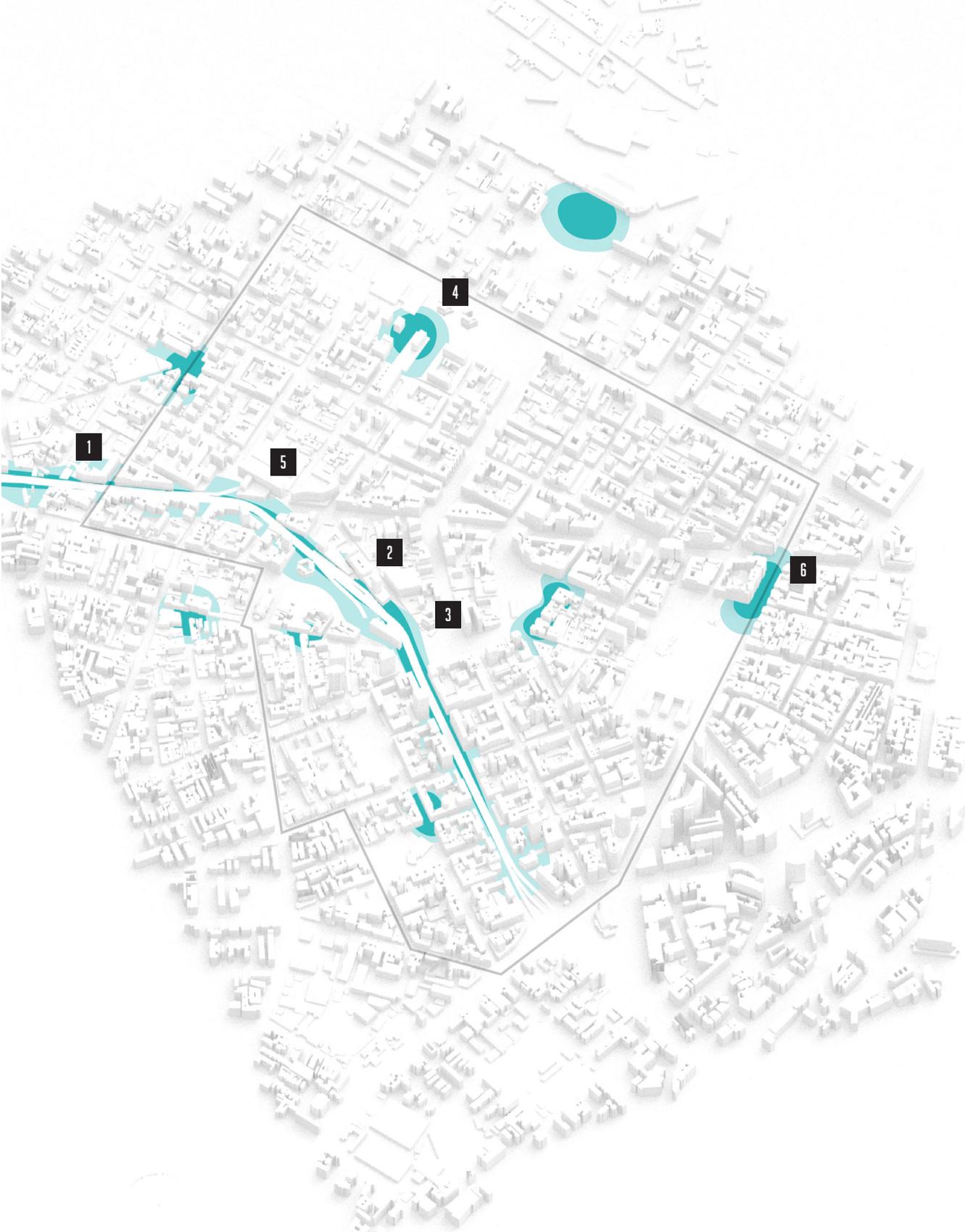
5 WATER UNDER THE HIGHWAY

Image 62



6 CLOGGED DRAINS

Image 63



COMMON FLOODING AREAS

GOALS.AND.VISION

2

ACTIVE AND COHERENT

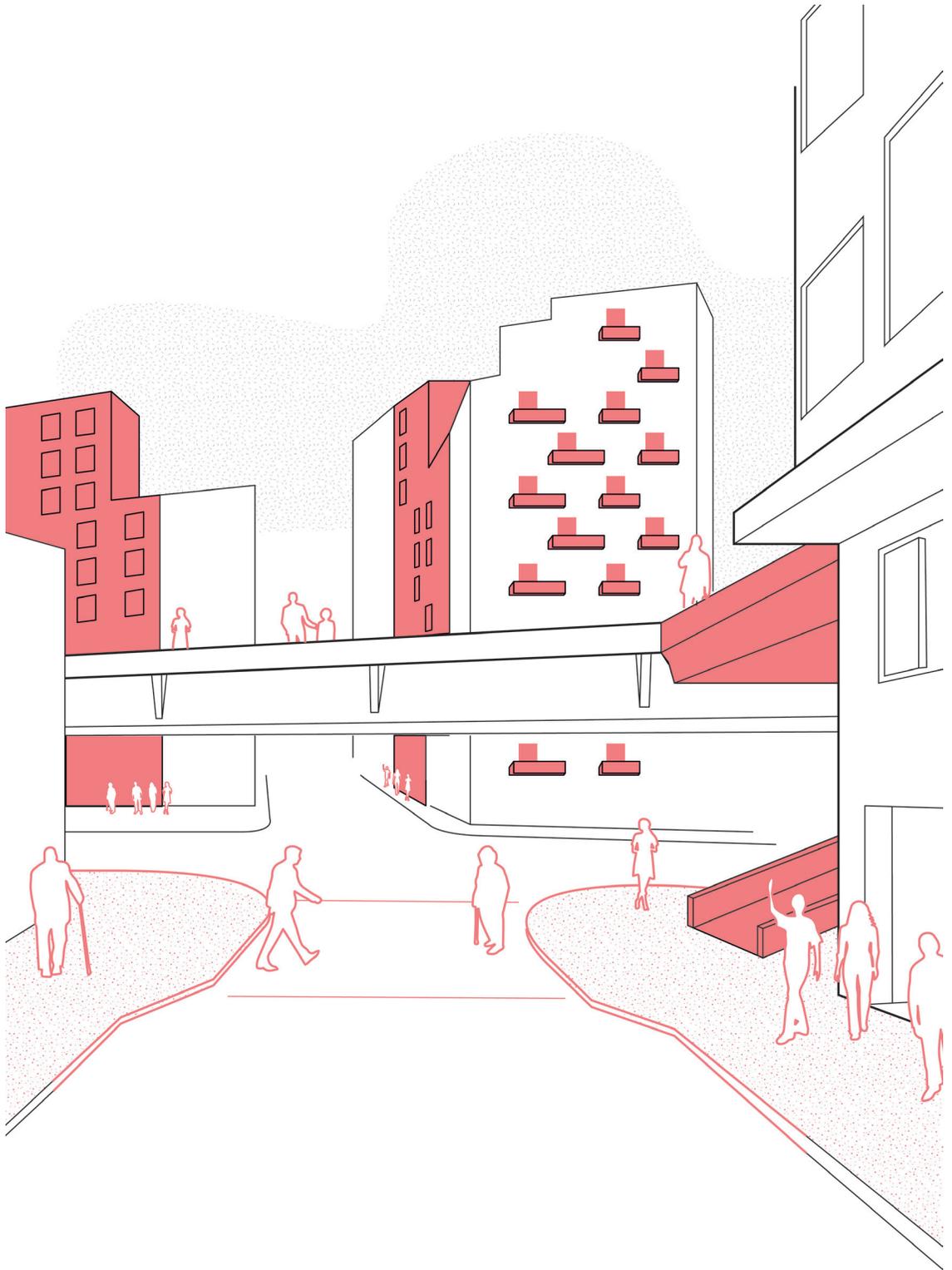
We could see that the area is formed in an unorganized way, and face many problems that won't be solved only with the construction of the new park. But the park can play an important structuring new developments in the site.

Along with the Highway, the area became unattractive to build because many plots are impossible task. They are too small to preserve the required distances from other buildings, keep permeable area, and still be profitable. Those regulations might be important as a general rule in the city, but in an area where they became a predominant problem, should be dealt differently and facilitate new constructions.

The same apply to facades next to preserved areas, maybe allowing the buildings to activate and use its facade, is more interesting than having a huge blank and unattractive facade.

In the long term it will also be interesting to reduce car traffic and usage in the site. The city center pedestrian experience is a success, and the area can hugely benefit from its proximity and easy connection.

Determining main routes where buildings could be higher and huge parking lots, can free the small streets from public parking and allow more space for people. And combine with those routes the main connections to the new Minhocão Park, can help structure people flow in the area.



GREEN AND RESPONSIBLE

The area lack of greenery in general, and when present, it is many times fenced, inaccessible and miss cared.

The new park will bring a lot of nature to the area, but it shouldn't be the only one, specially since it is detached from the ground floor. It can't, for example, take efficient care of rainwater and fight against the floods.

Nature should be part of the daily life, and specially in a sunny and warm city as São Paulo, it can play an important role protecting from the sun, and give pleasant shaded areas.

The Higienópolis example can easily be combined with República, mixing both pedestrian alleys with street greenery, and give to the site a new feature and link important areas.

Connecting areas and turning them into pedestrian spaces will extend the Minhocão park to the ground floor, and make it even richer. The park would be a more contemplative and relaxing space, while the ground floor can be a safe space where daily life and activities can take place.

Street greenery can also help to deal with rainwater floods and runoff, by dealing the water, reserving and reusing it. New pedestrian alleys can give the opportunity to implement new drainage systems in an area where space is hard to find.

Neighborhood systems of trash collections can also be implemented in the alleys, commerce and buildings that nowadays leave the trash outside the door, could bring it to local collection spots, with simple and efficient routes.



FINANCIALY SUSTAINABLE

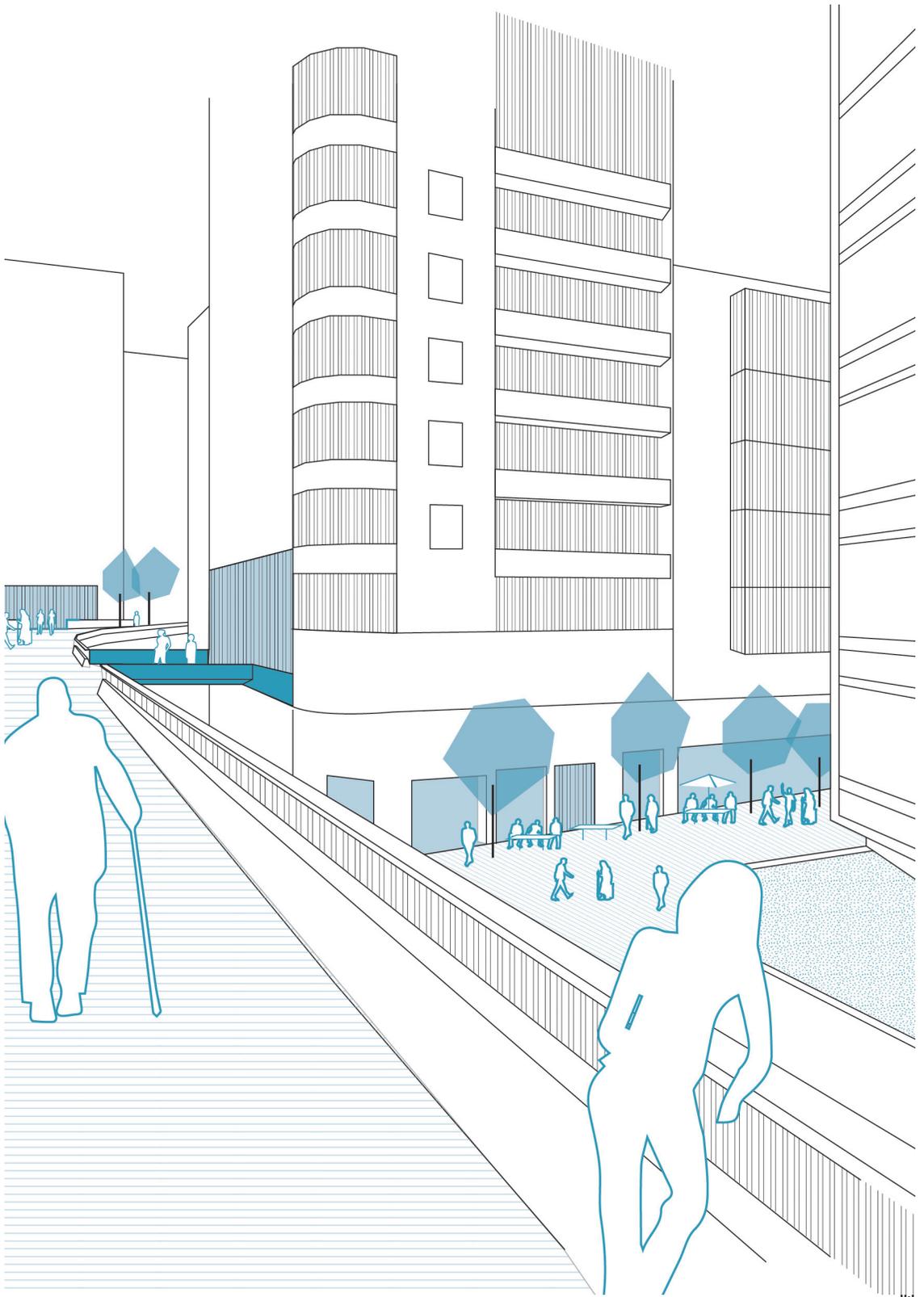
Financing and keeping new city infrastructure has been a challenge for years in the city. All the potential the Minhocão park will bring should be harnessed and directed in a way that people benefiting from it, give something back to the city.

New buildings, and even existing ones could connect to Minhocão Park and open cafes and shops. Since they benefit from the park flow, they will pay a monthly tax to keep the connection, and help finance the area maintenance.

A similar situation would happen in the streets, new pedestrian areas that can host fairs and markets, traditional in the city, could as well benefit financially.

The neighborhood has a huge asset nowadays, even through the worst financial crises in recent times, it kept most of its commerce alive. Most probably due to the mixed character of the area, it is important to ensure that the new developments will preserve and enhance it.

Inactive and miss cared Squares that already exist in the area give a bad impression of the area. As the region will become more populous, they will surely become more used, but still need to be renovated. Public concessions to companies could help to activate and renovate these areas, along with solving some specific problems of each of them.



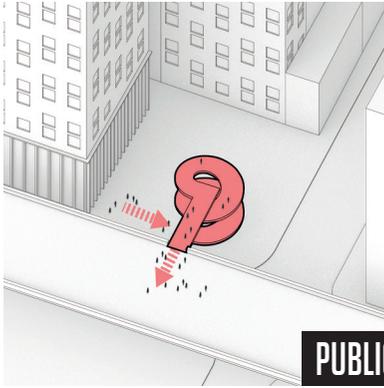
STRATEGIES

3

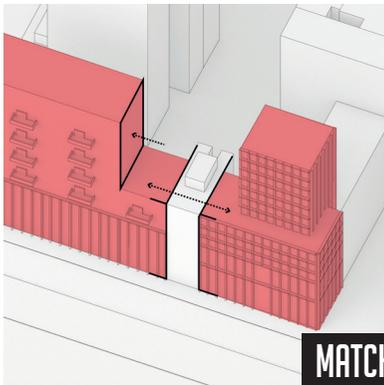
TOOLBOX STUDY

Potentials and issues found so far, can be tackled in many different ways, and combined to create efficient solutions to the area. In this section, we take a separate look at some of them.

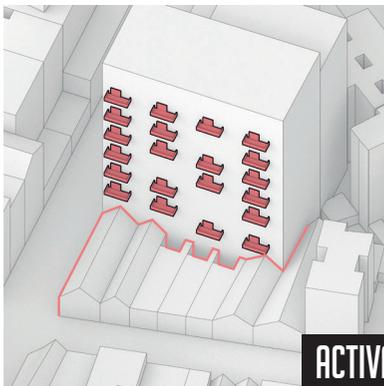
This tools, will be combined and spread over the whole study site and result in more complex solution. But trying to separate them by functions and relating them to the previous goals, help to understand what they aim for.



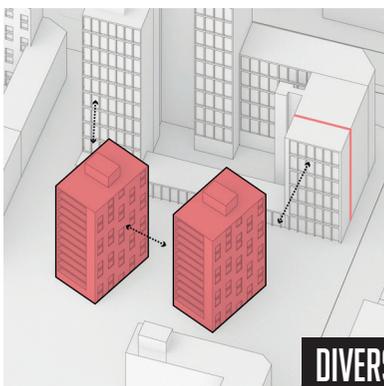
Find ways to connect the ground floor and the new highway park. Many forms can appear, they can be treated as landmarks and should relate and be placed to organize people floor on ground floor.



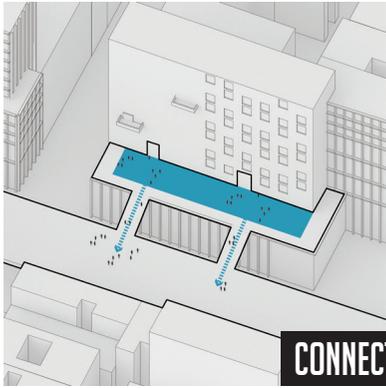
Every time possible, black facades should be matched, and never create new ones. Once the existing facade is met, a setback should come to give space for ventilation and light.



When a blank facade is next to protected buildings, and therefore the facade won't be matched, it can be allowed for the residents to open windows and use the facade.

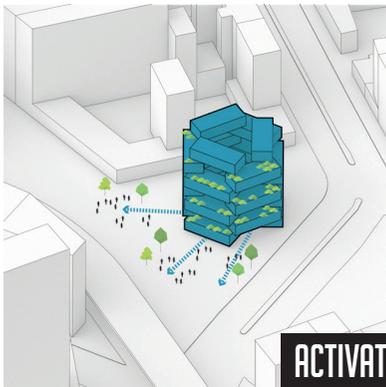


If new constructions are not matching an existing facade, they will have more freedom of shape, standalone towers are the most common typology for the region, and can also have their space.



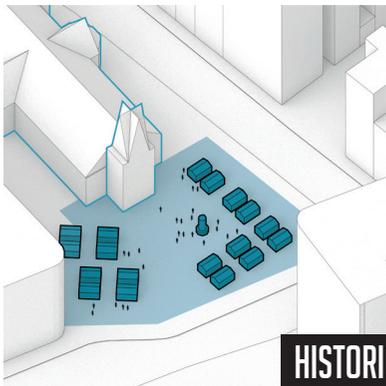
New and existing buildings can put light bridges and benefit from the new park flow. As counterpart, they should pay a rent for the right to connect.

CONNECT TO MINHOCÃO



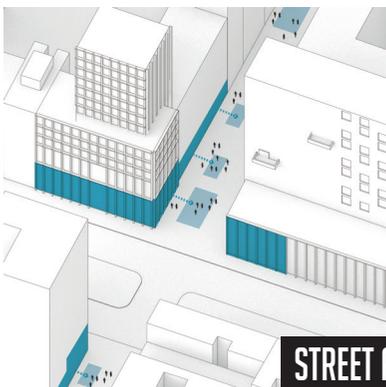
New structures can help activate existing places that are abandoned, with lack of care, or without maintenance.

ACTIVATE WITH NEW USES



Explore potential of historical places and uses. Churches and historic squares, they can recover some of their functions, it is an opportunity for the city to allow small commerce and local fairs to appear.

HISTORICAL POTENTIAL



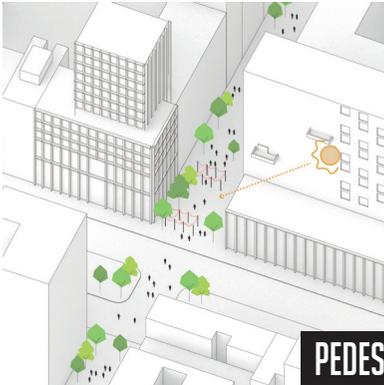
Bars, shops or any commerce can have huge benefit from pedestrian streets, they can rent the right to use part of public space for their business.

STREET AS BUSINESS ASSET



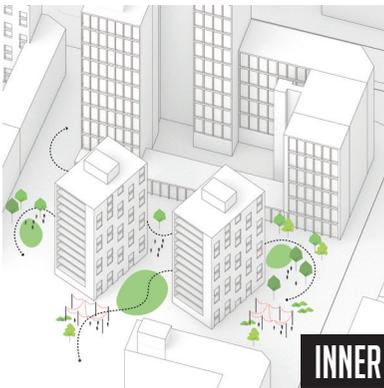
SETBACK SQUARES

Take every opportunity to give space to public. It is preferable that buildings open public space, specially in corners. Many of the corners in the area are dangerous for pedestrians, due to lack of visibility and bad design. Corner squares should help to solve this issue.



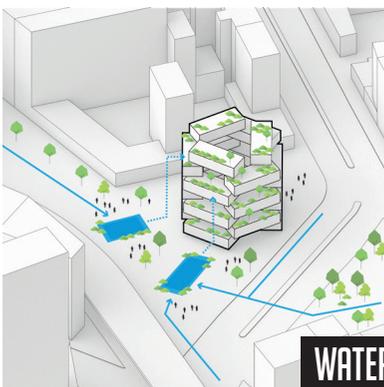
PEDESTRIAN ALLEYS

Create green streets, making the walking activity a pleasant part of daily life in the are. Trees and greenery can help with water retention, and improve the microclimate.



INNER BLOCK AREAS

Open blocks allow variation in public areas, putting people away from busy streets noises. They are also an opportunity to improve access to green areas.



WATER SYSTEM

Retain rainwater, and reuse them to local greenery, cleaning and new greenhouse structures.

PHASING THE DEVELOPMENT

The area does not belong to a single owner or company, but to several, creating a very complex system to manage, how can the area be structured and guided?

The municipality could, of course, buy all properties and sell back to developers or develop it on its own. That is not a common practice and due to its complexity is unlikely to happen. However, the municipality has the power to put limits, restrict uses, and change regulations that can guide the area towards new goals. In this case, these regulations will play an important role.

In this case, structure the development through time can help the city to get the best of the area, and also give flexibility to adapt to future challenges through the implementation process.

This kind of specific intervention, is described and regulated in the 2014 Strategic plan. Which comprehends that some places with specific characteristics or challenges can have a more detailed plan, and not follow all the general rules of the city.

The importance of phasing also becomes clear when we think about financing the new development. Exploring the area commerce potential, and profit from it, will help the financing as the phases evolve.

It is also interesting in the planning, to set specific places where new cultural areas can appear, since they will be fundamental to structure the people flow and life in the neighborhood.

SÃO PAULO
AVENUE PLAN
1930

HIGHWAY
CONSTRUCTION
1970

FIRST PEOPLE
OPENINGS
1989

STRATEGIC PLAN
UPDATE
2014



NEW LOCAL
ACTIONS
2016

PHASE 01 PARK
CONSTRUCTION
2019

HIGHWAY HAS TO
BECOME A PARK
2030

?
2050



PHASE 1. MAIN STRUCTURE

IMEDIATE START



- MAIN STRUCTURAL STREETS
- HERITAGE TO PRESERVE
- SECURE KEY PLACES
- BUILDINGS TO DEVELOP
- PARQUE MINHOCÃO

The first action to take is to set the rules on how the new buildings should develop.

Along the main structural streets, where bussus and more instense traffic is located, is preferable to locate offices and parking buildings. They can also be the tallest ones.

All the historically significant constructions should be protected, and key ares for the future routes must the aquired by the municipality.

In this phase, existing and new buildings can start to connect to the highway for bars cafes and shops. They can happen at the same time as the park is constructed.

The right to connect to the park will start to generate money already in this stage.

PHASE 2. ACTIVATE

1-5 YEARS



-  MINHOÇÃO PARK FINISH (FIRST PART)
-  NEW PUBLIC SQUARES
-  PUBLIC CONNECTION TO THE PARK
-  NEW BUILDINGS

As the first section of the park is finished, new connection on the main routes should improve its relation to the ground floor.

A network of small neighborhood squares, located mainly on corners will provide green pockets on busy areas and will further be connected to the area water retention system.

The park should now be a permanent green area, and this small squares can start to host small events and local markets.

PHASE 3. CONNECT

5 - 10 YEARS



-  NEW PEDESTRIAN ROUTES
-  PUBLIC SQUARES
-  EXISTING PEDESTRIAN AREA
-  NEW BUILDINGS
-  CULTURAL PLACES
-  PUBLIC CONNECTION TO THE PARK

The pedestrian routes start to be implemented, at first they can be closed only during weekends, but should further move to a definitive intervention. Through them, the pedestrian area in the city center, the local cultural heritage, existing squares and the Minhocão Park should have a safe and green connection.

It should be an area where people can go to walk, or shop, without bothered by cars. Nature will also bring confort as it created a fresher and shaded area from the sun.

In these routes all the water retention and recycling routes will also be installed. they should works as a logic system and must plan for further expansion.

As the new section of Minhocão park should start to be planned, a cultural center will take place in the connection of the 2 sections.

PHASE 4. EXPAND

+ 10 YEARS



AXO 3

- EXPANSION OF INFRASTRUCTURE
- PEDESTRIAN AREAS
- NEW BUILDINGS / PUBLIC SQUARE GREENHOUSES

In the final phase, as all the main and new public structures are finished, parts of the area can start to become big pedestrian blocks, and the city center, and not only alleys.

The existing squares that are misscared and lack maintenance will start to be renewed, and given new purpose, maybe even starting some economic activity as local greenhouses.

Adjacent areas that will benefit from the site development will start to connect and be part of the pedestrian and infrastructure network.

D E S I G N

4

5TH FACADE

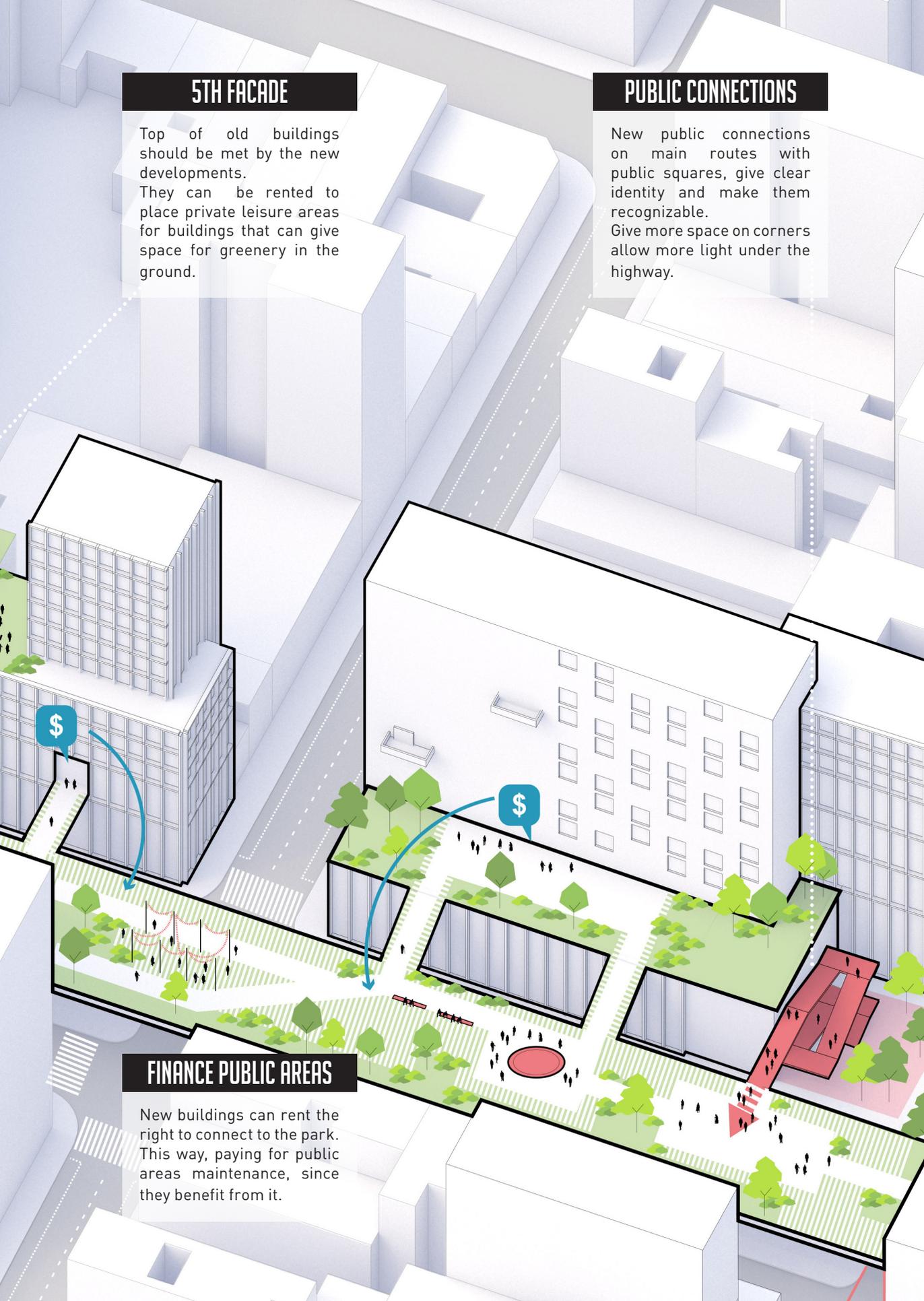
Top of old buildings should be met by the new developments. They can be rented to place private leisure areas for buildings that can give space for greenery in the ground.

PUBLIC CONNECTIONS

New public connections on main routes with public squares, give clear identity and make them recognizable. Give more space on corners allow more light under the highway.

FINANCE PUBLIC AREAS

New buildings can rent the right to connect to the park. This way, paying for public areas maintenance, since they benefit from it.



AXO 2 - CULTURAL LINKS

AUXILIAR STREETS

Side streets, that will not be turned into pedestrian areas should allow local mobility, with parking spots, and reduced speed.

CULTURAL AREAS

Protected buildings along the link will play a role as cultural hubs



PEDESTRIAN STRUCTURES

New link give a safe area to walk and will add a layer to the new Minhocão park. Local infrastructures like water retention, recycling areas and greenery should follow along.

PERMEABLE AREAS

Buildings with no space for permeable ground floor should, as a counterpart, help finance local greenery and new public structures.

WATER RETENTION

Existing squares and parking spots should be transformed to work as part as a water retention system.



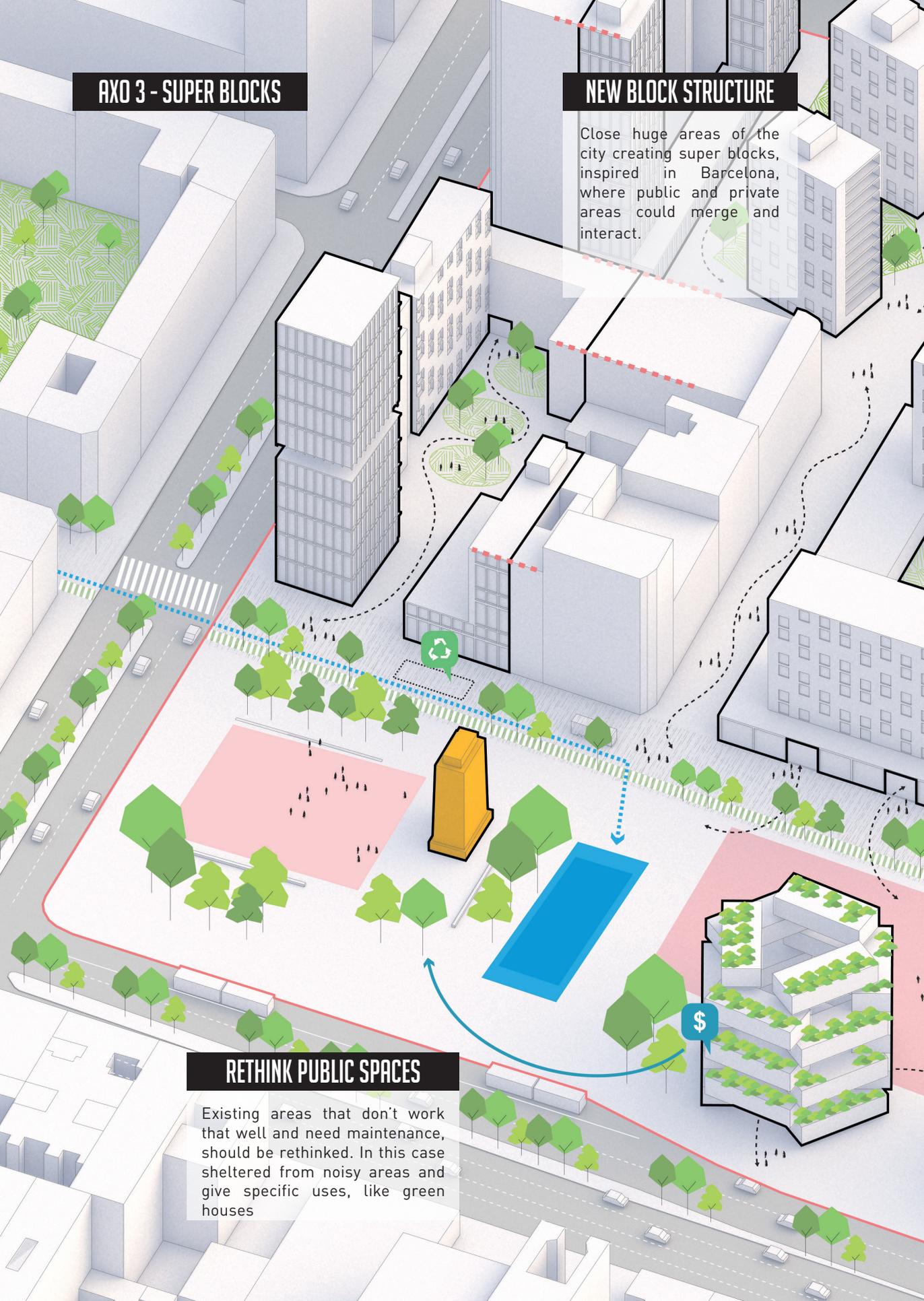
AXO 3 - SUPER BLOCKS

NEW BLOCK STRUCTURE

Close huge areas of the city creating super blocks, inspired in Barcelona, where public and private areas could merge and interact.

RETHINK PUBLIC SPACES

Existing areas that don't work that well and need maintenance, should be rethought. In this case sheltered from noisy areas and give specific uses, like green houses



PROVATE GREEN

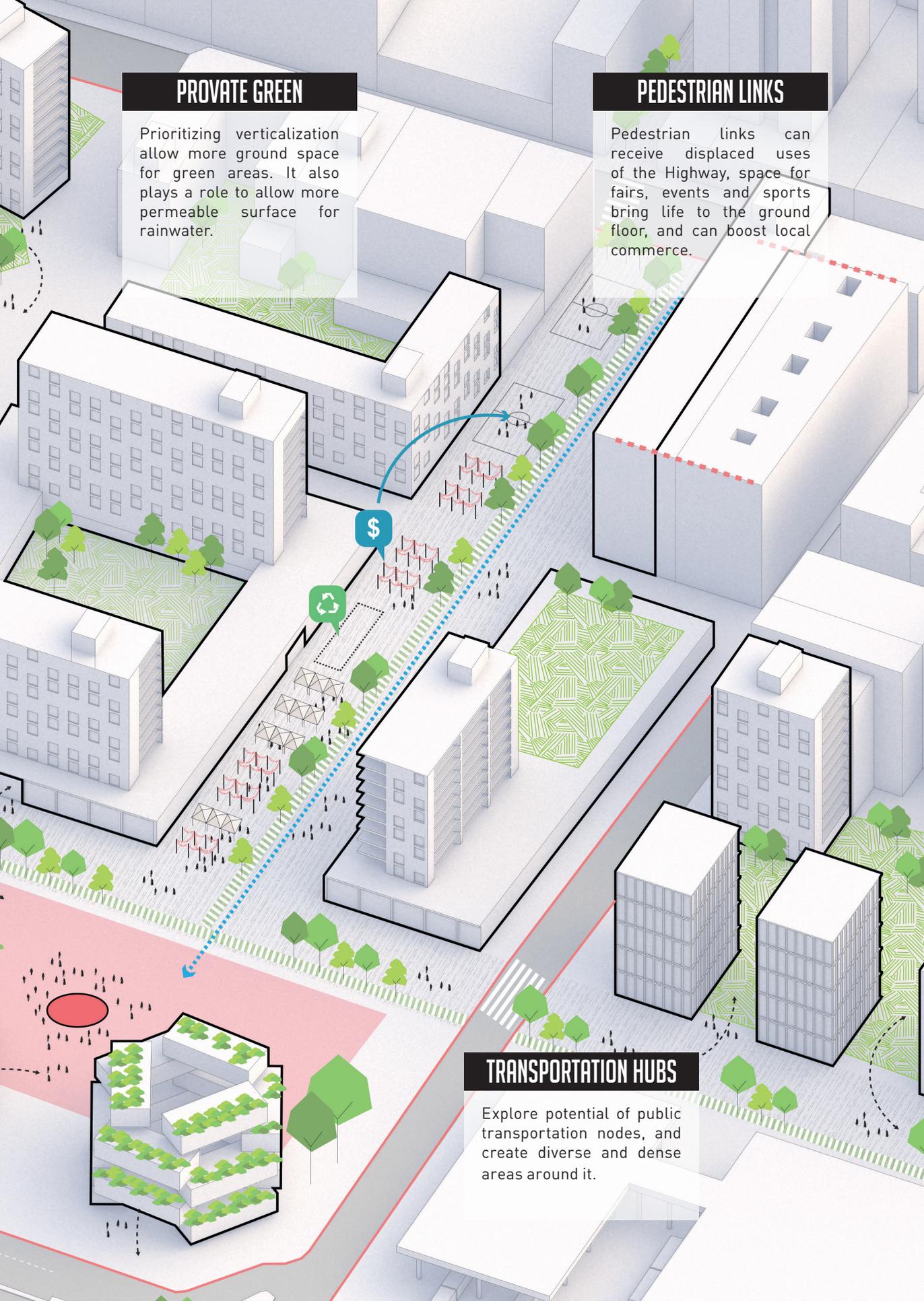
Prioritizing verticalization allow more ground space for green areas. It also plays a role to allow more permeable surface for rainwater.

PEDESTRIAN LINKS

Pedestrian links can receive displaced uses of the Highway, space for fairs, events and sports bring life to the ground floor, and can boost local commerce.

TRANSPORTATION HUBS

Explore potential of public transportation nodes, and create diverse and dense areas around it.





500m



500m

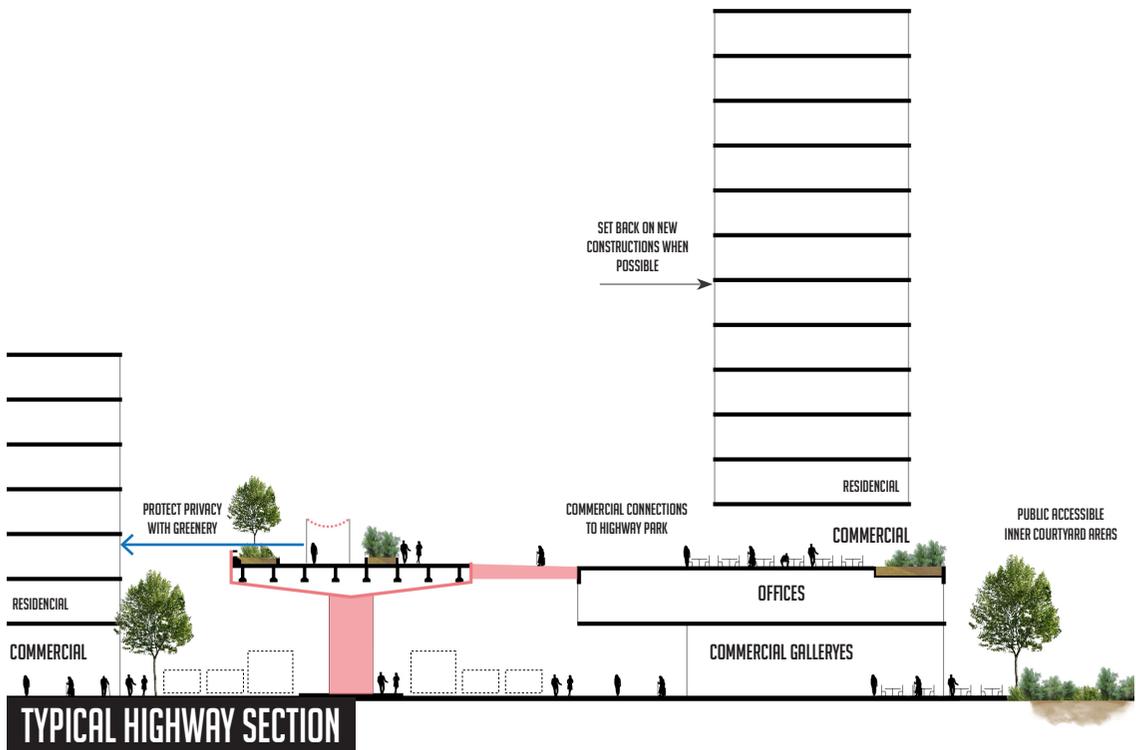


THE PLAN

The plan evolves around the gaps found in the build structures, public space, and area potential, the project become a sort of in-fill of those gaps, trying to provide solutions for some region issues, and explore its potentials.

The area should become a reference for similar regions of the city, and the north part of the Highway, as a kind of role model, with open ends where new structures can connect in the future.

A big part of ground floor is now used by green areas, both in public and private space, this was achieved due to verticalization, and development of sub used areas. In such central areas, with few green and permeable spaces, this is a key factor for public health and rainwater control.

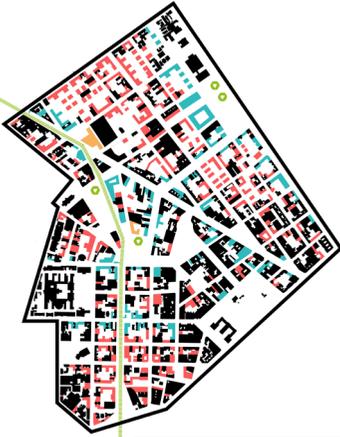




EXISTING BUILDINGS



NEW BUILDINGS



USES AND PROGRAMS



STREET ORGANIZATION



GREEN SYSTEM AND LINKS



WATER SYSTEM

CHURCH AREA ZOOM IN

RECOVER CHURCH SQUARE

PEDESTRIAN STREETS

Key areas like the church, with its historical and damaged connection with the train station will be renovated, and recover part of its new purpose, with addition of new structures and.

The pedestrian links now allow space for a front square in the church, where traditional Sunday fairs or food markets can be held. And direct connection with the train station will turn this area again into an important meeting point, and restore its historical value.

The car ramps in the area will serve as huge accessible connection to the highway park, and all the fenced and degraded areas around it will be repurposed with new uses and structures.

It should become an area for relaxing and meeting,

shaded from the intense sun, and with controlled traffic noise. The network of pedestrian areas will give a safe area to walk and move around, away from the intense traffic.

The dark and noisy, dangerous and bad used areas under the highway must become be turned into a safe and active place.

Opening skylight on the highway will give a better feeling under it, and allow top vegetation to fall through it. By creating a large crossing area, between the big pillars gives space for the cyclist on the existing cycle lanes to see the pedestrians better and avoid accidents. In addition, stairs connecting to the highway park and public bicycle parking areas will eliminate the unused areas and give more movement to the place.

HIGHWAY SCULPTURE PARK

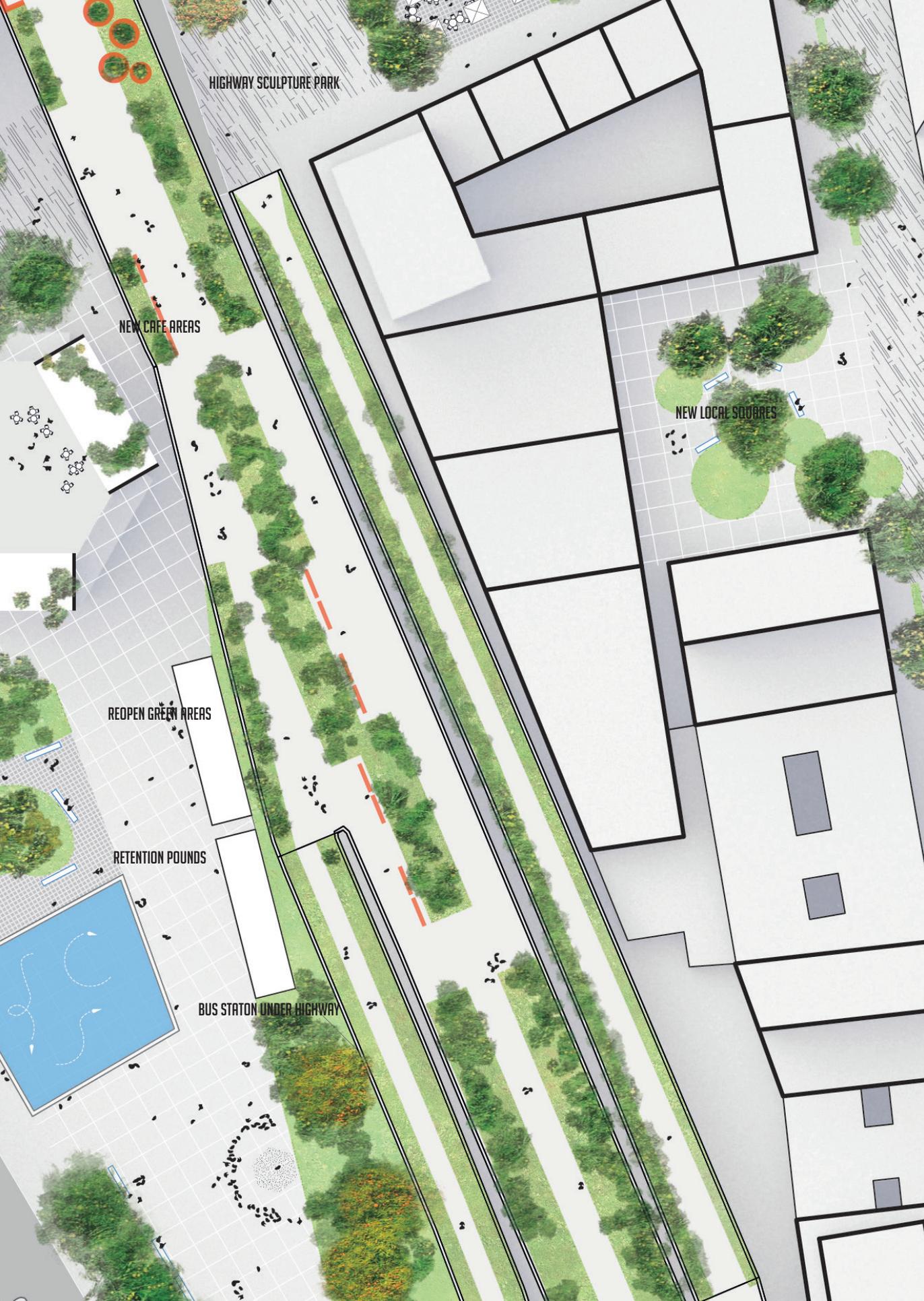
NEW CAFE AREAS

NEW LOCAL SQUARES

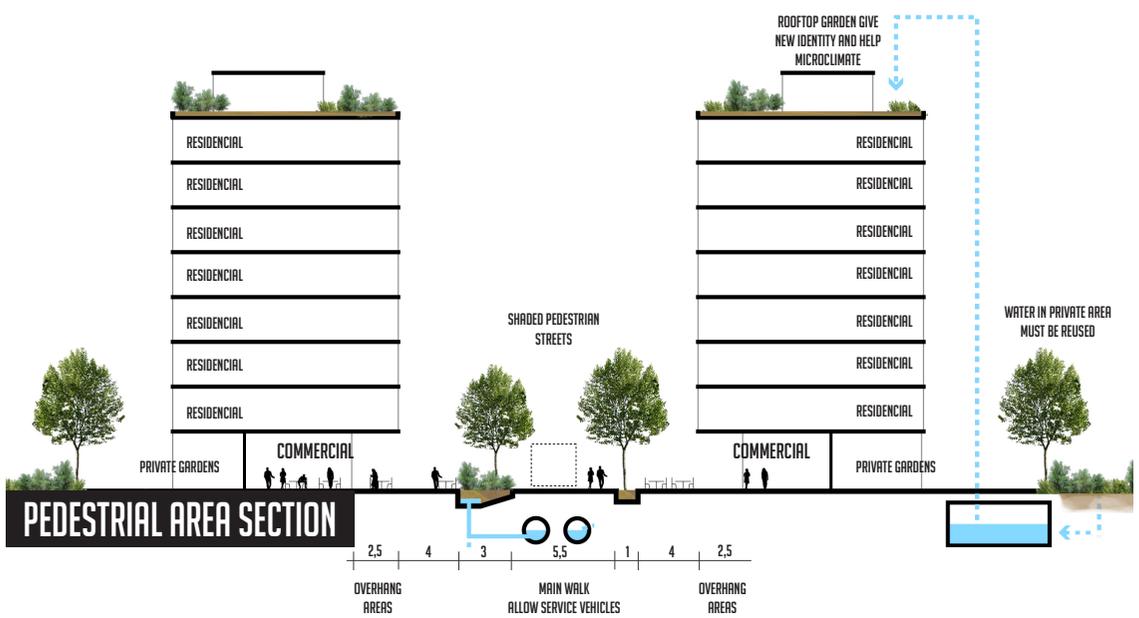
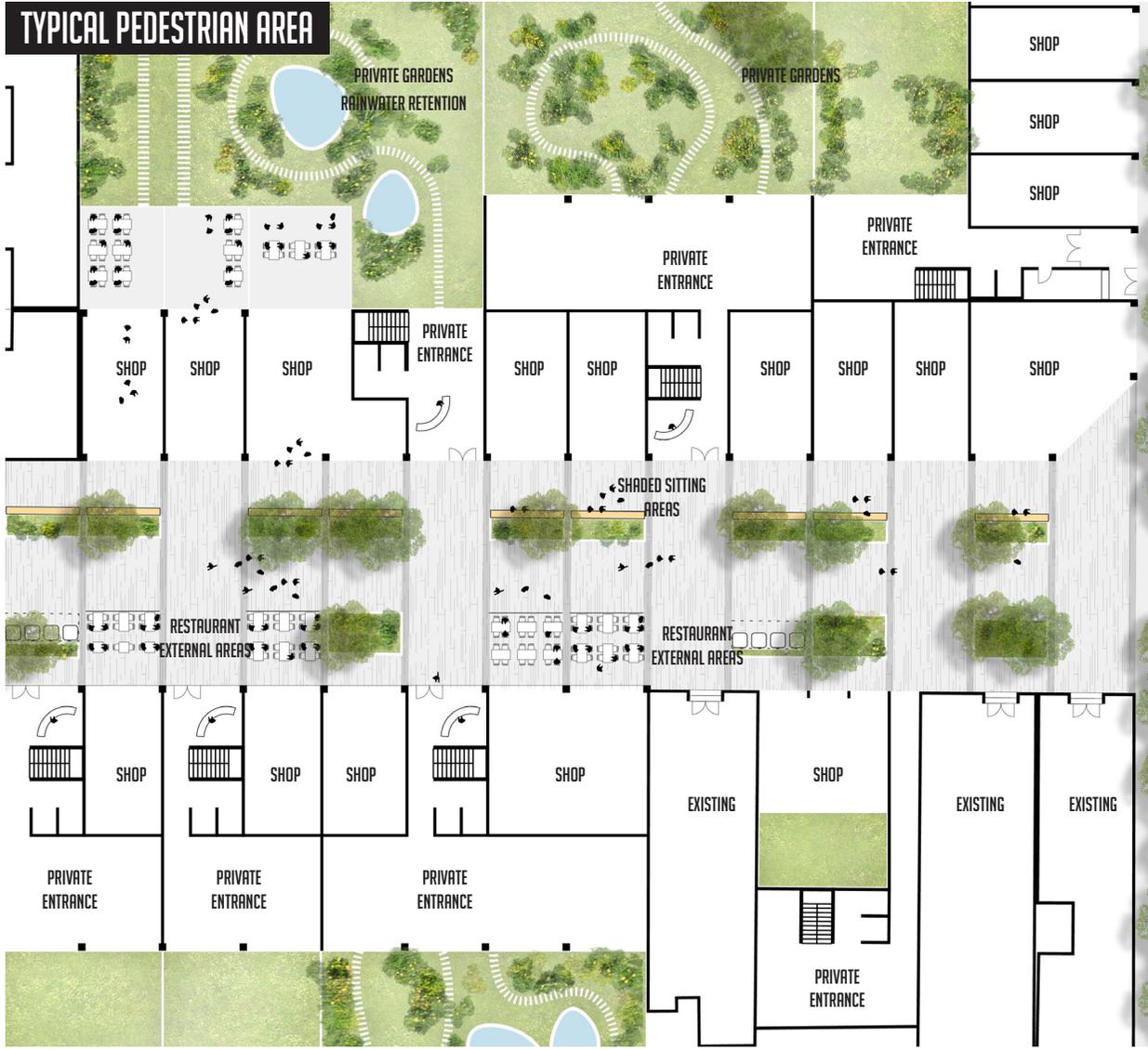
REOPEN GREEN AREAS

RETENTION POUNDS

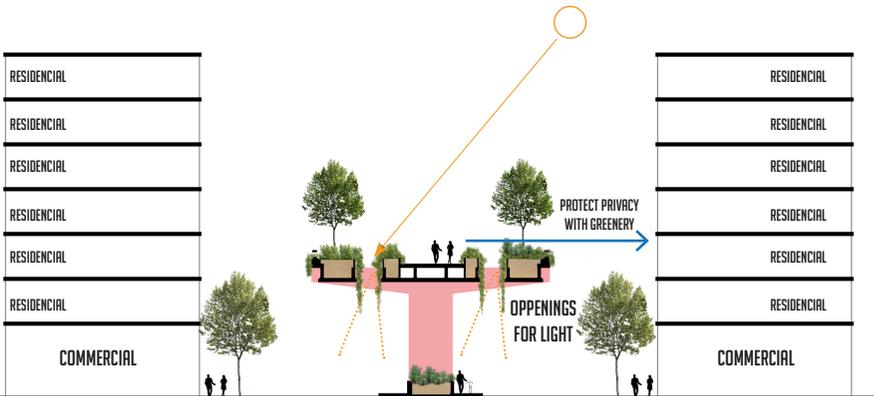
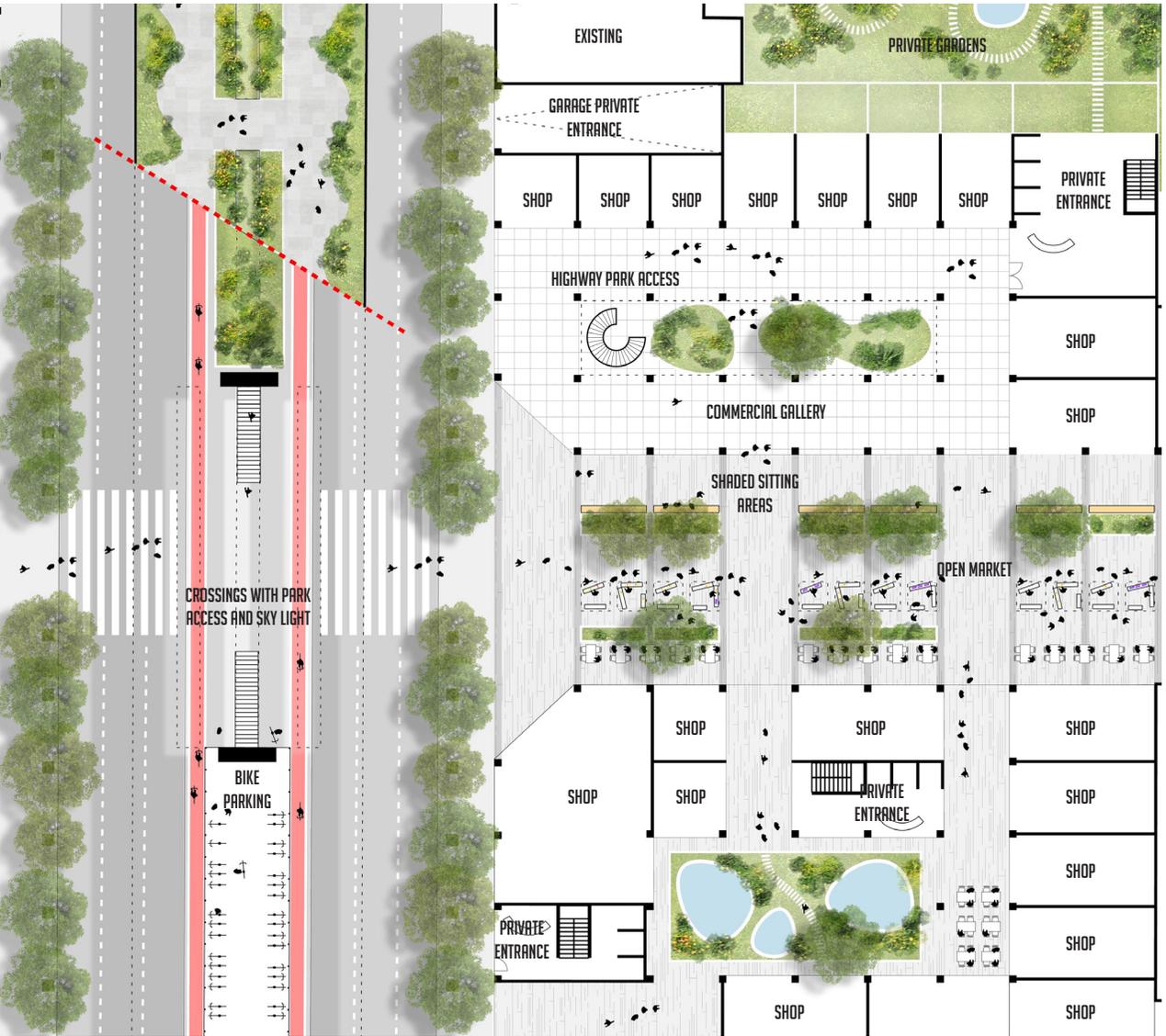
BUS STATION UNDER HIGHWAY



TYPICAL PEDESTRIAN AREA



PEDESTRIAN AREA SECTION



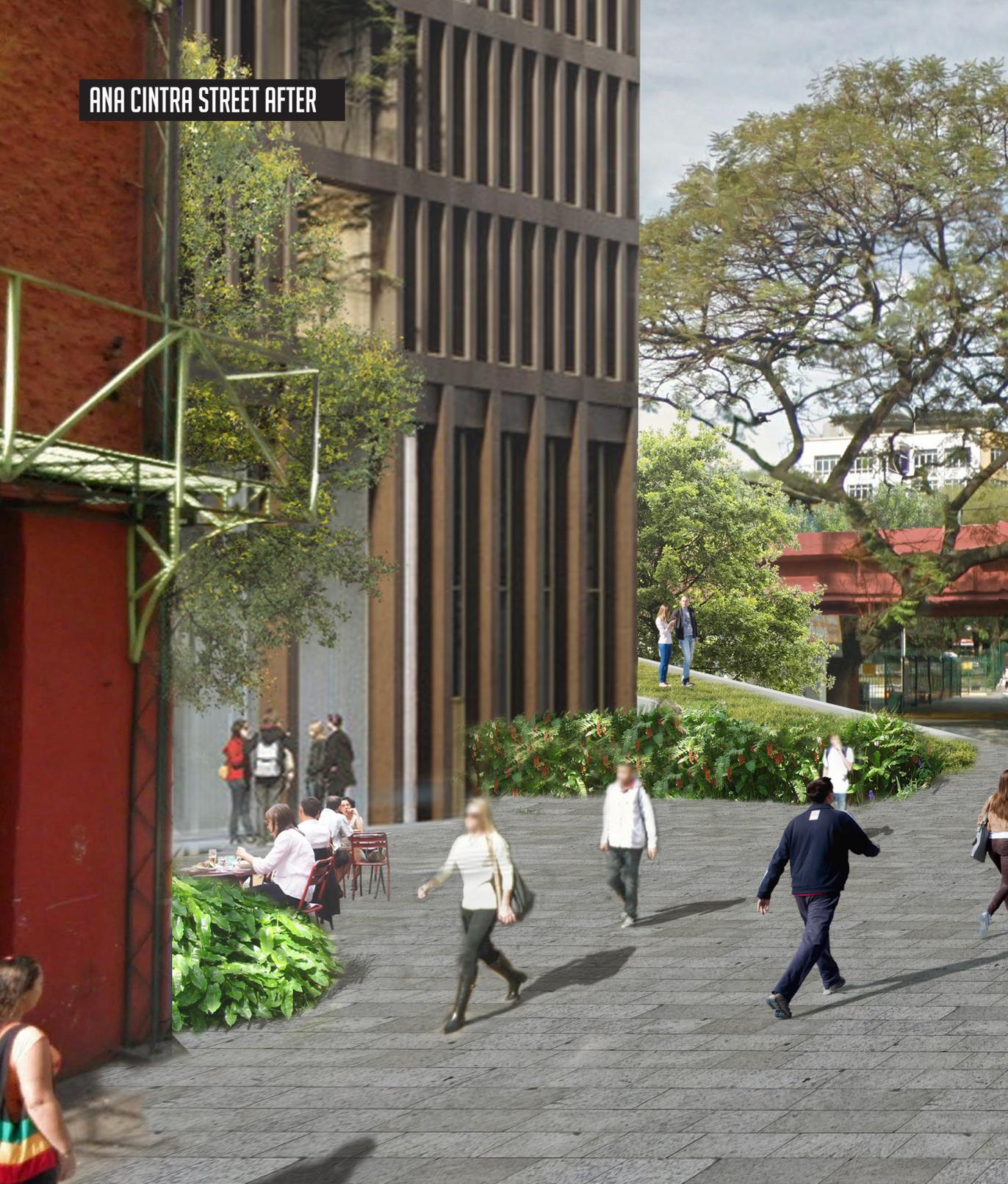
CROSSING SECTION

ANA CINTRA STREET BEFORE





ANA CINTRA STREET AFTER





HIGHWAY BEFORE





HIGHWAY AFTER





CONCLUSION

5

During this process of research, thinking, design and dedication to the project, became clear the challenges of approaching such a complex area, and of urban design itself. Designing is not only about graphics or nice details, it has an import part of organizing information, and understanding the situations in which we find ourselves.

I believe that the decision of choosing this area, had to do with the idea that cities are growing, in size and population, and they will be a hard challenge to face in my future career. The course surely gave me a different vision of the one I came, and allowed me to read new influences and translate it into Sao Paulo context.

I can surely say that a design like this, even with all the effort, can't and should not be a final and decisive answer. Throughout the process, I was always faced with new information, new data, different opinions and views to the problems. And without doubt, the project lack in solution to many other issues that were not even pointed here. But that is also an import part of the work, narrow down what you should deal with, and what should be solved some other time. I think it should be read as just one more layer in the vast world of ideas on how to deal with the site issues.

It was a great experience to take part in the Sudes course, and I present this work, not as a statement of my skills, but as a reminder that learning is a never ending process.

IMAGES AND REFERENCES

Image 01. Diagram by the author

Image 02. Diagram by the author

Image 03. Catedral da Sé, available at www.almanaquedacultura.com.br [accessed 20.03.2019]

Image 04. Largo da Misericórdia, photo by Agencia Fática available at catracalivre.com.br/autor/afatica/ [accessed 20.03.2019]

Image 05. Ponte Brito Frias, photo by Mohit3474 available at www.flickr.com/photos/mohit3474/ [accessed 20.03.2019]

Image 06. Avenida Paulista, photo by Mohit3474 available at www.flickr.com/photos/mohit3474/ [accessed 20.03.2019]

Image 07. São Paulo satellite picture, made with Google Earth

Image 08. Diagram by the author

Image 09. São Paulo satellite picture, made with Google Earth

Image 10. São Paulo satellite picture, made with Google Earth, altered by author.

Image 11. São Paulo satellite picture, made with Google Earth, altered by author.

Image 12. São Paulo satellite picture, made with Google Earth, altered by author.

Image 13. São Paulo satellite picture, made with Google Earth, altered by author.

Image 14. Lund satellite picture, made with Google Earth, altered by author.

Image 15. Elevado Costa e Silva, photo by Tuca Vieira, available at www.tucavieira.com.br/Sao-Paulo [accessed 22.03.2019]

Image 16. Plano de Avenidas, available at www.saopauloifoco.com.br/plano-avenidas/ [accessed 20.03.2019]

Image 17. Avenida São João, unknown author, available at otrecocerto.com/2015/08/26/como-era-sao-paulo-sem-o-minhocao/ [accessed at 29.03.2019]

Image 18. Diagram by the author

Image 19. O elevador, unknown author, available at <https://saopaulosao.com.br/nossos-caminhos/3777-como-o-waze-e-os-aplicativos-de-tr%C3%A2nsito-est%C3%A3o-piorando-a-qualidade-da-vida-nas-ruas.html> [accessed 20.03.2019]

Image 20. Elevado fechado em um Domingo, photo by Joel Nogueira, available at <https://vejasp.abril.com.br/cidades/minhocao-capa-projeto-verde/> [accessed 04.04.2019]

Image 21. Proposta para o Elevado, unknown author, available at <https://vejasp.abril.com.br/cidades/minhocao-capa-projeto-verde/> [accessed 04.04.2019]

Image 22. Proposta Triptyque, by triptyque architects, available at <https://archello.com/project/the-minhocao-marquise> [accessed 25.04.2019]

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Image 25. Proposta para o Elevado3, Jaime Lerner arquitetos, available at <https://vejasp.abril.com.br/cidades/minhocao-capa-projeto-verde/> [accessed 04.04.2019]

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Image 27. Plano Diretor capa, available at www.prefeitura.sp.gov.br/cidade/secretarias/urbanismo [accessed 21.03.2019]

Image 28. Vista aérea de parte do Minhocão, no centro da capital paulista, photo by Danilo Verpa, available at <https://www1.folha.uol.com.br/cotidiano/2018/05/minhocao-passa-a-fechar-mais-cedo-e-abrir-mais-tarde-para-carros-em-sp.shtml> [accessed 13.04.2019]

Image 29. Mural Mandela, photo by Danilo Verpa, available at <https://sao-paulo.estadao.com.br/noticias/geral,mural-com-imagem-de-nelson-mandela-e-inaugurado-no-minhocao,70002566795> [accessed 13.04.2019]

Image 30. Piscina minhocao, Photo by Duran available at <https://noticias.r7.com/sao-paulo/fotos/projeto-de-arquiteta-transforma-parte-do-minhocao-em-piscina-publica-com-direito-a-djs-neste-domingo-23032014#!foto/1> [accessed 13.04.2019]

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Image 33. De viaduto a parque, photo by Athos Comolatti, available at <http://www.esquina.net.br/tag/athos-comolatti/> [accessed 13.04.2019]

Image 34. São Paulo satellite picture, made with Google Earth, altered by author.

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Image 38. São Paulo satellite picture, made with Google Earth, altered by author.

Image 39. São Paulo satellite picture, made with Google Earth, altered by author.

Image 40. São Paulo satellite picture, made with Google Earth, altered by author.

Image 41. Santa Cecília, by Felipe Herculano, available at <https://sampahistorica.wordpress.com/author/feherculano/> [accessed 14.04.2019]

Image 42. Princesa Isabel square, made with Google Earth

Image 43. Picture by the author.

Image 44. Estação Julio Prestes, made with Google Earth

Image 45. Picture by the author.

Image 46. Diagram by the author.

Image 47. Picture by the author.

Image 46. Picture by the author.

Image 48. Picture by the author.

Image 49. Picture by the author.

Image 50. Picture by the author.

Image 51. Diagram by the author.

Image 52. Diagram by the author.

Image 53. Rua 7 de Abril, photo by Cidade Ativa, available at <https://www.mobilize.org.br/blogs/cidade-ativa/sem-categoria/358/> (accessed 30.03.2019)

Image 54. Ciclovia minhocão, photo by Maiara Barbosa, available at <https://g1.globo.com/sp/mogidas-cruzes-suzano/noticia/2019/04/22/carros-estacionados-em-ciclovia-e-vias-sem-espaco-para-bicicleta-veja-os-desafios-de-ser-ciclista-em-mogi.ghtml> (accessed 30.03.2019)

Image 55. Avenida São João, made with Google Earth

Image 56. Diagram by the author.

Image 57. Diagram by the author.

Image 58. Minhocão alagado, photo by Marcelo Justo, available at <https://www1.folha.uol.com.br/cotidiano/2014/09/1523112-chuva-que-atinge-sao-paulo-nao-chega-ao-sistema-cantareira.shtml> (accessed 30.03.2019)

Image 59. Alagamento na avenida São João, photo by Carolina Leal, available at <https://www1.folha.uol.com.br/cotidiano/2013/02/1229084-regioes-de-sp-deixam-estado-de-atencao-cidade-tem-pontos-alagados.shtml> (accessed 27.04.2019)

Image 60. Alagamento minhocão, Unknown author, available at <https://g1.globo.com/sao-paulo/noticia/apos-onda-de-calor-sp-tem-chuva-de-granizo-e-alagamento-atinge-o-minhocao.ghtml> (accessed 27.04.2019)

Image 61. Avenida ipiranga alagada, Unknown author, available at <https://g1.globo.com/sao-paulo/noticia/apos-onda-de-calor-sp-tem-chuva-de-granizo-e-alagamento-atinge-o-minhocao.ghtml> (accessed 27.04.2019)

Image 62. Alagamento minhocão, Unknown author, available at <https://g1.globo.com/sao-paulo/noticia/apos-onda-de-calor-sp-tem-chuva-de-granizo-e-alagamento-atinge-o-minhocao.ghtml> (accessed 27.04.2019)

Image 63. Alagamento centro, photo by William Moreira, available at <https://www.terra.com.br/noticias/brasil/cidades/chuva-provoca-alagamentos-e-deixa-bairro-de-sao-paulo-em-estado-de-alerta,a0761766a8b6befe48177d8ae8d8132846t79wks.html> (accessed 27.04.2019)

Image 64. Diagram by the author.

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