SCHINDLER GLOBAL AWARD 2017 SÃO PAULO

Schindler

Academic Partner

ETH zürich

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SCHINDLER GLOBAL AWARD 2017 SÃO PAULO

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Andre Inserra, CEO Schindler Americas
Member of Executive Committee

Over the past decade infrastructure has become increasingly prominent in the discussion of urban development. Public awareness of infrastructural systems, along with interest in their form and function is rising. From important long-range development plans from the United Nations to academic discussion, the large-scale systems that enable our urban and urbanizing world are recognized as both historical drivers and future agents of change. Power grids and street networks shape our world – and mobility systems move it.

At Schindler, we work in mobility infrastructure. Since 1874, we've built, installed and maintained building-scale mobility infrastructure. We're active across the world. While we work at the scale of the building, the core of our thinking is both urban and global. Understanding the urban environment and our role in its development is a priority, which is why we established the Schindler Global Award. We see it as our responsibility to contribute knowledge about urbanization, both through our expertise and by supporting the work of students, experts and practitioners who shape the world through design and planning.

The students of today will shape the cities of tomorrow. This insight has guided us to support the coming generations of urban designers, planners, architects and landscape architects. There is perhaps nothing more important than education in ensuring that we all recognize our shared responsibility to create sustainable places for everyone to live full and healthy lives. The students who participate in the Schindler Global Award become part of a worldwide dialogue about the potential to improve our existing cities – and it prepares them to build the new cities of the coming century.

The 2017 Schindler Global Award marks the second time that the award has taken place as an urban design competition open to students from around the world. In 2015 students were asked to tackle a complex site in Shenzhen, China. In 2017 the Schindler Global Award site was in São Paulo, Brazil. The Shenzhen and São Paulo of today are the result of rapid urbanization processes in the 20th century. We challenged students to look at how these cities could provide better quality of life to their inhabitants in the 21st century.

In São Paulo we asked for holistic urban design strategies, encompassing spatial, social and economic factors, using mobility as a catalyst. We wanted participants to consider environmental issues along with local heritage and culture. The benefit of requiring students to consider multiple entry points to urban development is the breadth of thinking that results. Students are exposed to a multifaceted problem, and come to understand the need for a multifaceted approach in response.

Schindler is a Swiss company, and we understand the value in global approaches suited to their specific location. A building, a city neighborhood and a global product strategy all share the need for integration into their specific context – and all benefit from a diverse team of collaborators. The Schindler Global Award demonstrates our commitment to sharing knowledge globally and applying it locally.

In this book essays by practitioners and experts, based in Brazil and also throughout the world, will illuminate a selection of the issues that the competition used as focus points. The presentation of the winning projects demonstrates the diversity of responses to the challenges posed by the competition. Taken together, the projects and the essays reflect cutting-edge thinking about how our cities are designed and understood. Through the Schindler Global Award we have found a way to connect everyday infrastructure with the urban systems and populations it supports.

We are proud to present the Schindler Global Award 2017.

GLOBAL SCHINDLER AWARD 2017 SÃO PAULO INTRODUCTION

Kees Christiaanse

The Schindler Global Award addresses the reciprocal impact of mobility and urbanization, using the format of a student urban design competition. The Schindler Global Award is hosted by Schindler Group, with my Chair of Urban Design and Architecture at the ETH Zurich as the academic partner. Schindler focuses on vertical and horizontal mobility systems, along with traffic management. My chair the ETH Zurich focuses on airport cities, railway hubs, high-density, mixed-use environments and the transformation of former harbors, railway and industrial yards. 2017 marks the second edition of the award since it expanded to have a global focus and urban design basis for the competition.

In this book we present a series of essays related to the Schindler Global Award 2017, along with the twelve winning projects, selected from entries submitted from around the world. The presentation of the competition and concurrent thinking is intended to stir the debate about the relationships between urban design, mixed-use, transit oriented development and new trends, like the return to the city of industrial activity and logistics in emission-low forms.

The Schindler Global Award 2017 focused on São Paulo, Brazil. Brazil's typical urbanization is characterized by a strong tradition of larger cities with extensive industrial, agricultural and, last but not least, wilderness-like hinterlands. São Paulo currently struggles with the transition from an industrial and financial focus to the post-modern condition of the network economy, which has a far-reaching impact on the transformation of the urban fabric due to its rapidly changing multi-directional chain-structures. In Brazil, São Paulo is certainly at the vanguard of this urban change, in which production and logistics facilities, the relation between living and working, and the influence of digital networks condenses into new urban and building typologies, connected by mobility systems. As a testbed for these changes we chose the CEAGESP wholesale market and its surroundings as the competition site for the second Schindler Global Award.

CEAGESP is a wholesale market for perishable goods, including vegetables, flowers, grain, meat and fish. Its main trade venue is a gigantic pre-stressed concrete pavilion, designed and built in 1964 by Figueiredo Ferraz, within which in an amazingly disciplined choreography flowers, vegetables and fruits are traded. This vibrant urban place, in which the structure is permanent, but the activities it contains are fluid, will change; relocation of the market to another, more remote site within the São Paulo metropolitan area and close to the new belt highway is planned. This immanent transfer will free up a large, strategically situated area near the city center, for which a careful redevelopment policy is needed.

According to recent urban theory, the complete relocation of the market is not necessarily a prudent thing to do. We have seen a renaissance of the compact city model, in which inner-city logistics hubs are required, in order to avoid the delivery of goods over unfeasibly or unprofitably long distances via mobility systems already running at or over capacity. The rise in thinking about more compact cities has

also brought up the need for new forms of mixed-use zoning and structures, combining trade, logistics, living, production and services. Sites like CEAGESP offer excellent conditions for testing these tendencies.

The area around CEAGESP is already gentrifying with business parks, urban amenities and residential complexes. In an effort to help prevent speculative monofunctional development of this valuable site, the Schindler Global Award team selected CEAGESP as the competition site. This was done to collect ideas about how to redevelop the area and direct the development of its context in a sustainable way, to provide a vibrant environment that embodies a new urban condition in the future network economy.

The essays in this book tackle a broad range of topics from diverse perspectives. While some ideas, such as participatory planning or smart cities, might be familiar to most readers, their individual application is explained here to present how urban concepts have been realized in real-world situations. Other ideas, drawn from cutting edge practice and research on urban mobility, such as the inclusion and integration of shared mobility and technology in public transport, are explained. Finally, new ideas in response to shifting urban economies and social structures, such as my essay on the return of urban manufacture, offer a space of contemplation both for academics and professionals how to make these ideas operational.

The essays are a counterpoint to the presentation of the competition brief and prize-winning projects. Insight into the student engagement of the Schindler Global Award offers the chance to understand how teams from around the world interpret a specific site and task. Vastly different cultural backgrounds and educational regimes inform responses that are both deeply embedded in their origin but also reaching for a global form of responsible urban engagement. Over 150 projects were submitted for the Schindler Global Award 2017. They are substantial evidence of student interest in responding to the challenges inherent in constructing the cities of the future. In times of societal change and with the backdrop of constantly increasing world urbanization, this is a testament to the need for a stronger focus on academic urban design programs, tailored to produce specialists that can engage in the world's urgent urbanisation challenges.

ESSAYS

URBAN DESIGN AS THE FIELD OF AGREEMENT FOR FORMS OF URBAN COEXISTENCE

Fernando Mello de Franco

The challenges faced by a city as large as São Paulo are numerous and diverse, demanding great precision from public sector leaders in defining their response. At the same time, when prioritizing any single issue, they soon realize how interrelated each issue is with all others. The challenge is then to have the discipline of focus and the ability to build comprehensive strategies to deal with complex problems. This requires efforts from leaders in the public sector to formulate means, methods, and processes that can impart effectiveness on their actions – attributes that we can find in what we define as design. Design is strategically important in the process of formulating public policy because it can be implemented using an integrative cross-sectorial perspective. Ideally, the sharing of political decision making, including the participation of society as a while, can become an inherent part of design processes

Cities are the stage where technological, social, and cultural transformations take place simultaneously, and with the most intensity. Within this context, architecture and urban design demand an ongoing revision of their status from the professional and academic spheres, in order to follow and correspond to societal change. The focus on the materiality of spatial construction is no longer the exclusive concern of architects' work. It is necessary to strengthen architecture and urban design in combination with technical and political fields.

The present text aims to address some of São Paulo's major challenges as related to the role envisioned for architecture and urban design. It gives an overview of the management of São Paulo's urban policy from 2013–2016, while I served as Secretary of Urban Development of São Paulo in Mayor Haddad's administration. While acknowledging the lack of a timeframe sufficient for the critical distance necessary to form a formal, critical appraisal of this period in the city's development, the objective of this article is to convey a series of observations about the actions that took place during this time, under an administration that understood architectural and urban design as comprising a field of agreement for possible forms of societal coexistence.

Programmatic renewal of already-urbanized territory

If the phenomenon of rapid urbanization in Asia and Africa claim attention, the same cannot be said of the Americas, which have been mostly urban for almost half a century. In South America specifically, the agenda is not to anticipate the coming effects of urbanization processes, but instead to understand why, 50 years down the line, cities remain in such a precarious state, subjected to intolerable levels of inequality.

Brazil reached the turning point for a majority-urbanized society in the 1970s. São Paulo, as the epicenter of the country's industrialization process, led this phenomenon, duly supported by a rural exodus that offered the necessary labor for

São Paulo has a striking diversity of urban conditions – and challenges. (Credit: Fábio Knoll)

mass production. Migration from the rural areas to the cities brought challenges, including demand for the production of urban spaces and the need for the formerly rural population's adaptation to this new way of living. The simple act of getting into an elevator from the ground floor to travel to a higher level has never been a trivial experience on first attempt. What can be said about the more complex living experiences in large and dense human settlements?

After the past century of intense urbanization in São Paulo, the population growth rate now seems to be stagnating. Demographic estimates indicate that from 2040 onward there may be a shift towards an urban population decline. The process of extensive urbanization that characterized the 20th century is likely to yield a transformation within the city, focused on upgrading the existing urban structure. At the moment demographic growth no longer exerts the kind of pressure that captures public sector efforts to solve urgent matters, urban planning can recover its skill as an effective tool for facing structural problems.

Redefining the relationship between the urban and the rural

The extensive growth of urban areas through a low-density sprawl pattern, typical in the past decades of urban development in São Paulo, can no longer prosper. The misuse of urban land, the cost of expanding infrastructure, and the burden of great commuter distances have never been sustainable. In addition, this sprawl is characterized by the advance of informal settlements on the remnants of the Atlantic Forest and in the city's watershed areas. Currently, more than 1.7 million people illegally occupy these areas, threatening the water safety of five million city dwellers.

The problem is not a lack of protective legislation for these areas. Laws exist, based on very restrictive concepts of types of land use, but have failed to curtail development since the 1970s. The land use restrictions inevitably led to the decrease of its exchange value. As an alternative to the loss of income associated with legal land use, landowners have therefore encouraged informal occupation in order to get some remuneration, even though illegally. It is time to design new paradigms for land use. A plausible idea is that the best way to conserve the environment in vulnerable social contexts like the metropolis of São Paulo, is to use it responsibly; not to restrict all forms of legal use. In this sense, a better ecological balance in the outskirts of the city may be achieved by fostering productive activities compatible with environmental conservation, such as ecotourism and family farming.

It is often forgotten that the city of São Paulo has a rural area of 420 square kilometers, or 28 percent of its total area. This peri-urban area, spatially connected to the urbanized area, is distinct from the extensive rural hinterland, which is exclusively used by the structured chain of Brazilian agribusiness. The peri-urban area therefore demands specific consideration. Currently, about 40,000 inhabitants live there, under conditions that correspond to some of the highest levels of social vulnerability in the municipality. Approximately 400 families have agriculture-related activities that occupy only 50 square kilometers, just a small portion of the whole of the agricultural land. Precarious living conditions and a lack of opportunities have historically resulted in the migration of its population toward the urban core of São Paulo. Young people have been particularly inclined to move and today continue to relocate to the core of the city in search of job opportunities.

One means of addressing this population loss from the peri-urban areas and associated urban sprawl has been a strengthening of the value chain of family agriculture. The municipal government has begun designing strategies to invest in the training of local agriculture producers, specifically in the transition to agroecological production, in order to assign compatible value to economic activity

Unimproved mobility infrastructure near the CEAGESP site. (Credit: Fábio Knoll)

and the environmental issues that impact this area. The objective is to reduce the gap between the remuneration yielded by agriculture production and by informal urbanization.

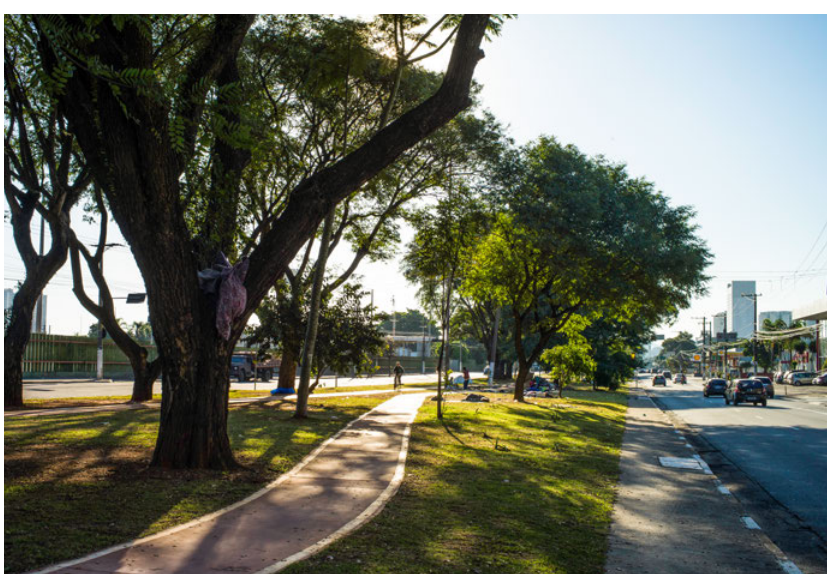
Growing awareness of food safety supports this public policy push. Today, Brazil is the fourth largest consumer market for health food in the world. In 2015, the country's organic food market grew by 25 percent. It is estimated that the increases in wholesale value generated by the production of organic products can double or triple the family income of local farmers. Young people in particular can find new job opportunities and improve their income in the local food production chain. In this way, support of specific agricultural modes can help to prevent informal urban sprawl.

This example shows that there is no economy disconnected from territorial issues and that there is a strong case for integrating the value chains of urban economies into the urban design process.

Accommodating population growth

It is estimated that by the time the local population stabilizes, two million people will be added to the metropolis, one million of which will be within São Paulo's municipal borders alone. If there is consensus that the urban fabric should not spread over the rural areas, then the only option is for the city to grow within its current urban structure. This creates friction between the need for growth and the preservation of desirable living conditions. The public has become increasingly active in defending the living conditions of existing neighborhoods and the creation of a conciliatory solution to accommodate incoming population without destroying the city's identity has become a primary challenge in considering São Paulo's future.

It is well known that in metropolises of industrial origins, where economic restructuring processes lead to the movement of first- and second-stage manufacturing and production to new locations outside of the city, the basic productive infrastructure



Urban design and planning can help to build a common context for life in the city. (Credit: Fábio Knoll)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of the urban economy needs to be redesigned. This challenge also presents an opportunity: under-utilization of the intra-urban manufacturing fabric provides valuable real estate stock for the desired urban densification processes, often in areas proximal to important centralities and infrastructure.

In most cities, industry was situated primarily along rivers, where railroads, and later highways, were located. In São Paulo, this territory is characterized by the floodplains of the Pinheiros, Tietê and Tamanduateí rivers. The *Plano Diretor Estratégico* (strategic master plan in English) known as the PDE, approved in 2014, assigns this territory the legal status of a *Macroárea de Estruturação Metropolitana* (MEM), which allows for a specific urban transformation process. A range of urban planning instruments, regulations and guidelines are applicable and appropriate to the MEM territory and its intended transformation.

Recent studies by São Paulo's Secretariat of Urban Development reveal the existence of enough underutilized real estate stock to host more than one million inhabitants, within the aforementioned MEM. The 2014 PDE foresees the elaboration of strategic urban redevelopment projects for these well-located sites, with an overall area of 227 square kilometers. The central issue facing these projects is the adaptive re-use and redevelopment of building heritage, with the aim of high-density, mixed-use development. This will foster social inclusion and productive local dynamics, along with reintegration of the urban form and the rivers, once neglected as structural elements of the landscape, all to enhance daily life.

Democratization of public space

The accommodation plan for urban growth will be insufficient if it is not accompanied by the redistribution of urban functions in the territory. It has to align the supply of housing, jobs, and services and distribute them more evenly throughout the urban territory. The current imbalance and mono-functionality of uses add to the sprawl pattern. These conditions are the root cause of São Paulo residents spending an average of nearly three hours daily in traffic. The prioritization of public transport as defined by the 2014 PDE may reconnect to the initial urbanization model of industrializing São Paulo, when passenger and freight railway transportation shaped its urban development.

In this sense, the 2014 PDE has set specific guidelines for the urban fabric, directly related to the means that make up high- and medium-capacity transport, be it on rail or road. It encourages high-density urban development in zones that were specifically assigned to urban transformation and strengthens the development of various centralities in the city. Moreover, it improves the use of land value capture instruments to induce this to happen along the transportation axes. The space between the axes, all neighborhoods, will thereby be protected from the deleterious effects of verticalization that accompany the real estate speculation that characterizes the ongoing process of construction, demolition, and reconstruction of the central areas of the city.

It is clear, however, that only intermodal transport networks will be able to offer complete solutions to mobility issues. Therefore, non-motorized mobility modes, such as walking and cycling, and their respective infrastructure such as bike lanes and pedestrian areas, should be fostered and accompanied by continuous investment in the transport network, supported by universal mobility and safety policies. Between 2014 and 2015, the bike lane structure grew 66 percent and biking now represents 12 percent of the modal share in the city. Approximately 580,000 square meters of sidewalks were retrofitted to be more pedestrian friendly, prioritizing

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Future modal integration can offer improved mobility access for everyone in São Paulo. (Credit: Fábio Knoll)

unpaved suburbs. By improving street signs and reducing the speed limits on urban thoroughfares, new safety measures have substantially reduced road accident fatalities by 21 percent.

The larger effect of modal integration policies is to impact the way citizens relate to the city. For an urban culture shaped by the logic of a car-oriented city, improvement in the integration between public transportation, walking and cycling has redefined the use of public spaces, through which São Paulo's citizens move in their daily activities. In São Paulo, where space for the public thoroughfares has always been insufficient considering the scale of the metropolis, the current prioritization of the public transport system and "active" mobility requires a review of the percentages attributable to each mobility mode. Cars have always occupied the largest space of the road system, even though they represent a much lower people load per square meter than other means of transportation. The current dispute over road space demands some kind of mediation. The ongoing retrofit of the city's road system to accommodate modes other than cars transforms the technical design of the physical infrastructure of the transport system. The essence of mobility policy in São Paulo is to define an agreement process for the democratization of public space.

The interpretation of the emerging urban values

The significant social movement that emerged in Brazil in 2013 in response to increased public transport fares has profoundly altered the political agenda. What was initially a demand for free tickets for the entire population soon turned into a complex and diffuse agenda for the improvement of all public and urban services. Historically, the right to adequate housing has always represented the core of the "right to the city." The 2013 protests shifted the demand from the ownership of housing to the desire for free transit among urban assets and services. In its essence, the right to free mobility is a prerequisite for greater parity of opportunities and the freedom to choose between them.

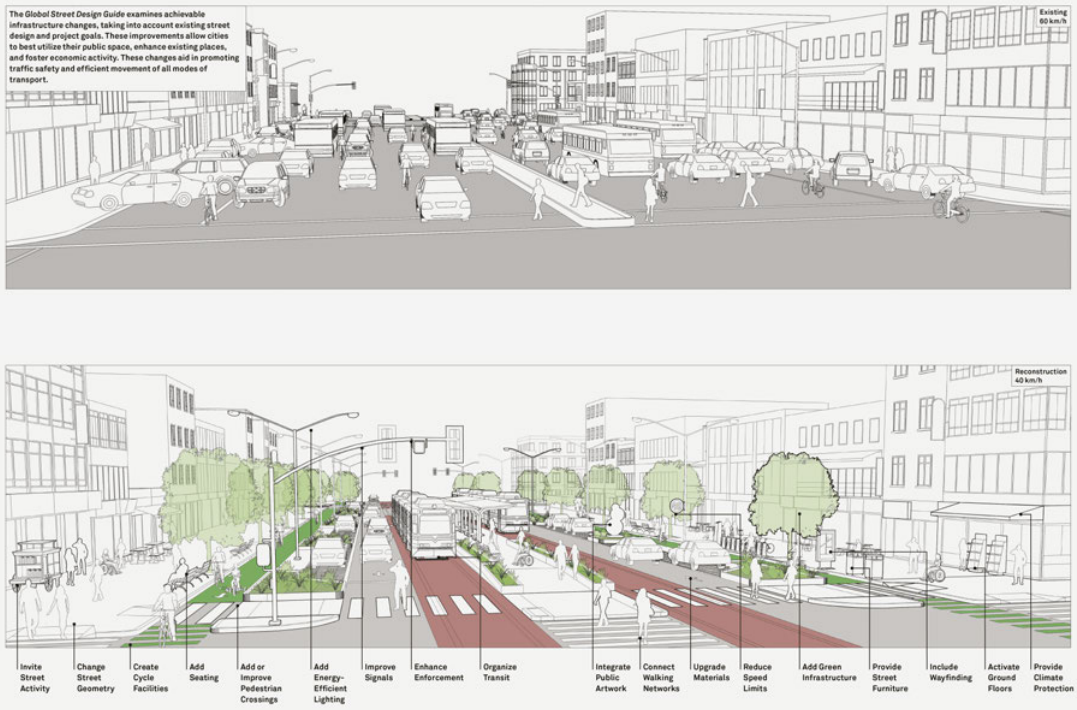
One possible explanatory framework for understanding these events points to the recent social changes in Brazil. The unprecedented economic development and growth that marked the years 2005–2013 propelled more than 30 million people into a new middle class (defined based on consumption, not income). The youngest urban generation, born over the past 20–30 years, unlike their parents and grandparents who were largely migrants from small towns and the countryside, has experienced a metropolitan condition since birth. They are accustomed to an urban lifestyle that provides the respective services and opportunities, and they are hungry for a better urban life.

This economic growth has given rise to social values that renewed the agenda of the "right to the city." Therefore, this development cannot be understood just from its economic dimension, but also through the massive urban demonstrations that made it blossom. Previous generations came to São Paulo in search of jobs; for the new generation, entering the labor market is necessary but not sufficient in itself. What they really want is to strengthen their ties of belonging to the city.

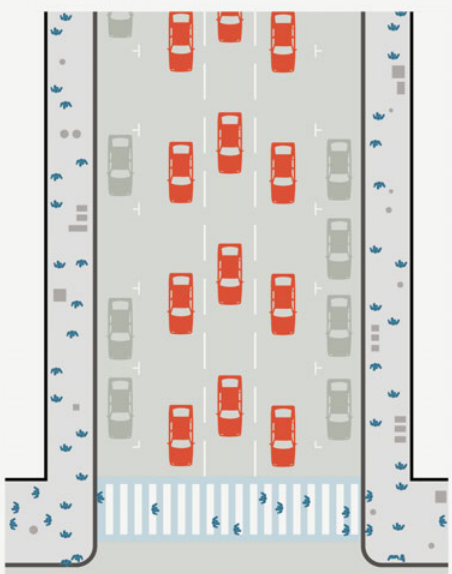
The economic growth cycle that characterized the last decade has been followed by one of the deepest political and economic crises in the country. This instability has fueled the recent disputes about the ways of democratizing the use of public space and also the scarce amount of land available for social housing and public facilities production. This requires even more reflection on the part of all those involved in the transformation of the city.

In this unstable context, it seems that the main challenge for architects and urban planners is to interpret the political and cultural dimensions of disputed values. Understanding the potentials and limits of design and planning, related to both making cities and using them, will define their success in practice. In order to create the best forms of coexistence in the city, urban design and planning will have to build the field of agreement that follows each programmatic decision and each spatial transformation.

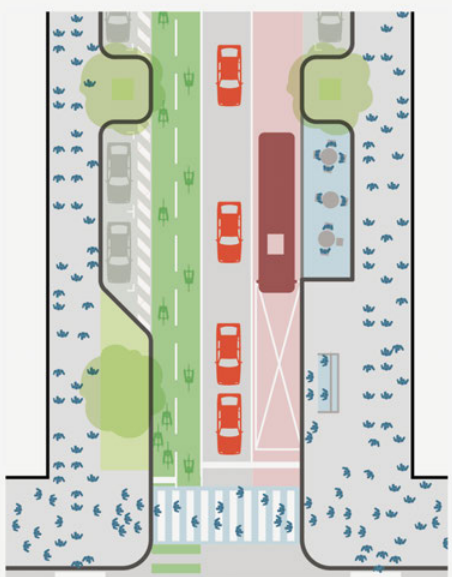
What is Possible



Car-Oriented Street



Multimodal Street



The capacity of car-oriented streets and multimodal streets. These two diagrams illustrate the potential capacity of the same street space when designed in two different ways. In the first example, the majority of the space is allocated to personal motor vehicles, either moving or parked. Sidewalks accommodate utility poles, street light poles and street furniture narrowing the clear path to less than 3 m, which reduces its capacity.

In the multimodal street, the capacity of the street is increased by a more balanced allocation of space between the modes. This redistribution of space allows for a variety of non-mobility activities such as seating and resting areas, bus stops, as well as trees, planting and other green infrastructure strategies. The illustrations show the capacity for a 3-m wide lane (or equivalent width) by different mode at peak conditions with normal operations.

IN SEARCH OF LOST TIME: TRANSPORT ECONOMICS AND MOBILITY IN SÃO PAULO

Ciro Biderman

It is not new that time, space and distance are interconnected in physics, although dealing with this duality is far from straightforward. The urban landscape changes over time and this change depends upon the incentives for each transport mode. For decades the solution to the need for movement in the city has been thought almost exclusively as one mode: the car. The preference for the car came from an overly simplistic analysis that it can, potentially, travel at a higher speed with more comfort. The rise of the automobile (and its mass production) has been the most impactful factor of urban form ever.

The demand for large, dense cities is a demand for proximity. People want to be close to restaurants, museums, and universities – and ultimately to jobs. Firms need to be where the employees are and employees have to be where the firms are located. People connect to each other in cities in many different ways; this is the origin of the demand to live in cities. There are two usual shortcomings in interpreting the economic result of this. The first is that proximity does not depend necessarily on physical distance. Distance is measured in time and money. The second is that people move, meaning that distance in the short run is not the same as in the long run.

The fundamental theorem of transport economics states that if comfort and price are the same in every mode, in equilibrium each mode would travel at the same speed. Cars are more expensive than other modes but more comfortable in general. The quality of the public transportation systems is so low in most large Latin American cities that most people move away from using them as soon as they have the income to do so. Consequently, investing in public transport promotes social and spatial equality. If it is possible to increase speed and comfort in public transit, however, the demand for commuting by car will diminish, transport quality inequality will decrease – most bus users are from the lower middle class or poor – and public space can be used for other modes including biking and walking.

The use of cars instead of foot, bike and public transit would be acceptable if externalities from congestion in the broad sense were not quite as large. The problem is well known; much more space is needed to house private cars than buses, pedestrians or bikes. The consequence is too much traffic and too high a level of emissions. We have too many drivers during peak hours. The main problem: drivers do not internalize the costs they impose on other drivers and on the environment. The government potentially might be able to define the division of public space among modes. If the government builds more sidewalks, it will dedicate more room for pedestrians; if it builds cycle routes, there will be more room for bicycles, so on and so forth. The local government can define how much space it dedicates to transport by mode of use.

(Opposite page, top)
What is Possible – Before and After.
(Credit: NACTO-GDCI)

(Opposite page, bottom)
Car-Oriented Street vs Multimodal Street.
(Credit: NACTO-GDCI)

The solution to the mobility mode challenges lies in the interconnection between public served land and transport. Walking is probably the best mode (in social terms) for short distances. If the infrastructure for pedestrians is improved, a larger distance will be more (socially) efficient for walking. The same reasoning is valid for bicycles, but bikes compete with motorized modes. In addition, hilly topographies and hot climate conditions may negatively influence the use of bicycles as an everyday mode of transport. If there is more space for public transit it can become attractive to car drivers as an alternative, since public transit will be faster than it would be with less space. Walking and biking are more complementary to public transit than to cars. If you drive and have parking at your home and office, you might not walk even one step on the streets. If you use public transit for your main commute, you must walk to and from transit points and you will be more likely to walk for other shorter trips, e.g. for lunch. This reinforcement mechanism may induce more users to choose in public transit and active modes, such as walking.

This essay is calling for a change in the land use pattern in São Paulo, increasing space for pedestrians, cyclists and public transit. The urban road system typically occupies 20 percent or more of the total urbanized area in most large cities. If change is implemented there will be a transition in urban form that might take a couple of decades. I believe that society in São Paulo is ready for such a change.

Once an unpopular measure is imposed, the political leader in power at that moment pays the political cost but there is usually no way back: the social gains are so large that society does not support going back to the initial status. Reducing speed limits in 2015 in São Paulo had a large cost for former mayor Fernando Haddad, in office from 2013–2016. It was one of the main criticisms from his successor, João Doria, during the election. Although this was a hit during the political campaign, the elected mayor announced increasing speed limits in just 30 kilometers of road, out of the 900 of kilometers that had their speed limit reduced in 2015. Haddad's other major transportation initiatives, especially the introduction and expansion of cycle routes and segregated lanes for buses will not vanish at all.

Dedicated bike lane on Av. Paulista. (Credit: Mariana Gil / WRI Brasil Cidades Sustentáveis)

Pop-up street transformation in São Miguel, São Paulo. (Credit: NACTO-GDCI / BIGRS São Paulo)

Transport cannot be thought of as a discreet sector disconnected from the urban realm. The opportunity to increase public space significantly just by changing transport mode share is very promising. As argued below, there are many opportunities for low cost interventions with large impacts. Designers, planners, public servants, and economists have a responsibility to shape and support this change. Transport, and urbanism in general, must be thought as tools for development and not as separated fields.

The mode share trap

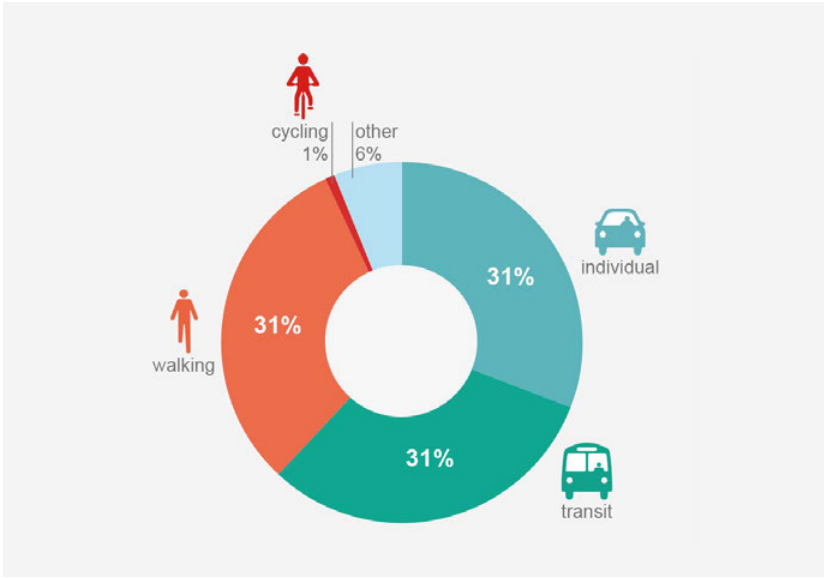
Looking at OECD[1] countries we can see two main patterns in modal share. The European countries usually have excise taxes on oil and subsidized public transit. In the US and Canada there is usually low or no excise tax, and in most cities public transit is subsidized but with low capital investment. In São Paulo, as in many large metropolitan areas in Latin America, the share of public transit is considerably high: around one third of total trips. This is more or less the share observed in European cities and much more than the share in almost all North American cities. The reason for this is not connected with the Brazilian tax structure but rather on the fact that we still have a large proportion of poor people in the population who cannot afford their own car.

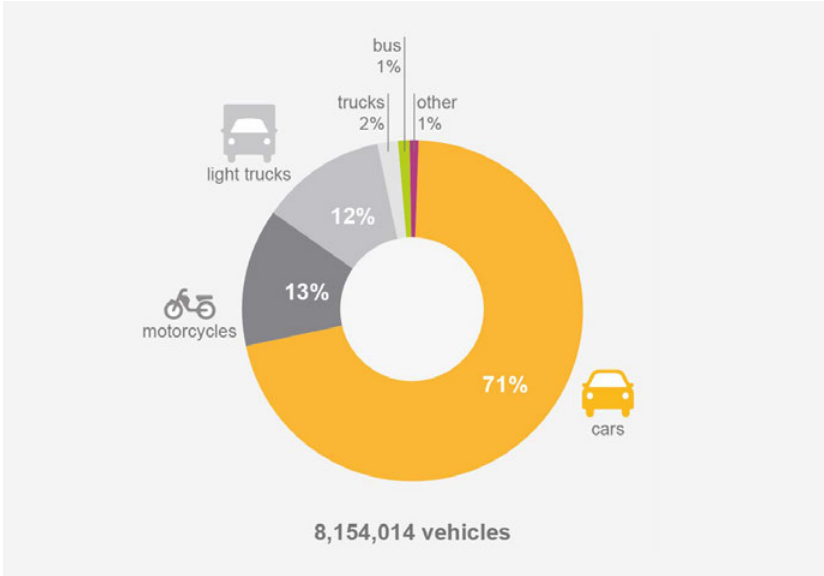
The hierarchy of commuting in Latin America is similar to the one observed in North America. Cars usually have priority over buses (e.g. traffic lights). Pedestrians and bicycles are the bottom groups in the traffic hierarchy. Usually subways are the favored mode of public transit: they are hidden and do not interfere with cars, i.e. the status quo is not touched, yet something is added. The subway in São Paulo is very small for the size of the city (around 75 kilometers) but it usually runs at a commercial speed considerably higher than other public transit modes. The bus fleet in São Paulo is relatively new (five years old on average) but with low operational speed. The commuter rail is extensive in the metropolitan area but its headways, the time periods between trains, are considerable.

Cities that already have a large transit share in public modes, such as São Paulo, present a good opportunity. Buying a car represents a sunk cost that makes it difficult to change commuting modes. If it is possible to offer good quality and relatively high speed in public transit, current users will not be as inclined to change modes. The opportunity represented by non-ownership based mobility is reinforced by new technologies in the public individual modes. Uber and Lyft together (among new, smaller players) are reducing the cost of commuting by car. In “the sharing economy” the user pays for the service and not for the whole

capital cost. Taxis and shared modes are also complementary to active modes and public transit. Those modes do not require parking so increasing their share opens (again) the possibility to use former parking spots as public space or utility areas.

When we look at sub-modes in public transit, subways and elevated rail systems are at the top the list in terms of speed and quality but the price is such that only a limited number of corridors in a limited number of cities could deliver a public transit network. Both subway and elevated rail are expensive forms of infrastructure, requiring high capital investment and significant timelines for realization. While there is a current vogue for Light Rail Transit (LRT), a less-intensive alternative, it is more limited in terms of carrying capacity, and for much of the





(Opposite page, top) Modal share in the metropolitan area of São Paulo. Source: OD 2012 – Metro SP (Credit: BIGRS São Paulo)

(Opposite page, bottom) Car fleet from the city of São Paulo. Source: Mobilidade Segura 2016 / SMT-PMSP (Credit: BIGRS São Paulo)

Pop-up street transformation in Bogotá.
(Credit: NACTO-GDCI)

developing world, LRT still has a price tag beyond feasibility. Road based bus systems are often deprived of investment and basic amenities, and thus encourage users to seek private motorized alternatives as soon as it is economically viable to do so. They compete directly with cars: a new car on the street reduces their speed.

A reasonably affordable technology that provided a quality customer experience was proposed and built in a relatively unknown Brazilian city: Curitiba. The technology was Bus Rapid Transit, known commonly as BRT. While this example has become commonplace in professional and academic settings related to urban development, it is still one of the most important precedents for meaningful change in urban mobility share and urban impact. In Curitiba BRT was established in the early 1970s, during the mayoral tenure of Jaime Lerner, to deliver metro-like capacity and quality but at an affordable price for the public. With pre-boarding level entrance, surpassing lanes in all stops and two stops combined it is possible to move more than 40 thousand passengers per hour – at the same speed as the metro.

Within a few decades, BRT has redefined what is possible with public transit. The BRT system TransMilenio in Bogotá, Colombia is capable of moving 45 thousand passengers an hour at 27–30 kilometers per hour, nearly equivalent to a subway system. Subways are able to move 60 thousand passengers per hour at 27–30 kilometers per hour. In 2000 there was 600 kilometers of BRT in the world; in 2010 this had grown to 3.3 thousand kilometers. 117 cities had BRT by 2010. Nine out of the 15 largest metropolitan areas in the world have a BRT system.

Even with the recent growth and interest in BRT systems, the question remains: why are there still so few BRTs out there? It is possibly the best way forward for public mass transit, and we would expect to see more kilometers of BRT than subway given all its advantages. This is true especially if we consider that, apart from China, the total number of kilometers of subway have been pretty much stable in the world over the past two or three decades. The first problem is political. BRT systems usually take more time than the tenure of government workers or a term in political office to finish, making it a tough decision for politicians – unfinished projects are seen as a factor that mars the record and reputation of those in competition for public office. Second, BRT has delivered speed and carrying capacity but not the solution for the public transit system. The problem is that there is resistance to making it actually function like a subway system. To make it truly compatible with a subway system it is necessary to have a network with very few routes, probably not more than five routes per branch. With TransMilenio, for instance, there are around 10 different routes competing in each

corridor. In other cases, the number of competing routes is often worse. In São Paulo corridors there are usually more than 40 routes competing for the space in the road system.

The main point, however, is that it is possible to drastically change commuting patterns if we change the conventional modal hierarchy that has been dominant over the last six or seven decades. This change will fundamentally affect the urban form in such a way that it is comparable with the advent of the car. Many cities are now moving in this direction but evidently changing the status quo is quite tough. São Paulo started this movement in the last four or five years, considerably late compared to its counterparts in Latin America and even in Brazil. However, it is important to start. Following João Doria's takeover as Mayor of São Paulo on January 1, 2017, the government appointees have also changed. Despite the campaign dispute with the entrant challenging the incumbent about his policies pointing away from automobile dominance, it does not seem that any significant change will take place in this matter.

The new transport hierarchy and the role of innovation

It is clear that the change in course for urban mobility will get deeper and deeper over the next two decades. It poses a problem to be solved by jointly by planners, transport engineers, public servants inside the local government and at other levels (state and national), consultants working for the government, NGOs, economists, etc. If pedestrians should be privileged above all other modes, as prevailing wisdom now dictates, all interventions must first focus on them. How pedestrian infrastructure might be improved is one of the main questions that all the players involved in future urban interventions should attempt to answer.

A change in paradigm will also be present in the way we treat inter-modality. It will more precisely be called "multi-modality". The urban design approach might therefore be the combination and integration of many modes simultaneously. A train station or a bus stop cannot ignore the pedestrians walking to the station or stop; the bus stop has to "talk" with all stations around it and vice-versa; the

(Opposite page)
Viaduto do Chá intersection in São Paulo.
(Credit: Mariana Gil / WRI Brasil Cidades Sustentáveis)

(This page)
Prioritizing people in street designs.
(Credit: NACTO-GDCI)

surroundings must be safe for any mode. In brief, the city must be interconnected across modes protecting the weakest modes: walking and biking. Furthermore those are the only ones that almost never generate negative externalities. The urban project must think about more than the site and it must include its connections into and around the city.

The main transit corridors must be dense in terms of population. This is usual in many cities but it is not in the case of São Paulo. Local centers might be empowered by the same token. São Paulo has a rich set of centers located in the periphery. They were created over two centuries ago, usually as a side effect of the *Bandeirantes*[2] colonization in São Paulo State. The historic centers of the "once upon a time" villages, which turned into urban neighborhoods, will play a major role in this strategy of local development. Local centers are where most connections happen and consequently the first sites to require a new design. The future of urban form will probably have several carless sub-centers. Those sub-centers will play a relevant role in reducing inequalities[3] and commuting time for those using public transit or active modes.

The advances in mobile technology, in batteries and in autonomous driving will contribute to this change. It is very likely that driverless vehicles will be responsible for a big share of transport in as little as a decade. The need for a family to own a car will fall sharply in large cities. Control over autonomous cars will be very easy to implement, so traffic laws will be easily enforced. With very low emissions and noise, the street can become more attractive as general public space, and this change has to be taken into account when designing the city of the future.

From the public policy perspective increasing control over vehicles using city roads (or drastically lowering the price of control) makes it easier to manage the city. However, regulating the new economy makes it more difficult. How to regulate transport network companies, apartment rental platforms, autonomous driving, etc. is the Catch 22 of the next two decades. The government has to surf on the new economy, hiring start-ups to supply innovation (not technology) for its needs.

To conclude this optimistic essay, it is clear that there is an important opportunity out there. Advances in technology, a change in the organization of institutions and a change in behavior will open room for initially neglected mobility modes. Active modes are naturally combined with public space. Cities will become much more walkable and interconnected. Many more social interactions will become probable, inherent to the public mobility modes – and these interactions are the reason why cities ultimately exist. The urban form will change considerably over the coming two decades if local government takes advantage of this opportunity. This change will determine the local economic development of large cities – and consequently of countries – since more and more people live in cities.

If we can keep pace with this movement and improve the way we plan transport networks and urban space, by planning them together and heeding the need for interconnection and integration, we might substantially improve the urban form. This could lead to more sustainable and resilient cities, less pollution and greenhouse gas emissions, more progressive urban policies and a more humane urban environment. If we fail to take advantage of this opportunity now it may become too late for large metropolitan areas to move in this direction.

[1] Organisation for Economic Co-operation and Development (OECD). Members are the EU countries, along with Australia, New Zealand, Japan, Israel, Korea, Turkey, Chile, Canada and the USA.

[2] Bandeirantes is the denomination of a group of Brazilian-born Portuguese that, starting in the XVI century penetrated into the middle of Brazil, in search of gold and silver, indigenous people to enslave and to exterminate small organizations of slavers that escape from slavery (quilombos).

[3] Local centers in the periphery of São Paulo are located in relatively poor areas. The users from these peripheral neighborhoods and the surrounding areas that will benefit from this investment will be, consequently, the poor, making it a progressive expenditure.

NEW MOBILITY PARADIGMS AND THE EQUITY QUESTION

Diane E. Davis

Across the globe, urban areas are growing in ways that require new strategies for addressing or managing urban mobility. Inspired by climate change and other sustainability goals, a growing number of cities have embraced new transportation agendas, reflected in a concerted desire to move away from automobile dependence and accompanied by a commitment to creating more carbon-friendly environments through the promotion of biking, walking, ride-sharing, congestion charging, and a wide range of collective transport options, including bus rapid transit. Although the struggle against sprawl and automobile dominance has a longer history in Europe, several cities in the US and selected other increasingly prosperous regions of the developing world have also adopted these aims. In New York City, Seoul, and Paris, for example, local officials have made progress in crafting a range of transport and land-use policies oriented towards recovering streets from cars, repurposing old transportation infrastructures into vibrant public spaces, and re-invigorating cities by providing new forms of mobility that enhance accessibility within the urban core.[1]

Urbanization and mobility in the 21st century

The embrace of common mobility strategies across such diverse cities owes in part to changing macroeconomic conditions, particularly the new opportunities provided by economic globalization and the important role that cities play in buttressing national economic development. Many of the world's leading cities are transcending their manufacturing past and becoming sites for new forms of investment in finance, real estate, and corporate services not to mention the high-tech and innovation industries as well as tourism, retail, and entertainment. These transformations have changed urban demographics while also producing a desire to jettison the restrictive zoning and single function land-use models of the past century, replacing them with more integrated living, working, and leisure spaces. To achieve this vision, urban designers and planners are re-imagining city and block form so as to provide new models of urbanism that can effectively advance such priorities.

Transportation is key to achieving these aims, thus inspiring a new generation of design professionals to focus attention on the urban core and its connectivity to other parts of the city, rather than prioritizing the development of infrastructures that cater primarily to the suburban periphery.[2] Whereas in the past considerable public sector resources and transport policy-making energies were devoted to expanding large infrastructure networks – such as those catering to highway and roadway development so as to facilitate car travel within and between suburbs and sites of employment in the city – in many contemporary cities car dominance is no longer accepted without question.

As the prevailing transportation paradigm is shifting to accommodate alternative mobility preferences and support new forms of urban-based economic growth, so too the array of actors and institutions involved in transport decision-making has started to shift. Far from falling solely under the purview of engineers and

SÃO PAULO, BRAZIL – NOVEMBER 12, 2015: Traffic on the famous 23 de Maio Avenue in São Paulo, Brazil. (Credit: Alf Ribeiro / Shutterstock, Inc.)

other transport infrastructure technicians and professionals, private sector and civil society actors are increasingly involved in advocating for new forms of pedestrian-oriented land use and in providing new mobility services, including Uber and other technology-inspired transport innovations.[3]

The political economy of sustainable transport: regional differences

These patterns do vary regionally, however, with the embrace of walkability and high tech mobility services more prevalent in some parts of the world. In the United States and Europe, because the transition from a manufacturing to service-based economy is relatively widespread, the historic and cultural importance of the urban core has been strengthened in ways that preserve its residential character.[4] In Europe, and less so the US, a growing environmental movement has contributed to public discourse about the dangers of accelerating carbon emissions, thus helping refocus attention on mass rather than individual mobility. One result is a reassertion of the value of urban density and compactness as well as growing recognition of the importance of both managing congestion and privileging non-motorized transport and pedestrian mobility.

In contrast, in many parts of Latin America the trajectory has been somewhat less straightforward. Rapid urbanization has been accompanied by income and wealth expansion as well as intensifying inequality, along with rising lower-middle and middle class expectations about suburban living and car ownership. In addition, small-scale manufacturing still exists in many of the region's largest cities and many of these activities are sited in the older more historical parts of downtown.

Hence, although some of the very same mobility challenges that confront US and European transportation policy-makers are demanding attention from authorities in cities of Latin America, the social, spatial, and economic context is somewhat different. The public has been less willing to accept limits on automobile expansion because patterns of sprawl have intensified faster than public transport service provision, thus making large numbers of the urban population dependent on individualized private transport. Complicating matters, the automobile industry is booming through the relocation of manufacturing plants from the US, Japan, Korea, and even China into countries like Brazil, Mexico, Colombia, Venezuela, Ecuador, and Uruguay. The important role that the automobile industry plays in the national economy and the dependence on individual transport both affect public and private sector capacities to build coalitions around sustainable transport priorities.

Likewise, the fiscal constraints on policy action may also have a bearing on the local state's capacities to change course with respect to transportation infrastructure and priorities. In much of urban Latin America, the embrace of democratization came with decentralization of decision-making power spreading across the region starting in the late 1990s; but this turn has meant that local revenue generation capacities are often quite limited, if not under-institutionalized. Whereas in the pre-democratic era many transport policies were formulated at the national level, democracy has changed the political landscape. Despite their newfound authority, local actors may lack a track-record of regulation and proactive investment in transport, particularly as competitive elections mean that local authorities are often starting from scratch with respect to forging new political coalitions or institutional mandates to guide transport policy, and many are doing so with fewer financial resources than national authorities had available to them in the past. More significantly, given the history of informality and the longstanding practice of private provision of collective transport, often built around a fragmented array of bus and jitney organizations, efforts by newly elected urban authorities to introduce new transport services, even if they do have the fiscal resources, always requires extremely skillful political negotiation and perhaps even buy-outs.[5]

MEXICO CITY – FEBRUARY 25, 2010: Line of Mexican people in public transportation station in Mexico City on February 25, 2010. It's the second busiest publicly owned transit system in North America after New York City. (Credit: ChameleonsEye / Shutterstock, Inc.)

For all these reasons, transportation problems loom large in local politics across urban Latin America, with efforts to restructure transportation services leading to both the success and failure of certain administration.[6] Indeed, the political capital it takes to restructure a bus industry dominated by a range of small providers who offer low-cost (and often low-quality) services is enormous, in part because citizens are often unwilling to pay more for daily transport even if it means service improvements. When authorities are successful in bridging the gaps between cost and effective service, and when they do so while also advancing sustainability goals, they can advance their political standing. Yet this is easier said than done. In providing comprehensive and low carbon transportation services, local authorities are often constrained by the very same urbanization patterns that put these issues on the agenda in the first place. It is one thing to effectively and sustainably meet transportation needs for a few million inhabitants, and quite another to do so in sprawling metropolitan areas of 15–21 million like São Paulo or Mexico City, where the urban footprint territorially extends into multiple municipalities beyond the historic center city's own political boundaries. Just as significantly, it is this same expansive urban form that often throws into disarray the efforts of public and private sectors to simultaneously advance the regeneration or upscaling of central city areas, so to achieve the renovation and repurposing of old manufacturing spaces into sites for new service, corporate, or residential uses,[7] while also establishing well-ordered and affordable transport connectivity between a redesigned city center and its surrounds. After all, these two goals are often in conflict, as they both require financial resources and are built on slightly different views of what the future city should look like, with connectivity often prioritized by residents in the periphery and downtown redevelopment embraced by citizens who already have better transport access to city centers.

The conflict between these urban visions can slow down the achievement of sustainability goals. Because urban renovation priorities are often tied to a city's global profile as a site for financial services, real estate, and upscale development, they speak to the city's future economic growth and thus to its economic elite. In this regard, they may also generate more political support than large-scale

SÃO PAULO, BRAZIL – APRIL 04, 2009: Bandeira Bus Terminal in São Paulo, Brazil. (Credit: Alf Ribeiro / Shutterstock, Inc.)

infrastructural and sustainable mobility goals, primarily because in the Latin American context economic development priorities often trump environmental priorities, given the importance of economic growth and prosperity to the political elite. Yet at the same time, the privileging of global city redevelopment goals can pull needed resources away from transportation, thus alienating large swaths of the urban citizenry, particularly those who are pushed even further outward from the center as investments in urban redevelopment raise property values and recast the class and social composition of older, more central parts of the city, displacing its longstanding residents and limiting their access to its longstanding social and cultural institutions. Thus, even if the recasting of urban models to privilege walkability and mixed land use has become part and parcel of the urban redevelopment agenda we are seeing in cities across the globe, when this occurs in the large and sprawling cities of Latin America, it can bring pushback – particularly from the more disadvantaged populations who do not receive the direct benefits of upscaled central city spaces or whose displacement to the periphery drives them to prioritize better transportation services, sustainable or otherwise.

Socio-spatial fragmentation and the struggle for new mobilities in Latin America

That poor and middle class residents of Latin American cities are clamoring for more investment in public transportation services as a lot to do with the history of urbanization, which overlaid social and class differences on urban form. In Latin America and other parts of the global south, the actions of planners – both urban and national – were informed by the assumption that development occurred through the conquest and re-shaping of "untamed" spaces. On the national scale, this entailed a "colonization" of national territory through major infrastructural projects like roads and electricity, with the aim of integrating people, places, and natural resources into a larger project of employment and economic expansion. At the level of the city, architect-planners' programmatic concerns with rationalizing social and spatial order were manifest in the development of urban plans with a strict spatial order. Different parts of the city were not only preserved for different social and economic functions; there was little room for any "pre-modern"

NEW YORK CITY – APRIL 20, 2015: The public plaza outside the Landmark Flatiron Building in NYC on April 20, 2012. This 50,000 sq. foot pedestrian plaza is located on Broadway. (Credit: littleny/ Shutterstock, Inc.)

mixing of land uses or informal activities in those areas designated as sites for a modern economic and political order. Such dictates re-directed the poor and marginalized citizens to liminal (and usually distant) areas of the city where informality was tolerated and where marginality flourished. Even as planners responded by extending the modernist project to ever more populations and neighborhoods – usually through state investments in workers' housing, transport, and services – fiscal constraints usually meant that such goods could not be provided for all urban residents. Those living in the informal areas of the city tended to be ignored.

One result was the development of a divided metropolis in which large swaths of the urban population lived in so-called "no man's lands" outside the social, spatial, and political bounds of the formal city and its servicing regimes. Whether seen as marginal or informal, planning's preoccupation with the trappings of modernity meant that residents of these neighborhoods were practically "invisible" to city officials, whose studied failure to recognize them as part of the modern project further justified the explosion of neighborhoods without services, without formal property rights, lacking in political recognition, and with only minimal access to the goods and services of the modern or formal city. These patterns not only set the basis for more social and spatial separation rather than integration, they reinforced the view that those who lived in the informal city and marginal neighborhoods were second class citizens not morally worthy of inclusion or recognition, whose urban lifestyles and practices both stained and challenged the larger modernist project.

Against this backdrop, urban designers' and planners' efforts to address the transportation question, whether through new mobility services or other infrastructural interventions, can not merely be about streamlining current patterns of accessibility, tinkering with urban form, or introducing other more small-scale innovations associated with the contemporary designer's toolkit. They also must be framed within an action framework that addresses questions of the so-called "right to the city" and that asks whether new visions for linking transportation and land

PARIS, FRANCE – MAY 16, 2014: Velib Cycle Hire service. (Credit: pio3/Shutterstock, Inc.)

use – even those informed by the re-design of urban centralities in order to simultaneously achieve sustainability and economic development goals – will be able to address historical issues of socio-spatial inequity. This is true not just on the ground and from the perspective of citizens, as has recently been evidenced in São Paulo where a massive social movement that pressured local authorities to rethink their transportation services originated from outrage around issues of class and social inequity and exclusion.[8] It also is what has inspired a new theoretical discourse in the field of urbanism, which some have called the mobility "turn," leading to a new way of conceptualizing the historical and contemporary importance of movement in the lifeworlds of individuals and society, especially as impacted by the increased rates of and forms mobility. The so-called "mobilities paradigm" seeks to theorize the extent to which such changes lie "at the center of constellations of power, the creation of identities and the microgeographies of everyday life."[9]

Urban design for equity

All this suggests that efforts to rethink the design of cities and their transportation infrastructures are much more than just opportunities to re-imagine and modify urban form or advance moments and pockets of more environmentally sustainable urbanism. They are also the main entry point for rethinking a more equitable and socially inclusive city, and thus hold the potential to be emancipatory in conception and application. Any new design of transportation infrastructures for the twenty-first century should be able recognize, mitigate, or reverse the patterns of spatial exclusion that characterize the modern Latin American metropolis and that have produced a clamoring for better transportation services in the first place. They also need to be conceived with new attention to the value of creating connectivity at the scale of the city, and not merely at given sites or parcels. Without considering the scalar context in which the parts and the whole of a city interact, transport design interventions – despite constituting important gestures towards more livable cities – risk being no more than pragmatic and incremental moves that leave untouched the larger historical conditions of socio-spatial segregation, exclusion, and inequality.

Historically, scholars have evaluated the equity implications of transportation by focusing on whether and how a given service will redistribute individual user costs vs. benefits or offset private sector-driven inequalities such as uneven access to individualized transport modes, particularly private cars. Yet if we were to evaluate transport equity through the lens of spatial patterns and the classed, racialized, and gendered mobilities they enable or constrain, we would be in a better position to counteract the historically uneven use and access to urban spaces, both public and private. These remain among the thorny, intractable dilemmas of transport and spatial planning under conditions of capitalist urbanization – notwithstanding increasing trends of democratic governance and participatory planning.

To address these concerns, it is important to take into account historical, institutional, and socio-spatial factors underlying present urban transport issues and challenges in a given city. This includes paying attention to how urban metropolises function as a whole, and the broader impacts and consequences of policies beyond their immediate outcomes. But most important, it requires a socially perceptive urban design sensibility, informed by constant interrogation. That is, urban designers must ask what sorts of activities and locations does a given transport policy or project serve? What does this imply about urban development aims and trajectories? Will a particularly innovative transport design shift the mandates of public agencies or energize civil society and urban denizens – not just transport

experts or investors – in ways that expand local and regional capacity to plan and implement urban transport in ways that continue to promote equity? Finally, how might a transport policy or project provoke interest and engagement in issues of urban land use planning and real estate development, especially to the extent that they exert gentrification and displacement pressures on low-income inner city communities or relegate the urban poor to the metropolitan peripheries?

What is becoming increasingly clear is that urban designs and urban designers need to move beyond the traditional preoccupation with technical and physical upgrades of the urban built environment and its infrastructural facilities if they want to grapple with the complex interrelations between the evolving scale and function of cities and profound inequities of mobility and accessibility. In achieving these lofty ideals, they are exactly the partners that city leaders and transportation planners need on their sides. Transportation experts have long approached the problem of mobility through a sectoral lens, thinking merely about the financial, infrastructural, and regulatory dimensions of vehicle traffic, often with the aim of merely shifting mode shares. They all too rarely think about the quotidian urban experiential context in which vehicles and their passengers are circulating (or not). City leaders, for their part, are prone to respond to the requisites of upcoming political campaigns, seeing the city as the space of the electorate, but not necessarily as a built environmental landscape whose transformation will lay the groundwork for future politics. Against these potentially narrower and presentist visions, the value of urban design as a profession – and as a sensibility – is that it informs, situates, and interrogates the city with a deep appreciation for everyday urbanism and with an understanding that changes in transportation infrastructure and servicing will set the terms for the future body politic, by either enabling or constraining new forms of sociability, equity, and the larger urban public good. To complete the circle, designers and planners need to keep these larger emancipatory goals in mind, holding the future in their hands as they project interventions onto the present.

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[1] More on Mayor's summit; TUT-POL.

[2] Two of the most lauded such urban design interventions are New York City's Highline and the Chongyyechong stream restoration/Ganbuk redevelopment project in Seoul, South Korea. It is worth noting that both transform old highway infrastructure into new, more pedestrian friendly public spaces, thus re-invigorating old parts of the city for new urban functions.

[3] In San Francisco, the introduction of Uber resulted from a change in livery regulations, undertaken in response to heavy lobbying from the private IT firms and a willingness of the city's mayor to accommodate their requests so as to build San Francisco's brand as a high-tech city. For more on this, visit "Transforming Urban Transport: The Role of Political Leadership" available at: http:/research.gsd.harvard.edu/tut.

[4] For more on the efforts of local authorities to enhance walkability, biking, and other measures intended to take street space away from cars, see a detailed discussion of Paris and New York in "Transforming Urban Transport: The Role of Political Leadership." It is available at: http:/research.gsd.harvard.edu/tut.

[5] For more on the skillful negotiations between Mexico City's mayor and the private jitney industry in order to facilitate the introduction of bus rapid transit, see in "Transforming Urban Transport: The Role of Political Leadership." It is available at: http:/research.gsd.harvard.edu/tut.

[6] Probably among the most noteworthy examples here are Jaime Lerner and Enrique Penalosa, both of whom cemented their global reputation through innovations in transportation and overall urban mobility infrastructures, both with the BRT, and more recently in the form of Penalosa's commitment to limiting on-street parking and extending bike lanes.

[7] Brazil Olympics, Slim's Centro Historico, Buenos Aires.

[8] For more on the mobilizations over transport and accessibility, see Teresa Caldera and Anneli Tostar 2016. "Transforming Urban Transport: The Collaboration of Civic Participation and Political Leadership in São Paulo, Brazil. Available at: http:research.gsd.harvard.edu/tut.

[9] Cresswell, 2011, 551.

A CITY FOR EVERYONE

Elisabete França

São Paulo's urbanization process has important aspects that explain the current urban conditions of one of the largest cities in the Southern Hemisphere. The city's 200,000 inhabitants in the early 20th century – who occupied a small portion of territory located around the now-historic hill chosen by São Paulo's Jesuit founders to be the center of what was then a village – are now 12 million, living in neighborhoods that are not only very different from each other in terms of existing infrastructure, connections and general quality of life, but also separated by distances of up to 40 kilometers. This population increase demonstrates, unequivocally, people's adherence to urban life and to the city as a place of opportunity: of access to education, health services, and employment, and, finally, a fuller life.

Population growth in São Paulo occurred from the late nineteenth century onward, particularly with the arrival of millions of immigrants from Italy, Japan and Germany, along with migrants from other Brazilian states, who came here in search of opportunities, all of whom, surprisingly, adapted themselves to the Paulistano (a name used to refer to people from the city of São Paulo) way of life. The attraction that the city has had – and continues to have – for those who have come over the years has resulted in a landscape of contradictions between the prosperous and the poor, the plural and the segregated, the integrated and the fragmented. At the same time, ethnic and cultural diversity accounts for some of the magical attraction that São Paulo exerts, where opposites coexist and continually question each other, resulting in an appealing and complex social life.

The competition site of the 2017 Schindler Global Award, around the CEAGESP (Companhia de Entrepostos e Armazéns Gerais de São Paulo) wholesale market, is an example of this mosaic of cultures that characterizes the city so well: 50,000 people pass daily through this area and, on weekends, two local street markets receive more than 30,000 visitors. They come in droves to buy fresh food, flowers, and to eat the famous onion soup at dawn – one of the most traditional activities in São Paulo.

São Paulo's urban challenges

The city's population growth of a factor of 55 in less than one hundred years[1] demanded operational ability from the government, normally difficult to achieve in the short and medium term. The result is a deficit of infrastructure and public equipment. In the case of housing, since the 1960s the government's attempts to fulfill demand through the construction of large-scale social housing complexes, located in areas distant to public facilities and employment, has contributed to an increase in the number of people who settle in precarious settlements – favelas – often situated closer to basic urban services. The statistical ramifications of this misguided public policy are staggering: about 800,000 families in the city of São Paulo, or 3 million people (25 percent of the total population), live in precarious conditions, characterized by a lack of infrastructure or irregular land tenure[2]. These families are living in slums (favelas), irregular settlements (informally subdivided land parcels), and cortiços (informally sublet tenements). Together, these precarious housing sites occupy approximately 124 square kilometers, less than 10 percent of São Paulo's municipal territory.

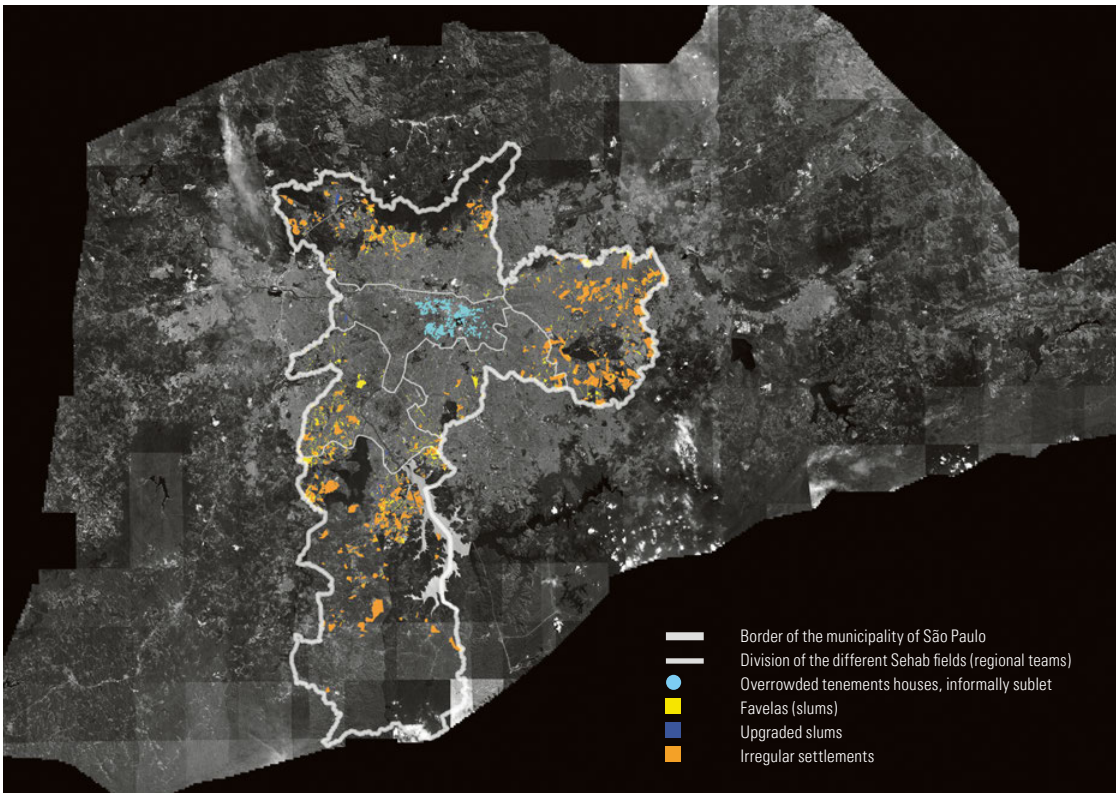
New social housing, replacing the former favela of Real Parque. (Credit: Fábio Knoll)

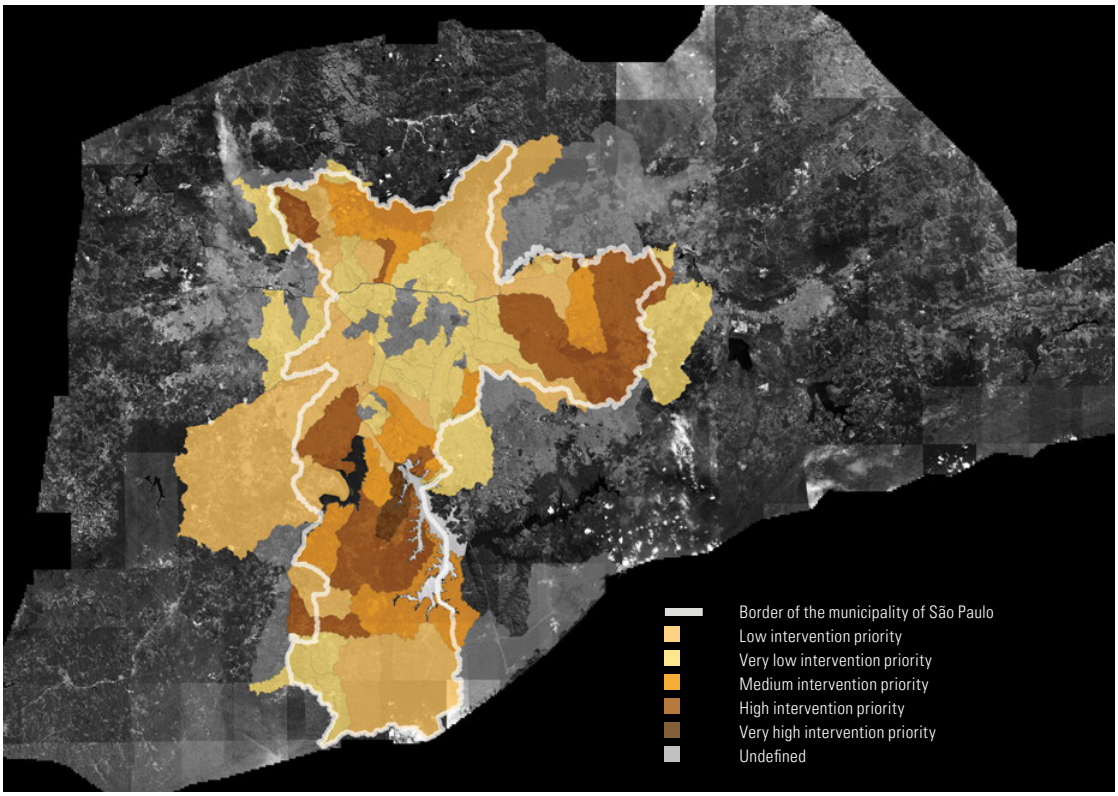
A significant portion of the favelas and irregular settlements are located in environmentally sensitive areas, which are not of interest to the real estate market. This includes stream banks that are (now) contaminated and have steep slopes, among other issues. Often, these urban spaces were defined as public areas for common use. In these districts, the rates of urban precariousness are high and related to the lack of sanitation networks, at-risk housing – as in the occupation of slopes and valley bottoms – and to the lack of drainage systems. About 20 percent of the favelas and 13 percent of irregular settlements are located in areas subject to flooding.

The road and mobility concept model that was implemented from the 1930s onward contributed to the aggravation of the city's urban fragility, especially of the poorest areas. This model was based on the incorporation of the city's valleys into the road system, which resulted in the canalization of more than 300 streams and 70 rivers, turning the water system into the main foundation for large avenues and highways. As a result, when it rains, water accumulates quickly on the surface, with formidable destructive power, resulting in storm water runoff, flooding, property damage, and even causalities, all considerable complications to the daily life of the Paulistanos.

The housing policy of the City of São Paulo

After a long learning process including the successes and failures of various housing programs implemented in the city, since 2005, the São Paulo Municipal Housing Secretariat has decided to organize its social housing policy based on the following challenge: how to find approaches to a problem that affects about 25 percent of the population?


Border of the municipality of São Paulo
Division of the different Sehab fields (regional teams)
Overrowded tenements houses, informally sublet
Favelas (slums)
Upgraded slums
Irregular settlements


Border of the municipality of São Paulo
Low intervention priority
Very low intervention priority
Medium intervention priority
High intervention priority
Very high intervention priority
Undefined

It has been indeed a highly complex task, and its starting point was the development of a detailed analysis of the conditions of precarious settlements. This was supported by a number of subsidiary studies, which allowed the determination of the actual housing deficit and the degree of inadequacy of the favelas and irregular settlements, in addition to the already-recognized settlements.

A new information system, known as HABISP,[3] was developed as a digital slum survey system and represented the decision-making base for the comprehensive slum upgrading process and land tenure program. Within the universe of more than 2,000 existing favelas and irregular settlements in the city of São Paulo, the data collected in HABISP allowed for a broad assessment of the situation. The systematization enabled the definition of two aspects of the housing problem in numbers: firstly, inadequate housing, mainly related to the favelas and, and secondly, the housing shortage resulting from the need for new housing to resettle families living in dangerous conditions in the favelas, or to accommodate families living in extremely poor conditions and using a substantial part of their income on rent.

The final figures of the Municipal Housing Plan (2009–2024) show that today, in the 21st century, the city is confronted with a huge challenge, which demands answers to the raging legal and social insecurity in the favelas. It requires the implementation of urban renewal, upgrading and land regularization programs and the construction of new housing. The Municipal Housing Plan was the base for these programs and projects, which are currently under review with a view to their compatibility with the new Strategic Master Plan approved in 2014.

Addressing the issue of precarious and irregular settlements has implied a diversified operation in search of better living conditions through the following programs: the upgrading of precarious settlements, followed by a transfer of the urban and land tenure to the residents; elimination of risk areas; revitalization of degraded property for residential purposes in the city's central area; and the building of new housing for purchase or for subsidized leases.

Since 2005, the São Paulo Housing Policy has also aimed at innovating, through the use of urban instruments as provided in the 2002 Strategic Master Plan (Plano Diretor Estratégico, PDE). Especially important have been the so-called Urban Operation Consortiums (Operações Urbanas Consorciadas, OUCs), a legal tool for land value capture (LVC) within large urban development projects. Since 2001, OUCs have managed to capture the value of the real estate market through the sale of Cepac's credits.[4] This has allowed extra budgetary resources to be raised for use in projects within their territorial perimeter, as defined by law and approved by the management council of each master plan under the special planning regulations applying to all OUCs.

Since 2009, a significant portion of these funds has been invested in the construction of social housing (Habitação de Interesse Social, HIS) in a precarious settlement located within the OUC of Faria Lima, an area in the southern part of São Paulo's central zone, and the OUC of Água Espraiada, as well an area in the southern part of the city's central zone. In Faria Lima the social housing complex Real Parque was built to shelter the families living in the favela situated on the site of the new venture (1,252 dwellings). In Água Espraiada it was planned that 4000 new units would be built[5] for families formerly living in precarious settlements along the stream. It is important to note that the new social housing provided to the favela dwellers in the territory of the OUCs is built next to or in the areas where the families originally lived, avoiding resettlements to more distant locations.

(Opposite page, top)
Classification of Sehab's intervention areas.
(Credit: Satellite image from IKONOS, 2002)

(Opposite page, bottom)
Hierarchy of Sehab's intervention priorities, following the logics of the water basins, and within them the density of favelas and irregular settlements that were not yet upgraded.
(Credit: Satellite image from IKONOS, 2002)

The OUC of Água Branca, an area in the north of the city's central zone, approved in 2013, was innovative as it used 25 percent of the overall project budget for the construction of social housing. This was built not only within the project perimeter but also within an expanded perimeter, in order to provide housing for families living in favelas that were located in the OUC's area of influence. Thus, the ability of the public sector to respond to demands of the Municipal Housing Plan (Plano Municipal de Habitação, PMH) implies the leverage of all resources and strategies, and the mobilization of stakeholders and actors, especially in the private sector. More recently, the São Paulo State Government has invested in Public-Private Partnerships (PPPs), which, through innovative mechanisms, promote the construction of social housing in the central region, aiming at mixed-use and mixed-income housing developments.

(Top and bottom) Former favela of Real Parque with Singapura social housing typology constructed around 2000. (Credit: Fábio Knoll)

Precarious settlements on the CEAGESP site

On the CEAGESP site, there are also examples of precarious settlements: the Favela da Linha and the Favela do Nove, both located near the Cingapura Madeirit[6] social housing project, which was implemented in the 1990s to replace favela accommodation. About 1,000 families live in these three areas, mainly attracted by employment opportunities at CEAGESP, public facilities, and transportation.

The Favela da Linha, located along a decommissioned railway line, is the one that endures the most critical situation regarding lack of infrastructure and levels of violence. Settled in an 18-meter wide and 320-meter long plot near the banks of the Pinheiros River, housing, in the form of shacks, is arranged in a corridor-like formation running through the lot. The Favela da Linha has been highlighted

(Top)
Slum-upgrading project in Nova Jaguaré with new social housing.
(Credit: Fábio Knoll)

(Bottom)
Upgraded favela of Nova Jaguaré with old and new social housing.
(Credit: Fábio Knoll)

in recent months by the constant complaints of child prostitution coupled with drug trafficking, which only aggravate the precarious situation of families living there.

In summer, during the rains, the CEAGESP area is frequently affected by flooding, mainly because of its proximity to the Pinheiros River, damaging the city's food supply and further endangering those living in precarious conditions. The 2009–2024 Municipal Housing Plan includes arrangements to resettle families living in the Favela da Linha and Favela do Nove to new housing developments. These will be built in the area in order to preserve the existing social networks established by residents over the course of more than three decades.

Across the Pinheiros River, the Favela Nova Jaragué already underwent comprehensive upgrading and building intervention, which included the transfer of land tenure rights. Nova Jaguaré has much more striking population figures: about 4,000 families (or 16,000 people) live there. Some of them have jobs that are related to the CEAGESP. Although their housing has been upgraded and residents provided with land tenure rights, around 500 families are still waiting for the completion of new social housing in the area. Moreover, in the last two years, Nova Jaragué has attracted new dwellers, resulting in an increased number of urgently needed social housing units in order to adequately accommodate those now living in precarious shacks.

Outlook for the CEAGESP area in the coming years

The 2014 Strategic Master Plan foresees the relocation of the CEAGESP wholesale market to the north of the city, an endeavor that coincides with the task of the 2017 Schindler Global Award. It is important that, as part of the planned reuse of the area and development of a new neighborhood on the site, a significant percentage of social housing will be included, to meet not only current, but also future, demand, as part of the Municipal Housing Plan (2009–2024). New instruments have recently been tested in the city, with a view to increase the social housing production within the private sector, such as the mentioned Public-Private Partnerships (PPPs) coordinated by the State Government and the so called Rental of Accessible Housing (Locação Acessível Residencial – LAR). These instruments can be jointly implemented, both seeking to encourage the private sector to engage in the construction of social housing. In general, the State of São Paulo is promoting innovative and inclusive housing finance systems, stimulating the private sector to invest in housing for low-income families based on the recognition that policies coordinated by the public sector alone have been unable to cover the housing shortage.

Urban design projects for the reuse of the CEAGESP area should therefore aim for participatory and inclusive planning approaches to guarantee access to adequate housing, in a mixed-use neighborhood open to all social classes, connected to good public transportation infrastructure and to various modes of urban mobility. Last but not least, urban design proposals should provide access to employment and income opportunities, and indicate ways to mitigate urban risks related to climate change and its effects. There is significant potential for São Paulo to contribute knowledge and experiences, in exchange with other big metropolises that are dealing with similar issues.

[1] 2010 Census. Instituto Brasileiro de Geografia e Estatística (IBGE).

[2] According to the 2009–2024 Municipal Housing Plan, completed in 2010 and currently under review.

[3] www.habisp.inf.br (currently under review).

[4] The Certificates of Additional Construction Potential *(Certificados de Potencial Adicional de Construção Potential – CEPAC)* are issued by the municipalities within the Urban Operation Consortiums and used as Counterpart of Development Exaction, irrespective of debt or credit. Each CEPAC can be used: (i) as an area of construction that exceeds the standards set by the land use and occupation legislation, up to the limit fixed by the specific law that approves the Syndicated Urban Operations; (ii) to use as not covered by the ordinary law of the land use and occupation, subject to the provisions laid down in the specific law of Syndicated Urban Operation; and (iii) as an urban parameter that overcomes the restrictions imposed on each zone by the land and occupation legislation (source: *Prospecto de Registro Operação Urbana Água Espraiada*).

[5] The government administration of Mayor Kassab commissioned 4000 units in four areas, among them Jardim Edite and Corruíras. The government administration of Mayor Haddad stopped the program in 2015 and constructed only one building.

CINGAPURA – MODELS IN CIRCULATION

Marc Angélil and Cary Siress

Official logo of the mass housing program Projeto Cingapura for São Paulo initiated in the mid-1990s. (Credit: Cingapura: O Encontro de São Paulo com a Cidadania, 1996)

Do planning ideas travel?[1] Indeed they do, and at an ever- accelerated rate, given how interconnected the world has become under the purview of an integrated global economy. But much gets lost in translation in the seemingly straightforward act of transferring situated practices from one context to another, as if a way of life could readily be transported irrespective of political and social differences.[2] Far from merely introducing models that are intended to improve urban conditions, the importation of planning master-codes often functions in subtle ways to subdue ingrained modes of living as well as attendant means of organizing and using space. This just as often leads to a depreciation of anything associated with the "local" as an insufficient resource for tackling challenges that are always faced locally. Blueprint approaches to development that are rashly appropriated from abroad often miss the opportunity to draw upon the cultural capital of local communities themselves as the basis for social and spatial models of reform.

A striking case of an imported model was the Cingapura project, initiated in the mid-1990s by the municipality of São Paulo to ameliorate conditions in favelas throughout the city via the appropriation of planning policies from Singapore. The project underwent many iterations, from an early phase of euphoric support to abandonment and subsequent resurrection in piecemeal form. The story of Cingapura has taken many twists and turns, challenging the modern narrative of unilateral knowledge transfers and illustrating the messy business of hybridizing cultural practices.

A promotional booklet sponsored by the government of São Paulo tells the happy side of the story, celebrating the ambition to build 100,000 low-cost, five- to six-story walk-up apartments in 240 favelas within a few years. The name "Cingapura" is written in bold red letters in the hurried hand of a graffiti artist, a typographic maneuver making a direct reference to those tags left by urban gangs to mark their turf.[3] The project's name is likewise cleverly designed to serve as a corporate logo and is stamped onto every building complex. That Singapore could serve as a model for Brazilian favelas might come as a surprise, but putting a clean, green, and rationalized island-utopia of sorts on par with a rough, tough, and sprawling megalopolis has a clear relational logic. In the promotional booklet, a glossy centerfold with symmetrically arranged foldout pages exposes the mirroring at work in the transfer: on one side of the fold, "Singapura" with an "S," and on the other, the new "Cingapura" with a "C."

The pairing seems to trade on the assumption that one country's success story is worthy of being copied in other parts of the world. Although those responsible for the Cingapura program did not actually visit Singapore at the time, they did research its founding as a modern nation. This act of borrowing did not go unnoticed on the other side of the world. In fact, the government of Singapore is well aware and quite proud of being taken as a model, be it in Asia or in Latin America. As sociologist Chua Beng Huat notes in his essay "Singapore as Model" with respect to Projeto Cingapura in São Paulo, "the humble beginnings of Singapore's national

Aerial view of a Projeto Cingapura housing estate, São Paulo, 2012. (Credit: Fábio Knoll and Fernando Stankuns)

public housing program of small rental flats – befitting of its then developing economic conditions – is registered halfway around the globe from Asia."[4] One encounters here a city model in transit, a floating sign of ordered urbanism borrowed to alleviate urban problems elsewhere. Yet, this transaction took place between countries in the Global South, bypassing the North and thus tracing out trajectories of a new regime of exchange.[5] One could even argue that Cingapura is a Brazilian aspiration of Singaporean origin.

It was Singapore's exceptional achievements in national development, in particular the efficiency with which the government dealt with the issue of slums, that caught the attention of municipal authorities in São Paulo. Singapore, as founding father Lee Kuan Yew proudly proclaimed in his history of the city-state, has successfully erased any signs of poverty and upgraded itself "from Third World to First."[6] Slum eradication there was part of a comprehensive plan to reinvent the nation according to top-down planning under single-party rule. Central to the plan that produced Singapore as we know it today is the Housing and Development Board (HDB), established in 1961 for the construction of high-density neighborhoods with high-rise apartments, schools, and community centers. In addition, an ingenious home ownership program links property to political party, with monthly mortgage payments made to a state-sponsored financial institution, the Central Provident Fund, which oversees various accounts for Singaporean citizens, among them being a national savings plan for housing. Such a tightly knit system that binds the social contract to a spatial contract has been paramount to Singapore's success in keeping at bay the ills of poverty and dispossession that afflict so many other cities throughout the world.

Given that Singapore managed to overcome its own "São Paulo-like" condition in the past, municipal officials in Brazil were anxious to draw on this very model. With the election of right-wing mayoral candidate Paulo Maluf in 1992, his party sought a proving ground for its political prowess in large-scale urban renewal. The Projeto Cingapura was launched soon thereafter to boost the building industry and score points for the administration by addressing the issue of poverty in the city. The Singapore story had attracted those in charge of drafting the program, specifically Secretary for Housing Lair Krähenbühl, who provided a detailed inventory of the knowledge mined from Singapore in the *Cingapura* booklet, as well as in his own account *Trajectories of a Housing Professional*.[7]

Having learned lessons from Brazil's past, Krähenbühl and his team adapted the Singapore model to local conditions, at least in principle. Rather than pursue mass evictions as default response, this new program proposed to keep communities in place by providing provisional on-site shelter during construction. Large tracts of housing blocks were literally inserted into *favelas* as part of a broader "verticalization plan" to improve such areas throughout the city.[8] In addition to an elaborate financial scheme designed to make units affordable, a social program was implemented to monitor the renewal process and offer guidance on how to live in new vertical neighborhoods of densely arranged tower blocks. As suggested by the *Cingapura* booklet's subtitle, *An Encounter of São Paulo with Citizenship*, slum dwellers were now viewed as citizens to be integrated into the social weave of the city and would presumably no longer be marginalized.

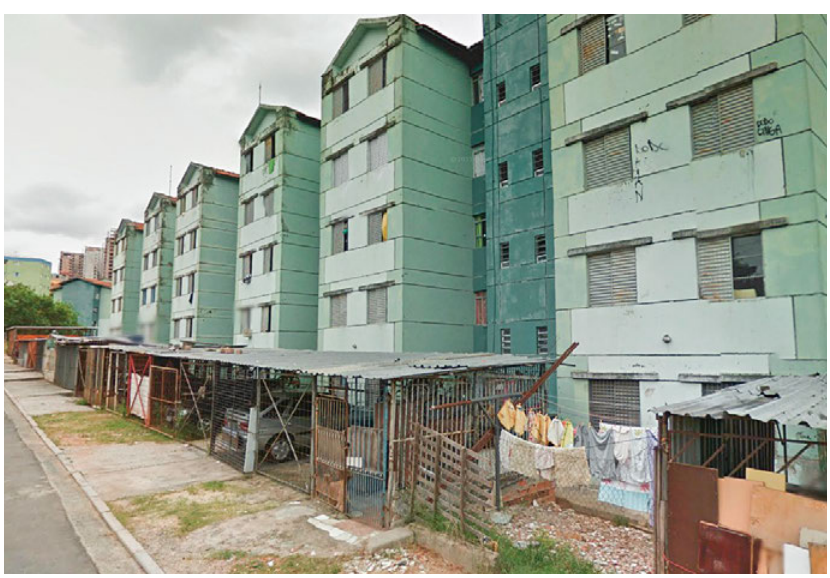
To do this required capital. Maluf's administration turned to the Inter-American Development Bank (IDB) to help fund the program. A delegation of São Paulo officials went to Washington D.C., home of the IDB, with a plan that mirrored Singapore's housing model, aiming to provide 30,000 apartments in a first phase.[9] With funding secured, the meeting culminated in a celebratory visit to the White House and a photo opportunity with then-President Bill Clinton. Acknowledging the success of Singapore's financial model for low-cost social housing, the Cingapura program similarly promoted the concept of home ownership for vulnerable communities. Condominium apartments were to be sold to local residents at an affordable rate, with monthly mortgage payments set as low as possible. But to meet the demand for a balanced budget, the municipal government had to offset construction costs with revenue from property owners in order to repay the loans from the IDB in Washington.

While intentions were good at the beginning, the project went awry early on, and was terminated in 2001, less than a decade after its inception, with only 14,000 apartment units having been constructed in 50 of the 240 planned locations. The reasons for the project's failure were multiple, ranging from budget shortfalls to shoddy construction, resulting in inadequate living conditions that contributed to a rise in violence and a loss of social cohesion. The original objective to provide temporary shelter until new housing blocks were built was only partially achieved due to a lack of space and lengthy waiting periods for resettlement. Mortgages rates escalated due to the inflation of construction costs and Cingapura simply became too expensive for many of the families it was intended to serve.[10] To make matters worse, municipal funds were diverted by public officials, including Maluf himself, who has been tainted by allegations of corruption, money laundering, and embezzlement, but has yet to be convicted on such charges.[11]

(Opposite page)
Aerial views of different housing estates of Projeto Cingapura that were based on Singapore's Housing and Development Board program, São Paulo, 2012.
(Credit: Fábio Knoll and Fernando Stankuns)

Mismanagement and political scandals notwithstanding, Cingapura's success was limited in no small part because it imposed an abstract urban model on an existing way of life, compromising the culture and livelihood of the population that it was meant to serve. Colorful facades, pitched roofs, and neatly arranged spaces might have instilled a superficial sense of order, but they also amounted to a physical and social cleansing of entire communities. In accordance with the upgrading program, inhabitants and their environments were to be disciplined and more effectively controlled by their induction into a normative regulatory system. Still, favelas have proven far more resilient than anticipated, for a sea of low-rise shacks have come to literally engulf the sanitized housing blocks, thus signaling a reassertion of informal practices in what were meant to be fully formalized neighborhoods.

The story not told in the Cingapura booklet and a lesson to be learned from the program is that the restructuring of thriving cultures *en bloc* does *not* work, whether in the slums of São Paulo or in other cities facing similar challenges, unless, that is, you live in Singapore. The response to the favela question must come from within rather than beyond; it must come from grass roots communities whose collective know-how is already in place, and not necessarily via an ill-fitting knowledge transfer from the other side of the planet. Instead of outright expulsion or demolition and rebuilding, the answer begins with urbanizing existing contexts as they are, building on existing social networks and physical structures that *do* work, however informal they may be, by retrofitting them in order to better integrate vulnerable populations into the urban system. This would involve more direct participation of local stakeholders, marking a shift from seeing the state solely as provider to recognizing residents themselves as the driving force in reconstruction. Perhaps then the favela could be understood as resource rather than a *de facto* problem. As urbanist John Turner argued in his 1968 lecture in Brazil, it is state-sponsored mass housing that constitutes the *real* problem of urban development, and it is favelas that offer specific solutions to housing the masses.[12]



View of Jardim Maninos, showing informally constructed shelters in front of one apartment block of the Cingapura estate, São Paulo, 2012. (Credit: Rainer Hehl)

Photographs from Folha de São Paulo, August 25, 2015, showing the encroachment of the Favela Tiquatira on a Cingapura housing project in São Paulo during the period from 2010 to 2014. (Credit: Mario Angelo, courtesy Sigmapress / Folhapress e Avener Prado / Folhapress)

To some extent, successive administrations in São Paulo have learned these lessons, having inherited the burden of an incomplete Cingapura project and its destitute estates. As each municipal government sought legitimacy for its own agenda, there was also the imperative to overcome previous failures by introducing more new programs and upgrading the upgrade mandate, so to speak. The election of socialist mayor Marta Suplicy in 2000, for example, marked a change of strategy concerning the housing issue. After completing more than 1,000 unfinished Cingapura units, the São Paulo Municipal Housing Department (SEHAB) instituted the Bairro Legal Program in 2001 to assist low-income families in constructing or upgrading their own homes. Following the Favela-Bairro model piloted in Rio de Janeiro in the mid-1990s, this self-help program was based on small-scale interventions that would have high impact at minimum cost. São Paulo's Bairro Legal, meaning both a legal and nice neighborhood, aimed to provide tenure security and improve the living conditions of families living in some of the most violent and socially excluded areas of the city. The project lasted a mere four years, only to be shelved by the next administration.[13]

In 2006, social democratic mayor Gilberto Kassab was forced to readdress the derelict state of the housing projects and announced a new Cingapura upgrading program. Then-SEHAB director Elisabete França, who was responsible for an ambitious range of initiatives such as the construction of favela infrastructure, the regularization of land tenure, the reform of institutions, and the promotion of community participation, managed successful interventions in multiple locations throughout the city. Cingapura sites were among those surveyed to determine what needed to be improved.[14] But when Kassab's term ended in 2012, only some of the neighborhoods had been actually upgraded, leaving a still unfinished legacy for other administrations to come.[15] Cingapura was ultimately brought to a halt by socialist mayor Fernando Haddad, who, in failing to build on the hard-won achievements of his predecessor, essentially abandoned the Cingapura estates and left them open to a new wave of "informalization."[16]

Despite the cycle of short-lived administrative terms and the fragmented actions taken to reform pieces of the city as well as targeted parts of the population, afflicted groups in São Paulo have nevertheless been able to achieve modest successes in community-building and improving their living conditions. Here, in the interstices of the city, faint traces of a civic agenda in the making can be discerned, an agenda informed by the circumstances of the favelas themselves rather than one relying on solutions from beyond. In the process, new social and spatial relations are being formed wherever reform policies have failed. Favela inhabitants have begun to look for new ways to engage with their habitat and thereby empower

themselves to transform their shared condition, asserting their right and capacity as agents of change to take on the task of building resilient collectives as well as fostering environments that are more responsive to local contingencies.

To venture even deeper into the politics of urban poverty and thus delve further into the mapping of models now in circulation for housing low-income populations would bring us face to face with what psychoanalyst Félix Guattari called a "molecular revolution" in reference to his experiences in Brazil between 1979 and 1992, a revolution, one could argue, that is becoming ever more imperative the more integrated world capitalism becomes.[17] Within the macro-order of a globalized economy, micro-practices are crafted by engaged citizens to counter subjugation and work to sustain, in Guattari's terminology, a "molecular" dynamics of resistance and creation that bears as much on subject identities as it does on spatial organization. Said differently, these infinitesimal acts of self-empowerment "remap relationships of power at different scales and localities" and aim to open up, however provisionally, new channels for articulating expression and modeling the world.[18] While at times rallied around a common cause, these molecular practices are heterogeneous insofar as they plot multiple trajectories distinct from those that are totalizing in their effect.

Recall that Guattari had arrived in Brazil just as the power of the military dictatorship was eroding, a transition that would eventually pave the way for the first multi-party elections in decades and thus give rise to a newfound sense of self-determination on the part of the people themselves. Hinting at an emergent transformation from below, Guattari spoke of a political vitality among people who believe they can indeed bring about change in their world. Pivotal to this vision is the formation of active collectives that, once empowered, become strong enough to free themselves from the status quo hierarchies behind political and economic determination.

Taking into consideration the predatory economy of our time and the production of generic environments that hardly address any specificities whatsoever, molecular revolutions of today will have to draw on the social and spatial resources of the city as they exist at any particular instant, including the still-marginalized resource of the alleged minority itself, which remains in reality a neglected and ill-served majority. To recognize that favelas are not dysfunctional per se, and to acknowledge instead that the formal city itself is deficient in its ongoing inability to integrate the poor as citizens suggests that a more systemic reversal of perspective is required for true reform.

People must become visible rather than remain in the shadow; potential solutions need to be identified rather than only problems; and practices must be adopted to enable rather than inhibit by decree. With such reversals, perhaps prevailing modes of governance and business practices that keep standing divisions in place will be seen as the real hindrance to achieving socio-spatial equity and justice. Should such a shift in mindset ever take place, maybe then we will come to realize that cities such as São Paulo do not necessarily need a prototype from beyond after all, but rather could take themselves as model for their own reform.

[1] John Friedmann, "Crossing Borders: Do Planning Ideas Travel?," *Crossing Borders: International Exchange and Planning Practices,* Patsy Healey and Robert Upton, eds. (Oxon: Routledge, 2010), 313.

[2] The question of what gets transported in cross-cultural transfers of planning models is addressed by Jane Jacobs in "Urban Geographies I: Still thinking cities relationally," *Progress in Human Geography 36,* no. 3 (June 2012): 412.

[3] *Cingapura: O Encontro de São Paulo com a Cidadania*, ed. Lair Krähenbühl (São Paulo: Bix Communicação S/C Ltda., 1996).

[4] Chua Beng Huat, "Singapore as Model: Planning Innovations, Knowledge Experts," Roy and Ong, *Worlding Cities,* 49.

[5] See Ananja Roy, "Postcolonial Urbanism: Speed, Hysteria, Mass Dreams," Roy and Ong, Worlding Cities, 331–332.

[6] Lee Kuan Yew, *From Third World to First. The Singapore Story: 1965–2000* (New York: HarperCollins Publishers, 2000).

[7] Lair Krähenbühl, *Trajetória de um Profissional da Habitação* (São Paulo: Editora Pini, 2011), 65.

[8] Projeto Cingapura was part of a more widespread campaign to densify existing slum areas under The Favela Verticalization Programme for the Municipality of São Paulo (PROVER); see Krähenbühl, Cingapura, 45.

[9] Krähenbühl, *Cingapura*, 56.

[10] Smith, *Best Practices in Slum Improvement*, 15.

[11] See Anemona Hartocolis and Larry Rohter, "Brazilian Politician Indicted in New York in Kickback Scheme," *The New York Times*, March 9, 2007.

[12] John Turner presented his concept of "the favela as solution" in a lecture in 1968 in Belém, Brazil; see his "Habitação de Baixa Renda no Brasil: Políticas atuais e oportunidades futuras," *Arquitetura,* published by the Instituto dos Arquitetos do Brasil 68 (1968): 17, trans. Rainer Hehl.

[13] UN-Habitat, *São Paulo: A Tale of Two Cities*, 91.

[14] Elisabete França and Keila Prado Costa, Plano Municipal de Habitação, vol. I, A Experiência de São Paulo (São Paulo: Secretaria Municipal de Habitação, 2012), 166–177.

[15] Discussed in a lecture by Maria Teresa Diniz do Santos from the São Paulo Secretaria Municipal de Habitação (SEHAB) at ETH Zurich on March 20, 2012.

[16] The authors would like to express their gratitude to Fabienne Hoelzel for sharing her firsthand knowledge of current conditions in Cingapura estates. See also, Leandro Machado and Emilio Sant'Anna, "Com aluguel mais caro e desemprego, favelas ressurgem em São Paulo," *Folha de São Paulo*, August 25, 2015.

[17] Félix Guattari and Suely Rolnik, *Molecular Revolution in Brazil*, originally published as *Micropolitica: Cartografias do desejo* in 1986, trans. Karel Clapshow and Brian Holmes [Los Angeles: Semiotext(e), 2008], 9.

[18] Aihwa Ong, "Worlding Cities or the Art of Being Global," in *Worlding Cities: Asian Experiments and the Art of Being Global,* eds. Ananya Roy and Aihwa Ong (Chichester: Blackwell Publishing Limited, 2011), 12.

LEARNING FROM SÃO PAULO AND LAGOS: URBAN PLANNING PROCESSES BETWEEN ANARCHY AND CONTROL

Fabienne Hoelzel

It is common knowledge that we live in a highly urbanized world, or depending on the region – Africa, Asia – on a rapidly urbanizing planet.[1] One could also say in the meantime we have amassed fairly good knowledge about what makes a "good city" good.[2] Key elements here are certainly a large number of public goods that are easily accessible for everyone, affordable and of good quality – education, health provision, and public transportation, just to mention a few – and above all a functioning rule of law. The latter of course does not need to be according to the Western models; there are other concepts, for instance when thinking of and acting in the African contexts.[3] A rule of law means first of all predictability and security. Whatever those "rule-of-law concepts" may be like, the fundamental hypothesis here is that there is something like human dignity and that every human being, independent from race, gender, religion, and social class, therefore has the right to a dignified existence and to find their niche to unfold, emerge, and contribute to society. While this hypothesis has produced academic content and resulted in practical applications – as well as serving as political dynamite – for decades of endless fundamental debates, it is also clear that the city has been and will be one of the battlegrounds for its realization.[4]

In contemporary urban design and planning approaches it is recognized that the city is the result of continual political and societal negotiations, particularly in regard to its planning and use. At least since the 1970s, participatory planning approaches in Europe and in the U.S. have been increasingly recognized, discussed, developed and applied. Today, the participation of parts of the residents or of the interested, public in urban regeneration or new urban development projects is standard practice. Consequently, participation processes have become (too) well organized and structured, sometimes not allowing for real participation and mostly reaching those people who are already active in all kinds of committees and local politics. However, in this context here, participation is not meant as an inflationary cliché finding its expression in more or less effective public workshops and endless roundtables, but instead primarily used – and first of all understood – as the possibility for different groups to participate in the city, accessing its resources. On a concrete design implementation level, it is now generally accepted that the "good" city should be accessible via an extensive and well-articulated public space network; it should enable efficient links between living and working as well as dense mixed-use neighborhoods, structured and situated to prevent urban sprawl and social segregation.

The Global South is usually perceived by wealthy Westerners as one of the world regions that need to taught about good city planning – which might be true in many cases – but this essay is concerned with what the wealthy Western regions could learn from the Global South. This might be of particular value as the developed and (post) industrialized world regions have lived for decades far beyond their means in terms of the environmental impact. For example, related to the

Paraisópolis, São Paulo: An informally built neighborhood based on a formally implemented street network by investors that abandoned their planned construction afterwards. (Credit: Fábio Knoll)

housing sprawl, this includes for instance the extensive use of cars, the necessary infrastructure to sustain less densely populated areas and the linked resource consumption. It may be a daring hypothesis, but in order to meet the challenges on the way to more sustainable cities – ecologically and socially – the Global North could learn from the Global South. Worthy of particular mention is that the Global South could learn from its own substantial and individual urban history, instead of imitating Western models of growth.

Global South

When reading and discussing about cities in the so-called Global South, two dominant narratives stand out in the architectural and urban discourse: that of overwhelmed authorities, ineffective planning instruments and dysfunctional cities on the one hand, and on the other hand, the self-help city, the city without planners, hence the perforce belief that people somehow can or have to organize themselves as they cannot rely on functioning institutions. These two sides of the same coin convey first that the responsible authorities, to a large extent, are not capable of finding appropriate answers to the continuous urban growth, which has negative impacts on social cohesion, urban transport, housing, sanitation and drainage. Second, as a result of, and in sharp contrast to, the first observation, stands the capability of the people to organize themselves, and to some extent, the abilities they have developed in doing so. When looking at urbanization patterns and urban development in the Global South, two other aspects are worth mentioning.

Paraisópolis, São Paulo: An informally built neighborhood since the 1970s and later consolidated and upgraded with infrastructure by the city administration. (Credit: Sehab, 2005–2012)

In already highly urbanized areas like Brazil, where urbanization and the linked informal development of the city production happened in the 1960s and 70s, today's cities are characterized by dramatic inequality, preventing a significant part of the society from accessing the housing and mortgage markets, healthcare provision, education, public transportation systems, and the formal job market. The domestic migration wave from the north to the south, triggered by jobs and income opportunities, led to the formation of slums. Opposite to the positive narrative of such settlements as "arrival cities,"[5] most of those arriving to those unplanned and self-constructed neighborhoods would not only spend their entire lives there but so would their children and grand-children. Their arrival did not mean their subsequent integration into the larger city. While the favelas originating in the 1960s and 70s have developed into "recognized" neighborhoods, they remain precarious, mostly lacking basic infrastructure and poorly connected to the rest of the city.

In regions that have yet to be heavily urbanized, such as in West Africa, opposite to processes known from Latin America or Europe, urbanization is driven by poverty, not economic opportunity and it is almost equal with informalization. Consequently, this leads to the staggering condition in which most people are

born in, or migrate to, urban slum settlements that have no infrastructure whatsoever.[6] In cities like Lagos, the largest city on the African continent, urban slums are not an exception. They have become the regular form and rule of settlement pattern and spatial production. Informality and self-organization is the survival mode for almost everybody, also for the small middle and upper classes. Yet, Lagos, for example, is still quite an open city, not defined by walls but rather by the coexistence of rich and poor, formal and informal. However, the latest planning approaches encouraged by the government clearly go in the direction of gated and estate developments, in order to bring the "chaos" under control and to make the city more attractive to foreigners.

This is reflected by one current trend in urban planning that goes in the direction of so-called strategic planning, which in Africa, Asia and Latin America often leads to privately developed new urban areas, known commonly as "new towns" or big gated compounds, largely neglecting the idea of an open, accessible and equitable city.[7] Often, such developments seem like the "last way out" of the chaotic, underserviced and dangerous city, at least for the happy ones who can afford to live or work in them. Even more worrying is the fact that privately financed development seems to become more and more the normative funding model.[8] The current development model of Lagos is mostly based on this concept.[9] The city, with an estimated population of roughly 20 million, is in the top 20 largest cities in world. At the same time, compared to that size, it has to operate with one of the smallest urban infrastructures.[10] Large new town developments, legal free trade zones that exempt investments, imported and exported goods for many years from tax payments, tariffs and duties are at the forefront of Lagos' official urban planning approach.

Lagos' population is growing at a rapid speed both through natural growth and the influx of migrants. Implementing new large infrastructure projects in response to this growth is certainly a challenging task – in a densely populated city where funding is scarce, tax income is low and the existing infrastructure is already insufficient in relation to the current population. It is questionable whether the purely

Pirajussara region, São Paulo: Social housing blocks and public space implemented within favela settlements that were simultaneously upgraded with connections to electricity, water and sewage. (Credit: Fábio Knoll)

private development models are the answer to it, mostly because the income generated within those developments will not trickle down to the majority poor; clearly, they will not benefit from these investments. The consequence is a divided city, segregating a substantial part of the population. Private development models are surely more convenient as they offer relatively short, clear and hierarchical decision and planning procedures, opposite to the often lengthy public approval and negotiation processes. However, such privately developed and owned neighborhoods are contrary to the idea of the city, its public realm and shared infrastructure.[11]

Between self-help, wrong planning, and chaos

It is not without irony that those cities – like Lagos – that are perceived as completely dysfunctional, dirty and chaotic do actually function, somehow. Lagos is a self-help city. The last overall master plan was drawn in the late 1970s with the support of the United Nations and was abandoned shortly afterwards.[12] Its status as a self-help city means that it developed mostly without the participation of urban planners and without superordinated planning – even though urban planners have been repeatedly blamed for Lagos' dysfunctionality as the German development planner Otto Koenigsberger already noted in 1983.[13] And yet, as much as a lack of planning may contribute to chaotic urban conditions, improper planning has contributed to heavily dysfunctional cities. This does not seem to be due to a lack of professional ability on the part of urban planners and designers. Rather it seems to result from an alarming lack of insight into urban processes, human behavior and social dynamics – and often relatively little insight into the needs of daily life and its requirements. Urban planning and design certainly have clearly measurable technical standards that require corresponding professional skills and creative drive. But it has at least as much to do how people relate to each other, in a group, among groups and in society at large.

As long as urban design and planning are understood as culminating in visions that are drawn on pieces of paper, visualized in an architectural models and then preferably implemented in one go, realized as glass, stone and wooden manifestations, the planning and design disciplines will fail in doing what should actually

Lagos: A typical street scene on Lagos mainland where okada and danfo drivers are waiting for customers. The initially purely informal mobility services are now organized in semi-formal associations and regulated by the Lagos State Government. (Credit: Fabienne Hoelzel)

be their core task: providing the frame or the "skeleton" where society and politics can unfold. As a reaction or answer to the failure of urban planning (or non-urban-planning), Koenigsberger suggested that every civil servant should be trained as an urban planner.[14] In his conception, urban planning is beautifully understood as an everyday public and pro-active action rather than the classic approving and controlling master planning act.

Usually, when people first visit Lagos, they are completely overwhelmed by the sheer chaos, as it seems to be the complete antithesis of urban planning (or what used to be the definition of urban planning). Of course, at second glance and after deeper research, one understands that Lagos functions through relatively sophisticated intertwining mechanisms of formal and informal structures.[15] This is exactly the reason why Lagos is such a great example to learn from – beyond the fact that the Nigerian metropolis is one of the least studied and understood cities, sadly enough even by its own government.[16] Lagos, in this sense, might really give an idea of current and future urban challenges, and at the same time, deliver the answers to them, illustrating what the Mexican architect Teddy Cruz once said: "The future of cities today depends less on building and more on the mental organization of socio-economic relations."[17] On a more negative note, Lagos is of course also an example of – in greatest and smallest matters – how institutions, policies, and politics can come to be replaced by really tough "market mechanisms:" money, literally, buys (and solves) everything, including building permits, fast tracks, the registration of firms, and so on. Often, bribes are the only way to initiate a process or a project, at all levels.

São Paulo, representative of a still-growing but largely consolidated city as the big leaps in terms of urbanization and informalization happened there decades ago, suffers from inequality, injustice, and dramatically low social mobility. Its urban form and life mirror its society and, of course are the result of failed urban politics and failed urban planning. Nevertheless, the fact that favelas and informal settlements are no longer undergoing strong growth rates, and that the latter remains stable at the rate of approximately thirty per cent of the overall city

Lagos: Mushin, one of the largest and best-known slum areas of Lagos State is an example of how people organize their daily life to a large extent without the support of city authorities. (Credit: Fabienne Hoelzel)

production, offers new possibilities to re-integrate the informal into the formal. São Paulo has already advanced long way in this direction. Favelas, the Portuguese term for slums, literally the name of a climbing plant, are recognized as an official part of the city, at least on the formal political level. For many years, official city programs in the favelas, funded by tax income, national subsidies and international funds, implemented infrastructure and delivered social housing units.[18] There's evidence that a few courageous decisions, strong rules and a few simple planning instruments work best.

One such instrument is the 2012–2015 São Paulo Housing Plan, in which urban regeneration is structured according to redevelopment of the water basins.[19] Those in the worst condition, without wastewater management, are prioritized in the slum-upgrading processes and social housing delivery. The associated slum-upgrading program implemented between 2005 and 2012 shifted from the traditional delivery of only social housing to a broader set of actions. This included the implementation of infrastructure, the preservation and improvement of self-built structures and, finally, the assignment of land titles (or 99-year land lease rights) after the completed urban regeneration. To compliment the upgrading process, the digital slum survey program HABISP documented and updated the citywide program and the status of each favela. While the program was far from being perfect, it was an efficient approach to how the enormous challenge of urban inequality and injustice could be tackled, combined with a progressive yet complex actor-network approach, as it involved the participation of favela dwellers in the urban regeneration. Unfortunately, the left-wing government that came into office in 2013 did not recognize the considerable achievements of the program – SEHAB, the São Paulo Housing and Urban Development Authority received the UN Habitat Scroll of Honor in 2012 for one of the largest slum-upgrading programs in Latin America – and unfortunately and incomprehensibly, decided to end it.

Less planning, less control, and less regulation

Architecture, urban design and city planning are by definition disciplines that exert a high level of control. By nature, most planners believe in planning despite the fact that large-scale urban plans have failed in many ways. Most planners and designers still understand their disciplines as technical ones, not recognizing their deeply anthropological nature enough. Furthermore, cities should not only be read as battlegrounds of social processes, they should as well and especially be understood as bodies of sociological knowledge, as the German urban sociologist Martina Löw describes it.[20] It's not about the perfect neighborhood, square or plan, it's about understanding the "soul" of a place, its dynamics and traditions and then intervening by activating its potential based on the first two concepts.

This leads to two concluding observations. One, cities like São Paulo and Lagos, both in very different states and development phases, should have the courage to discover their own DNA instead of importing ready-to-implement schemes from other parts of the world, still a commonplace practice today. What may work in Singapore or New York, may not work in Lagos, in São Paulo or elsewhere; this applies both to planning processes and instruments as well as master plans. Informal city production and the informal economy are part of an existing reality in cities, and both should be recognized, studied and learned from. Second, cities in the so-called developed world, e.g. in Western Europe, that are confronted with a series of serious challenges ranging from a changing society structure due to migration and an aging population, along with serious struggles with ecological sustainability both in resources and in consumption patterns and housing sprawl, could learn from cities like Lagos or São Paulo.

Learning from these two places could mean: less planning, less control, and less regulation. A few overarching and strong rules should be established and allow for as much freedom as possible on the level of the neighborhood, enabling the continuous implementation of ongoing negotiation and civic-society processes. Similar to practices in slum-upgrading programs, the consolidation of certain neighborhoods could happen after a longer phase of testing instead of creating plans first. Effective and efficient planning instruments should rather define the broad lines of development, strengthening the landscape, follow the logics of water bodies and leave room for the rest to unfold more organically. Seen through such lenses, urbanization and urban processes in so-called developing regions, commonly referred to as chaotic and underdeveloped, even by their own governments, could serve as rich examples of study and research for urban planning approaches in the developed world.

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THE FUTURE OF LOGISTICS AND PRODUCTION IN DENSE URBAN AREAS

Kees Christiaanse

The CEAGESP (Companhia de Entrepostos e Armazéns Gerais de São Paulo) is a wholesale market located in central São Paulo. Perishable goods, such as produce and flowers, are traded and redistributed at the market, moved into and out of the city. This vibrant economic machine will soon be relocated to a more remote site in the São Paulo metropolitan area.

Such a repositioning not only concerns the market itself, but it's like removing an organ from a body: veins, nerves, arteries, muscles are cut off; nearby organs cease to operate or are seriously disrupted. Around the market, urban functions like restaurants, wholesale brokerage offices, recruiting agencies, warehouses, shops, production-facilities for market-carts, and so on, will have to follow the market to its new destination, terminate business, or address new types of clients. It will take a long time until a new balance is established on the site and in its context. The redevelopment of the area made vacant needs to be carefully planned and monitored.

The most dramatic comparable urban operation I remember was the relocation of the Les Halles market in Paris from the very heart of the city into the periphery in 1971. Why are these markets relocated? In Paris, there were several good, clear reasons. Les Halles could no longer expand, situated in a dense urban fabric and a narrow street network, which caused great tensions for the storage and transportation of goods. The inner-city neighborhoods around Les Halles were plagued by heavy cargo-traffic going in and out. The redistribution of goods became increasingly inefficient. Last but not least, while extensively used, the market was not able to pay the most viable economic factor to the municipality for the lease of the land, in the context of increasing land values in the inner city of Paris.

Are these reasons also applicable to a site like CEAGESP in São Paulo? CEAGESP is situated on the western edge of central of São Paulo, along the Pinheiros River and one of the two main motorways of the city. Although it is rather centrally located, it is not situated in a dense historic urban fabric. There is tumultuous development going on in the area around the market site, including massive speculative development projects in the form of business parks, residential compounds and urban amenities. Due to this process of intensification, speculation, and functional upgrading, land value is sharply rising.

However, the envisaged relocation of CEAGESP takes place against a backdrop of some spectacular emerging trends in global urban development: the re-introduction of industrial activity and production into the city, the increasing demand for inner-city logistics hubs in megacities, and the emergence of digital systems in trade and mobility. Against this backdrop, the decision to move the market could be critically reevaluated. The very location of CEAGESP in the larger São Paolo conurbation, in light of the current perspective on urban logistics hubs, could make it exactly the right spot for an interface function between production and consumption and their respective transport infrastructure.

The market activity at CEAGESP is slated for relocation. (Credit: Fábio Knoll)

The movement of industry out of city centers in the 20th century, sometimes with entire industries disappearing entirely, has left a legacy of large spaces vacant and subsequently redeveloped. In our current context, with the return of industry, albeit in different forms, we can look at other examples of where these economic and structural changes have wrought dramatic and ongoing change in the city fabric.

In London, near the eastern border of the city, the Lea Valley, a traditional industrial belt originated from the agglomeration of mills along the water, running north-south towards the Thames River, has been subject to urban renewal processes over the past couple of decades. One of the best-known projects to result from the renewal of the Lea Valley is the 2012 Olympic Games Site, located in the northern part of the former industrial area, along with its consequent legacy in the form of the Olympic Park precinct, part of the overall Olympic Legacy Plan. Yet to the south, there are plans for an urban logistics hub, designed as a transshipment interface to feed the center with vital goods and remove bulky waste. Nearby, in Stratford, there is a railway yard for the London Underground, which needs to stay there, because it would cause logistical problems if it were situated more remotely in the outskirts of Greater London.

In Zurich, the former railway repair plant, with its beautiful heritage structures, along the main railway corridor, was deliberately designated for new industrial uses by the city – and not for housing and offices, despite its inner-city location. The municipality's argument is that the city cannot rely on a residential and

service-oriented economy and zoning only, especially while vital industrial branches cannot find adequate accommodation. To add to this, there has been a clear, gradual introduction of emission-free manufacturing activities in the city, far more complementary to the service-economy and residential use than older, dirtier industrial uses.

Manufacturing, production, and delivery systems have been acknowledged in many cities as indispensible in the inner city, not as a romantic aspect of the urban renaissance, but of the simple fact that a large conurbation cannot only draw on industrial services from its periphery. For example, over the past two decades the 7-Eleven convenience store group in Tokyo has operated a real-time delivery system of small, cooled cargo-vans. They cruise the city, functioning as little moving warehouses, delivering precise custom-ordered deliveries to stock individual shops. In analogy, in the Netherlands, the city of Utrecht has introduced the concept of the "transferium," both for passengers and cargo, in which individual vehicles and cargo can be parked in a transferium area located at the city's outer ring road, from which public transit and small cargo trains deliver people and goods to the city. And of course, port cities with a central river, like Hamburg, Rotterdam or Amsterdam, traditionally transported and traded their goods and waste from centrally located entrepots at the waterfront until the truck took over in the 1950s.

Today's urban renaissance is not the result of certain urbanists or politicians telling people to favor the compact city, or urban living. It is, as the macro-shifts in the spatial distribution of people often are, the result of fundamental changes in the economy. We are moving towards a network condition. People prefer to live and work in the city because there are more opportunities and potentials to exchange knowledge, information and goods. Households increasingly consist of fluid relationships with multiple social, economic and cultural interests, which rely on supporting services and amenities in close proximity. Production and logistics are increasingly organized in a modular and networked way between multiple supply companies and service providers. Manufacturing is becoming quieter and emission-free, enabling production facilities to re-enter the city and customize and direct their products to nearby customers. The proliferation of online businesses and sales has created condensed spatial conditions. Datacenters

and distribution hubs induce new centralities, which are typically not in traditional city centers, but at the crossroads of glass fiber networks or mobility systems. This trend has also boosted the volume and proliferation of mail and courier services delivering digitally processed goods to the front door of the consumer.

The last ten kilometers in the delivery chain often require unique routes for individual parcels, making this distance the most expensive part of a parcel's trajectory. This causes online distributors to conceive new methods for delivery, for example Amazon's project to deliver parcels using drones. A more down-to-earth way would be to create pick-up points at distribution hubs, combining them with amenities like medical services, post offices, factory outlets, convenience stores, and finally gastronomy, entertainment or a type of transferium. This could offer a future life for old shopping centers and distribution markets.

Ironically, in many countries, the (former) national mail services, which were in a major crisis less than a decade ago and sometimes sold for a low price to multinational courier companies are now experiencing a revival under the influence of these trends. Together with the ongoing revolution in personal mobility and transport patterns, condensed mobility in car sharing, electro-mobility, and driverless vehicles, these trends will thoroughly transform urban systems and consequently also open opportunities for more sensible and reactive urban logistics systems in sites like CEAGESP.

In summary, CEAGESP should be more integrally connected to the urban mobility systems, like the adjacent motorway and CPTM rail system, which could also provide innovative cargo-services to serve new commercial functions on the site. Moreover in future the Pinheiros River may be activated as a maritime transport route. The vast site of the market and its surroundings may house a combination of wholesale facilities, warehousing and logistics, but also manufacturing and network economy components. This would result in the creation of an upgraded economic ecosystem. Simultaneously the site could be densified, to accommodate less transport-intensive functions in upper levels. What CEAGESP should definitely not become is a mundane mixed-use business and residential quarter. This would erase the promising hints of a future urban logistics economy.

Panoramic collage of the future industrial uses in a former railway plant. (Credit: KCAP Architects&Planners)

RETHINKING PARTICIPATION

Georgeen Theodore

Urban development projects in the United States have become increasingly complex and contentious, involving an ever-expanding number of stakeholders. The participation of these different public and private actors – investors, banks, politicians, permitting agencies, community organizations, neighbors – typically results in the articulation of competing, contradictory project goals. In this context, the role of urban planning has increasingly shifted from controlling urban development processes to facilitating the negotiation of conflicting parties.

This shift has followed broader changes in planning, which has increasingly moved from the public to the private sector. These shifts and changes certainly represent a loss of power for planning and, therefore, a loss of the public sector's ability to shape the built environment. They also have muddied planning's disciplinary boundaries, leaving some of the profession's practices open for appropriation by other fields. In recent years, a number of design firms working in the U.S. have taken advantage of this situation to radically rethink participatory processes, hybridizing what has historically been within the planner's purview into creative spatial practices informed by architecture, urban design, and art.

Participatory planning processes in context

Participatory planning in the U.S. emerged in the second half of the 20th century in response to scientific-rational top-down planning. In the post-war era of urban renewal, perhaps best exemplified by the big infrastructure and slum-clearing projects of Robert Moses in New York, some planning models began institutionalizing a limited degree of public participation into the planning process. However, where it appeared, public participation often operated on a tokenistic level: it was meant to validate the plans already drawn up by professional policymakers. For example, Robert Moses was required by law to hold public hearings, but was known to schedule them last-minute, thereby avoiding any real confrontation by organized community groups. Jane Jacobs, who proved a formidable opponent to Moses, noted: "They always had the officials speak first and then they would go away and they wouldn't listen to the people."[1]

The late 1950s through the 1960s saw a range of influential thinkers who challenged the scientific-rational discourse of unified top-down planning and asserted that cities and societies are defined by a plurality of stakeholders with a diversity of (often conflicting) interests. They advocated for new arenas for community voices to be heard, a reconceptualization of the role of the planner, and new models for measuring genuine public participation in the face of tokenistic inclusion.

Jane Jacobs emphasized the local, empirical knowledge of some residents over planners' supposedly modernist visions of progress and advocated the establishment of localized "fulcrum points" where residents could "apply their pressures, and make their wills and their knowledge known and respected."[2] A version of these "district arenas" would eventually take the form of Community Boards in New York City, a primary site of mobilization for neighborhood groups opposing local development.

The PS1 courtyard in New York City was furnished with an eclectic collection of pools, benches, chaise lounges, picnic tables, a lifeguard chair, and other items that had been requested by MoMA PS1's neighbors. (Credit: Interboro)

Paul Davidoff's 1965 essay "Advocacy and Pluralism in Planning"[3] was critical in the establishment of "advocacy planning." Acknowledging the inherent bias in supposedly "neutral" rational planning decisions that favored powerful groups, advocacy planning deliberately took the side of those relative powerless urban communities that were typically the victims of such planning decisions. Unlike unitary planning (where the public planning agency is the only entity making plans), advocacy planning operated under the pluralist assumption that the public is inherently fragmented and that therefore alternative plans by multiple interest groups can coexist. Advocacy planning then aimed to help empower specific interest groups to offer their alternative plans to shape their communities. In practice, the role of the advocacy planner became comparable to that of a (pro-bono) lawyer who puts their professional expertise in the service of specific urban communities.

The fragmentation of publics, and the pluralization of planning models that formed the conceptual basis of advocacy planning have only intensified in subsequent years. Simultaneously however – with Jane Jacobs and other critics ridiculing the expertise of the professional planner – the status of professional planning has been increasingly de-privileged, implicitly undermining the lawyer/client model of advocacy planning.

Today the concept of unitary planning is widely discredited, and planning operates from a position of limited power, in a network of many, relatively empowered public and private interest groups. These days, participatory processes most often

involve engagement with large and varied groups of stakeholders and are conducted in order to bring all of the necessary constituents together to facilitate project development and implementation. The interest in advocating for specific groups in need, following Davidoff's ideas, is no longer the primary driver in participatory processes. Many theorists have decried this "flattening" of planning practice and the loss of a progressive social agenda that they see as an inherent by-product of the end of unitary public sector planning.[4]

Pluralistic design

On the other hand, Dana Cuff, in her essay "Contentious Urban Development," sketched a more positive perspective for planning in this plural context. Analyzing the specific roles that architecture firms played in a number of contentious

(Top)
Working with the artist James Rojas, we set up a table next to a bus stop to engage with passersby as part of the Envision Cambridge project. (Credit: Interboro)

(Bottom)
We used a table in the shape of Cambridge to start a conversation with local stakeholders about the neighborhood. (Credit: Interboro)

urban development projects (defined as large development projects involving more than three groups of stakeholders) in the 1990s, she found that, while "the architect (…) is inadequately prepared to assume this role,"[5] it became the architect's de-facto responsibility to set the terms for discussions between the stakeholders. By visualizing the potential consequences of development (through models and architectural rendering), the architects in fact created the "public realm" in which meaningful discussion about private and public responsibilities in urban space could be led. While this role has not been fully realized (and most of the architects surveyed by Cuff were in fact unaware of their role), the crucial activity of making potential development visible, and thereby negotiable sets up an interesting perspective for a re-imagined participatory planning practice.

(Top)
The Envision Cambridge Mobile Engagement Station in use at a local library. (Credit: Interboro)

(Bottom)
The Envision Cambridge Mobile Engagement Station is used to engage the community. (Credit: Andrew Coslow)

It is in this context that I would like to situate the work of Interboro Partners, the architecture, urban design and planning office that I lead with my partners Tobias Armborst and Daniel D'Oca. Since our firm's inception in 2002, we have sought to embrace the contention among many different stakeholder interests and agendas in urban projects, and to make this contention the starting point and source of inspiration for creative design.

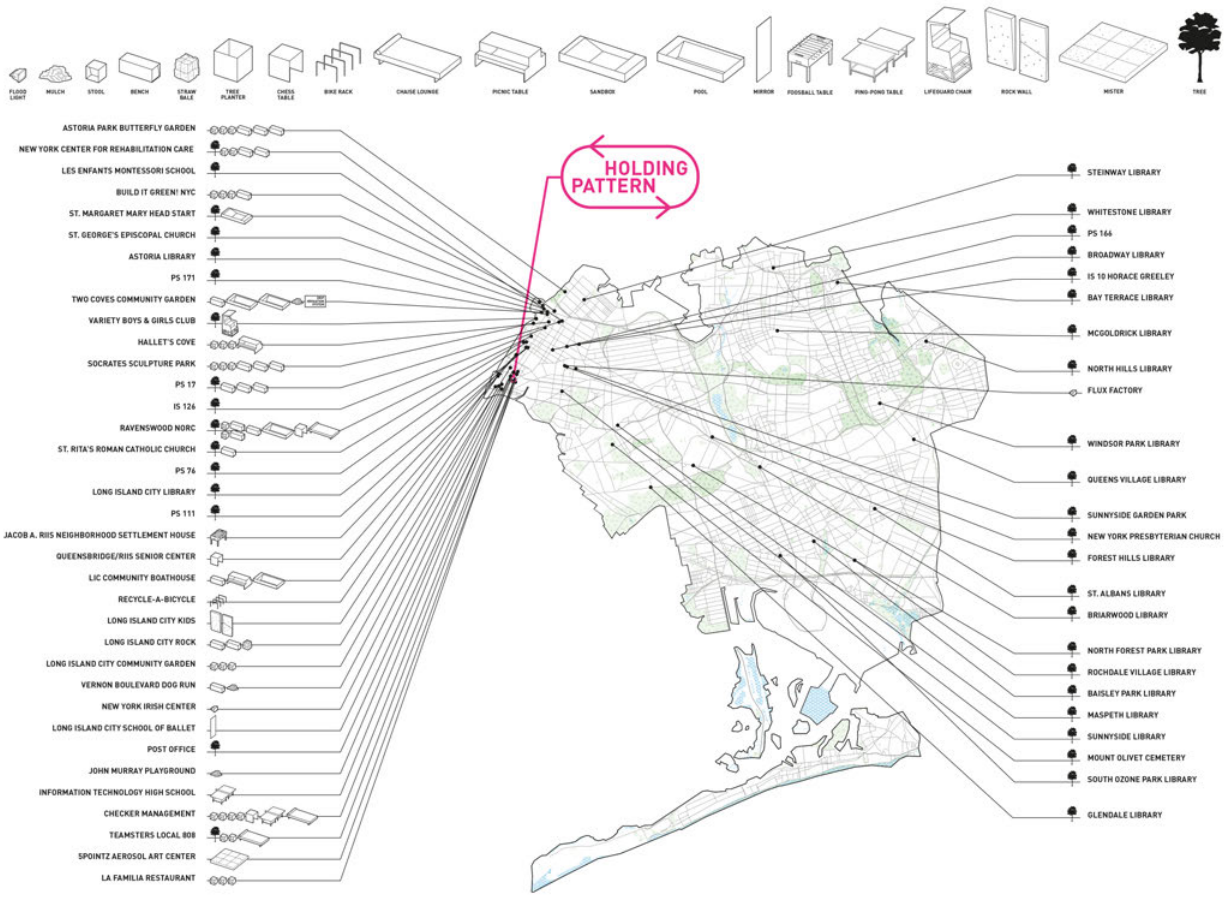
Our process can be broadly characterized as participatory, in that we always seek to diversify and expand the number of stakeholders engaged in any given project. In particular, we look to bring individuals and groups who are typically underrepresented in, or even excluded from planning processes. Our work does not streamline the development process; in fact, it typically makes it more complex, but we believe that bringing different perspectives and needs into the process makes for more interesting and inclusive spaces. We are don't gather input to fulfill some requirement or checklist before the design is developed, but instead use the participatory process itself as a design generator.

The places of participation

Like most offices in the United States that engage in participatory planning strategies, we have led traditional design charrettes, community meetings, and focus groups. Such events are often required tasks in American public planning and urban design projects, and they fulfill the important purpose of bringing people together to give project updates, share ideas, and solicit feedback that can inform the process. By working in this context, we came to realize that in some projects the same, relatively small and homogeneous group of people attended our outreach meetings. We realized that we were not engaging with all of the stakeholders who would or could have an interest in the project. This was the case in the Northern Fairmount Neighborhood Plan, a project that we completed for the City of Newark Department of Housing and Economic Development. The planning process outlined by the city sensibly required that we do outreach and get input from residents. We held typical stakeholder meetings and focus groups, but in the case of this project, the same group of people came to every meeting. We felt that we were not getting sufficient input from people who might not opt to go to an urban planning meeting in their free time. So we developed activities that brought planning to them. For example, we worked with the artist James Rojas to set up a colorful model in front of a neighborhood bus stop that we used to talk to people about their community. We also made self-addressed, pre-paid postcards, each of which had a different picture of the neighborhood that we asked people to caption. What we learned, of course, is that people who live in a neighborhood see it a lot differently than people who plan a neighborhood. The goal was to diversity the stakeholder mix and to bring the interests of these groups into the planning process.

Seeing is believing

We have built on these approaches in other projects. For example, in the federally-funded Rebuild by Design initiative, we were charged with developing innovative design opportunities to address vulnerabilities related to the increased flooding from storms and sea-level rise in the region affected by Hurricane Sandy.[6] The site was Nassau County in southern New York State, which has a very complex and highly fragmented system of governance. Within the county, there are three towns that include sixty-four villages and over a hundred unincorporated areas. Each village makes most of its own planning and land-use decisions based on local interest, and in that context, it is very difficult to develop consensus around regionally-impactful proposals. Through this process, we were confronted first hand



The map shows the distribution of all the objects and trees that were held at MOMA PS1 as part of the Holding Pattern project. (Credit: Interboro)

with the difficulties of regional planning in such a politically fragmented region. So while we responsible for designing the design interventions themselves, one of our most important tasks was to build coalitions around the specific design projects in the absence of strong regional planning.

We produced many visualizations that made sea-level rise palpable. However, some of our more effective tools to help stakeholders see the present and future impacts of sea-level rise were participatory events "in the field." For example, we brought groups out into the bay on boat tours to see first-hand the erosion of the bay's fragile wetlands. We organized bus tours to bring different stakeholders around the region to observe some of the more dramatic effects of sea-level rise and to hear experts explain them. On the deck of a boat or on a bus, individuals from different neighborhoods and backgrounds spent time together, learning about and discussing the challenges facing the region.

Sites of engagement

We are currently leading the engagement process for the City of Cambridge, Massachusetts' comprehensive plan. In this multi-year planning initiative, we have continued to experiment and build on some of our earlier outreach techniques. One of our outreach tools is a table, with a large map and model of Cambridge.

People can sketch and write on the tabletop, and we have a three-dimensional model of the city that sits on top of that. The Cambridge table is designed so that it can fit in a van and can be easily set up inside a building or outdoors. We sought to move planning out of the confines of city hall and into the everyday spaces of different neighborhoods, basically bringing planning to the people. It has been set up in parks and squares, schools, libraries, community centers, senior centers, and even the supermarket Trader Joe's. Nearly 3,000 people have been reached at approximately 60 locations. We have used the table to solicit input from people about the city and about the plan. Using the table as a setting, members of our "Street Team" engage Cambridge residents to identify the issues that are important to them. But the table does more than give us an opportunity to solicit input. It actually creates a site of engagement. This three dimensional visualization of the city is a place of engagement where local knowledge can be recorded and exchanged.

Hold it

For our project Holding Pattern, we worked with several dozen non-profits in New York's Long Island City neighborhood. We used an annual program for the design of a temporary public space at MoMA PS1, in its courtyard, as an opportunity to strengthen connections between MoMA PS1 and its neighbors. To design the space, we asked non-profits in the neighborhood the following question: Is there something you need, that we could design, use in the courtyard during the summer, and then donate to you when Holding Pattern is deinstalled in the fall? We approached libraries, high schools, senior and daycare centers, community gardens, a post office, and dozens of other Long Island City-based institutions, and made matches between things the neighborhood needed and things we thought could enhance the experience of the MoMA PS1 courtyard in the summer. The result was an eclectic collection of objects – including mirrors, ping-pong tables, a lifeguard chair, a rock-climbing wall, and 84 trees – that we might not have thought to include in our design but that enhanced the experience of the courtyard and strengthened connections between MoMA PS1 and its surroundings. In the fall of 2011, a total of 79 objects and 84 trees were donated to more than 50 organizations in Long Island City and beyond. So instead of working for one client, MoMA PS1, we ended up working for more than 50 clients. And these clients, many of whom had never stepped inside of the museum before, came to the courtyard, to visit their tree, or their sandbox. We also created a newspaper that told the stories of all of our "adopted" clients.

Rethinking participation

Now, perhaps more than ever, is an important time to think more broadly about the role and potential value of participation. Participatory processes have long played an important role in planning practice and were strongly shaped by the progressive social agenda of luminaries like Jane Jacobs and Paul Davidoff. With changes in the field of participatory planning, and the emergence of new modes of interdisciplinary practice, designers now have an opportunity to blur the boundaries between planning, urban design and architecture. At Interboro, we have sought to rethink participation, so that it is no longer just about bringing different, excluded stakeholders to the so-called negotiation table, but it is also about using outreach and engagement creatively as tools to design more open, inclusive spaces.

[1] "Story of cities #32: Jane Jacobs v Robert Moses, battle of New York's urban titans," https://www.theguardian.com/cities/2016/apr/28/story-cities-32-new-york-jane-jacobs-robert-moses, accessed January 30, 2017.

[2] Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961), 422.

[3] Paul Davidoff, "Advocacy and Pluralism in Planning," *Journal of the American Institute of Planners*, 31, 4 (November 1965).

[4] See Maroš Krivý and Tahl Kaminer, "Introduction: The Participatory Turn in Urbanism" *Footprint*, Volume 7, Number 2 (Autumn 2013).

[5] Dana Cuff, "Contentious Urban Development: Architects and the Public Realm," *RE: Forming Social Space* (Los Angeles, CA: Burgess Pub., 1996), 10.

[6] In the Rebuild by Design initiative, the Interboro Team included Interboro Partners, Apex, Bosch Slabbers Landscape + Urban Design, Center for Urban Pedagogy, David Rusk, Deltares, H+N+S Landscape Architects, IMG Rebel, NJIT Infrastructure, Planning Program, Palmbout Urban Landscapes, Project Projects, RFA Investments, and TU Delft.

NEW PARADIGMS OF URBAN MOBILITY PLANNING: HOW DO WE MOVE IN THE CITY OF TOMORROW?

Konrad Rothfuchs and Christian Scheler

Settled areas are steadily growing worldwide, and with this trend, so are the distances traveled daily. In Germany, for example, 69 hectares of surface area were sealed each day between 2011 and 2014 – which is nearly one hundred football fields.[1] Even though the trend is moving toward a revival of life in the city and toward "sharing economies," when viewed globally, the appeal of the private automobile as a symbol of freedom and individuality seems to be unbroken. This assertion is supported by the prolonged growth of new passenger car registrations (the number of registered passenger cars in Germany, for example, rose by 1.5 percent in 2015).[2] Transportation surface area actually increased by 10.1 percent between 1992 and 2015.[3] There is no question that this is in strong contrast to the goals of sustainability and a "city of short distances." The role of the built city is enormous in this context – despite the symbolism of private passenger cars – because it influences behavioral patterns such as those of transport choices.

Are we, as planners, hopelessly left helpless in the face of these developments? Must we automatically follow these trends in urban and transport planning, by incessantly creating more and larger infrastructural facilities for motorized traffic? Must residents increasingly forgo urban quality and thus quality of life in order to ensure the functionality of cities? What adjustments can we make? Is it enough to just implement the vision of self-driving cars to make cities more livable?

In past decades, the answer to many problems in Western industrialized nations has increasingly been found in technical improvements and solutions. So it is hardly surprising that especially the last question is habitually answered with a "yes." Many technology firms and automobile manufacturers are ready to go with a complete range of products pertaining to the "smart city" for municipalities and cities. Certainly technology could be the solution for one problem or another, but for transforming cities on the way to the smart city, purely focusing on a comprehensive digital sensor network and the use of information and communications technology is insufficient.

That alone is reason enough to go beyond the oft-cited images of marketing strategies and take a brief look at the idea behind the smart city. The goal of the smart city is to enable climate-friendly, efficient, and inclusive mobility through intelligent, adaptable, networked, and resilient systems. Resources should be conserved and thus negative environmental impacts reduced. Moreover, in addition to promoting the economy and digital networking, the original meaning of the term smart city also includes the social dimension of urban development. The offerings should be for all people in the city and not reserved for a privileged clientele.

Traffic jam.
(Credit: pixaoppa, pixabay.com)

The current discourse in society, politics, and economic circles about the smart city is, however, being conducted mainly under the label of digitization. The concepts discussed with regard to mobility revolve almost exclusively around technical optimization of the existing transport system. Digital improvement of traffic conditions and electrically powered, automatically driven vehicles are the approaches currently ensuing from the debate. But these are ideas that tend to act as a "sedative" to maintain the status quo rather than serving as a serious, sustainable design for our mobile future. Inasmuch as it operates with autonomously driving vehicles, a user-friendly, multi- and intermodal transport system is often mentioned, but only incidentally. If we focus on eliminating rather than reducing motorized traffic, we run the risk of not recognizing and making headway on the real challenges and inherent potentials for cities and municipalities in the required scope and to the greatest extent possible. Then we miss out on a discussion of the essentials.

If we examine the recent situation more precisely, it quickly becomes clear that the emergence of the above-mentioned developments – daily lengthening of distances traveled and increasing numbers of passenger cars – are parallel, overlapping phenomena: Firstly, there are the increasing travel speeds of ever-safer cars that enable traveling longer distances in the same amount of time. This is a circumstance that, in turn, amplifies functional separation through the emergence of areas of single-family homes on the outskirts of urban regions. Secondly, prosperity-oriented consumption and mobility behavior in large parts of Germany have until now led to a situation in which supermarkets, for instance, are able to

have ever-larger catchment areas without diminishing the quality of the journey. Thus car-friendly locations have arisen and continue to arise on the outskirts of cities, which, in turn, play a significant role in choosing modes of transport. The outcome is a prolonged spiral of continual land consumption at the expense of natural and open spaces and high quality urban spaces.

Since the frayed settlement patterns of metropolitan regions in Germany cannot be adequately served by public transport and most of the distances to be traveled are beyond reach by foot or bicycle, the share of commuter and shopping routes that is served by motorized traffic is in many places increasing unabated. The consequences from noise and air pollution are accordingly serious for the residents and for the motorists themselves, who spend a large portion of their commutes in traffic and who contribute to the daily congestion in the streets of the urban centers and the arterial roads. Mobility in the city is impeded and the quality of public spaces is impacted in an existential way.

Against this backdrop, in the discourse about the smart city we have to take into consideration not only the transportation infrastructures and means themselves, but also the district structures, the origin and destination points, and the accessibility of places that serve everyday needs. In view of demographic change and the current debate on societal and social integration, the importance of this cannot be overstated.

Consequently, the greatest opportunity to foster sustainable mobility behavior and consequently make an essential contribution toward livable cities is found in the logically consistent combination of technical possibilities and adapted spatial structures. Important and pioneering ap-proaches are offered by: multimodal interconnections (networking of various means of transport at nodes); integrated district development (consideration of the social, ecological, economic, and built components of a place); and the establishment of a broad-based multi-optionality (multiple, simultaneously available options that can be used as required).

Switchh Mobility Hub at Berliner Tor. (Credit: Sebastian Glombik)

In the intelligent city of the future, it must be possible to carry out a majority of transactions within walking distance and in many cases directly in the course of daily travel – while walking home from the public transport station, for instance. In that case, the shopping could be done on the way home – in a supermarket at the bus or train station – and the purchases could also be transported directly to the customer's refrigerator at home or delivered to the concierge. This bundling of different options and services (bus stop, supermarket, etc.) is referred to as a local hub and can function as an important social component in the district or neighborhood. Thus so-called neighborhood hubs should, for example, be linked to everyday facilities such as newspaper kiosks. Here, residents can drink a coffee, drop off their laundry at the cleaners, and reach many more bundled services. In addition to self-propelled carts for small loads, cargo bikes, and much more, electric-powered, autonomously driving taxis can also be made available.

The dilemma of density

The city epitomizes the concentration of opportunities: work, culture, shopping, leisure, and mobility. In order to be livable, an intelligent city must not only be in a position to offer all these options to its residents; it must also combine all these possibilities together in such a way that they are both welcoming and easily reachable without fighting traffic congestion and air pollution.

A central consideration in the debate on the smart city must therefore be that we can resolve spatial-structural deficits only to a very limited extent by using technical innovations. To be sure, developments such as delivery services and autonomously driving vehicles will make it possible to reduce car travel in rural and suburban areas through adept networking. We will not, however, be able to achieve the intelligent utilization of existing infrastructures such as roads, energy supply systems, and social facilities by that means. The fundamental correlation between urban density and economic supply remains unchanged. For example, retailing structures or efficient systems of public transport will only be able to be established where a sufficient critical mass of users is attained. The advantages of technological innovations therefore only allow improvement of existing possibilities.

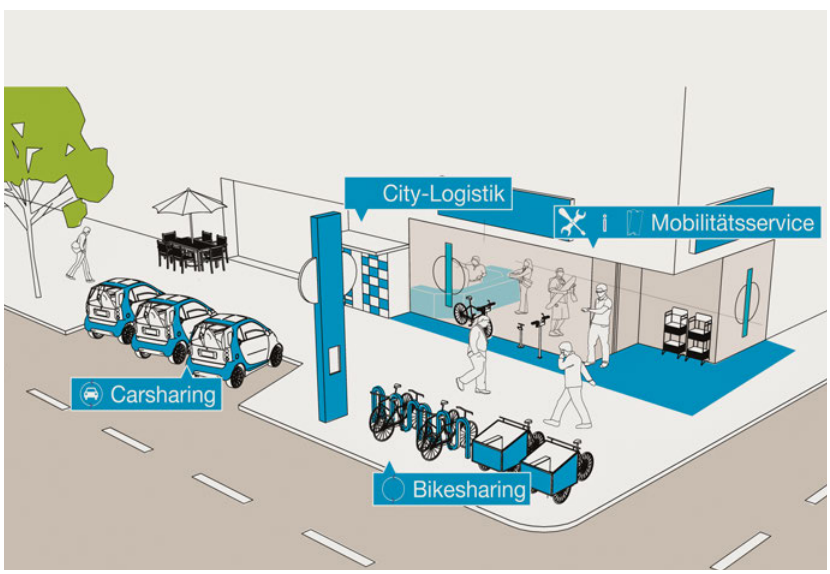
Existing informal mobility hub at a kiosk near Berlin-Ostkreuz. (Credit: Christian Scheler)

Thus a housing development with detached single-family houses cannot be legitimized by applying the approaches of the smart city or with the aid of mobility concepts. Even in the smart city, this space-intensive form of housing can only function in combination with denser housing forms. One attempt to produce new housing models that, by way of example, permit private gardens and open spaces but still achieve sufficient urban density is for instance presently being negotiated in many German cities under the banner of the "Gartenstadt (Garden city) 21" program. The example of a competition design for a housing development on the outskirts of Hamburg in Neugraben-Fischbek tries to address this problem. The goal is to unite the planner's need for density with the individual's desire for a "house in the countryside." But despite all the good approaches, here too we must still assume that the low levels of mixing and density do not suffice for short travel distances – for local shopping, for example – and therefore the residents will only rarely be able to avoid owning their own cars.

Build transport multimodality

In addition to the aspect of proper density, the availability and spatial distribution of various mobility options plays an important role in a smart city. Spatial networking is also necessary as a counterpart to digital networking. The design of street space and the establishment of mobility hubs serve as spatial planning priorities to this end. A hub is – as previously described – a concentration of various offerings at a central location, ideally along everyday paths such as commuter routes or those used for local shopping.

Connecting mobility options to mobility hubs is also currently underway in Hamburg. The Hamburger Hochbahn transit system introduced so-called "switchh" points in 2011. Established offerings such as the rental bike system StadtRAD, the car sharing system car2go, and vehicles from Europcar as well as taxi stands are set up at key nodes of the rail-based public transport system and linked via a common information platform.



Draft for a intermodal hub at a kiosk. (Credit: ARGUS)

It is considered necessary to not only establish such hubs at important transfer stations such as major public transport nodes, but also to supplement them with counterparts at destination and origin points. As studies on subjective mobility behavior demonstrate, the key to choosing a particular means of transport chiefly lies not only in uncomplicated transfers (e.g. between bus and train or car), but right in the traveler's own living environment.[4] The experience gained from these studies shows that everyday life without a car must be easy to manage. Using many different means of transport requires a certain amount of prior knowledge. It is essential that the various mobility options be spatially available at all times, and that this availability is also clearly perceived. Otherwise there is a risk that the emotional hurdle – overcoming the urge to drive a car instead of riding a bus – is too high and, as a result, a private car is purchased after all. Thus it can be concluded that the design and organization of mobility options in the neighborhood has much more importance for citywide transport development than universally accepted. Ultimately, the aspects of convenience and availability are the deciding factors (in addition to costs) in making a choice for one means of transport or another. This is not just about bundling mobility options, such as rental bicycles, car sharing, delivery and parcel services, etc., but about establishing central places in a neighborhood that can contribute to urban development. Precisely herein lies an important interface between mobility and neighborhood development.

Requirements for future housing development

What requirements of future housing development in the smart city are now linked with these objectives and principles of intelligent and sustainable mobility? Here a distinction must be made between the development and renewal of existing settlement patterns and the creation of new structures: In the first case, the main task is to connect the various existing subareas of the city and to strengthen existing centers. Here, the focus shifts in particular to local public transport nodes and retail centers and/or service sector businesses. In our regions of agglomeration, these existing hubs represent the largest reserve of land. They must be further developed so as to become multifunctional places that are often a destination

Dense urban transport hub. (Credit: Skitterphoto, pixabay.com)

of daily travel. Retail locations could be expanded to become centers that offer services, a wider range of shopping opportunities, and a transit stop for local public transport as well as other mobility options. High-capacity transit stops, especially those belonging to a rail system, could conversely be catalysts of commercial development that also offer jobs in addition to shopping opportunities. At the same time, new residential areas must be planned to be oriented around such central points – with correspondingly increasing development densities and without excluding individual segments of the housing market.

In areas of new development, local public transport stops should serve as the starting point for planning. Residential areas should be located not only near transit stops but around them, and at the same time, these transit stops – endowed with additional offerings in the retail and service sector – should offer additional mobility destinations and make it possible to link the paths from one's home to their place of work and to shopping or vice versa. To achieve this goal, a fixed urban size for an entire district must be established around frequently used train, subway, and tram stations, which must be maintained in all but exceptional cases.

Examples with various "smart" aspects

Each of the following four examples illustrates an instance in which smart city thinking has been established and well integrated into the urban setting. In Hamburg, the world's first inner-city IKEA opened in 2012. For the more than 150,000 people living within a radius of about three kilometers, the furniture store is easily accessible on foot or by bike. Besides its location in a pedestrian zone, the good local public transport options (Altona Station, with long-distance, regional, and suburban rail connections, is about 400 meters away) influences the mobility and shopping behavior of customers. The first evaluations of traffic volume clearly show the decisive influence this location decision has on customers' behavior in choosing modes of transport: Despite very high numbers of visitors ranging from 7,000 to 15,000 people per day, only roughly 800 passenger cars enter the parking decks on weekdays and around 1,300 on Saturdays.[5] The share of customers who

Störtebeker Ufer at HafenCity, Hamburg. (Credit: Ole L. Blaubach)

arrived by car was below 10 percent in the first days after opening, and then leveled off at about 15 to 20 percent. By comparison, the proportion is generally above 90 percent for conventional furniture stores in the periphery.

One key detail here is the mobility concept that IKEA resolutely implemented at this location.[6] To make the transport as environmentally friendly as possible, packages are, for example, delivered by bicycle couriers using cargo bikes and trailers. If they choose, customers can also borrow these for free for three hours. Moreover, external service providers will offer additional mobility options.

The example of Hamburg's HafenCity can be characterized as intelligent for a number of reasons. Here, using a digital traffic simulation model, the possible uses were studied for their impact on traffic and continually adjusted from the very outset. In this way, aspects such as density and the availability of parking were identified at an early stage as important factors that could be adjusted for the urban design program. Moreover, in the eastern part of the urban development area – on a former harbor site – a subway line will start operation before any above-ground construction activity begins, thereby ensuring quality access via public transport from the beginning. Furthermore, land along the water's edge, which is of particular interest for urban design, is reserved for use by pedestrians and cyclists. The new district on the outskirts of Vienna – Seestadt Aspern – encompasses not only housing, retail, and services, but also manufacturing businesses. The very approach taken by this use concept facilitates short distances between work and home. Here, too, the establishment of sustainable modes of transport is made possible by the early opening of a subway extension and by offering cargo bikes for rent. Moreover, decisions on where retail is located are not relinquished to economic logic, but deliberately guided by the planning. The owners of commercial spaces on the ground floor are all paid equally and the spaces are rented out centrally. The actual rent payments are based on the respective economic means of the individual tenants. In this way, businesses with small profit margins (like kiosks) and social community centers, among others, can be located in central but intrinsically high-priced locations.

Subway station at HafenCity University. (Credit: fsHH, pixabay.com)

The so-called Rail plus Property (R+P) model devised by Hong Kong's Mass Transit Railway (MTR) very clearly demonstrates the possibilities of dense, mass transit-oriented urban development around public transport stations, based on the TOD (Transit Oriented Development) principle. The public sector guarantees the public transport operator (MTR) the rights to the lots around the newly planned subway stations. As the developer of the lots, MTR prepares a master plan and designs and markets the building projects. In this way, high-density, mixed-use urban structures are built in a 500-meter radius around the local public transport stations. This results in a large percentage of daily trips being made with the environmental alliance (foot, bicycle, local mass transit), and furthermore it also yields unforeseen profitability for the local public transport system. This principle is currently also being applied to other cities – especially in Asia. But the criticisms of this type of urban development should not remain unmentioned at this point. These include, inter alia, a possible lack of social mix in such projects, as well as urban development that is skewed toward expansion. These aspects are political and social questions that must be discussed and accordingly pursued.

Lessons learned for the discussion about the smart city

From these findings and examples, we can learn that the discourse on the smart city must not be reduced purely to technical possibilities. Autonomously driving vehicles alone cannot resolve the substantial problems and contradictions of the ongoing suburbanization tendencies on the outskirts of our cities. In summary, the following guiding principles can be formulated:

Every trip begins at the front door. Diverse mobility options in the direct residential surroundings leads to markedly greater sustainable behavior in choosing modes of transport.

Mobility needs to be taken into consideration from the start. Mobility routines are decided anew at moments of reorientation (such as moving into a new home, the birth of a child, etc.) and subsequently changed only very seldom. Thus it is important to think about diverse mobility options from the outset.

We need to rethink the disposition and design of our cities. The infrastructure manifests our mobility behavior for the next 20 years. Opportunities for shopping within easy walking distance and a functional mix are the prerequisite for a low dependence on passenger cars. Neighborhoods with only small numbers of cars have more room for their residents and will be able to excel in the long term.

Cities must again develop a self-understanding that nurtures a more self-conscious approach to urban planning. For urban planning to take on a pioneering role, economic aspects may not be of paramount importance. Conceptually important frameworks must be demanded and implemented as premises, even if they can lead to economic disadvantages. Ultimately, our cities are places for people and are not corporations. A backdrop of financial and legislative support created for this purpose is absolutely needed at the national or EU level. Only with appropriate funding can new concepts be conceived and implemented in such a way that a climate of experimentation enables earnest continued development.

Cities must focus above all on easily accessible space reserves, such as those at existing public transport stations, and revitalize these accordingly. This is the key for achieving sustainable transport behavior and a more profitable public transport system.

[1] German Federal Environment Agency (UBA) 2016;
http://www.umweltbundesamt.de/daten/flaechennutzung/siedlungs-verkehrsflaeche.

[2] German Federal Motor Transport Authority (KBA) 2016;
http://www.kba.de/DE/Statistik/Fahrzeuge/Bestand/b_jahresbilanz.html?nn=644526.

[3] German Federal Statistical Office (Destatis) 2015

[4] See, e.g., Scheler 2012 (Der letzte Kilometer – Eine subjektive Betrachtung des urbanen Mobilitätsalltags und dessen Mustern; HCU Hamburg).

[5] See ARGUS 2014 (Traffic Evaluation IKEA-Altona).

[6] See ARGUS 2012 (IKEA Mobility Concept).

COMPETITION 2017

SCHINDLER GLOBAL AWARD 2017 COMPETITION BRIEF

Dimitri Kron, Fabienne Hoelzel, Jessica Bridger and Andrea Murer

The Schindler Global Award 2017 competition site was located in São Paulo, the main economic engine of Brazil and most populous city in South America. With a population of twelve million[1] and more than twenty million people in the metropolitan region,[2] the city is well established and embedded in global flows of resources, people and power. The city faces challenges at all scales, and the competition asked students to address them using urban design frameworks and strategies. The competition site was centered on the CEAGESP (Companhia de Entrepostos e Armazéns Gerais de São Paulo) wholesale market, along with its surrounding neighborhood and infrastructures. CEAGESP will be relocated by the city in the coming years, freeing up a substantial part of the city for redevelopment and change. Its location in the center of São Paulo offers the potential for forward-thinking approaches to the creation of a new centrality within the city, connected and integrated into the local and regional context.

Participants in the Schindler Global Award 2017 were given the following information as part of the competition brief, to introduce the task and competition site. The brief included information about urban development in São Paulo, from both historical and contemporary perspectives. A set of maps and diagrams, along with a site plan, were provided as base materials for all participants. Teams were asked to submit two A0 sized presentation posters and a booklet of additional drawings and research.

Transforming the urban core: Urban design for coexistence

The task of the 2017 Schindler Global Award is to make a comprehensive urban design proposal to address the existing and future challenges on the CEAGESP wholesale market site. The locally focused urban design strategy should be embedded into its context, strengthening the city and the region as a whole. The central themes of the competition are connection and integration, using public space, mobility infrastructures, housing and workplaces as catalysts. Participants are asked to design a sustainable portion of the city by taking a comprehensive look at these topics.

The competition site, situated west of the old center of São Paulo, is located in close proximity to one of the functional gateways to the city, a strategic position, through which hundreds of thousands of commuters from outlying urban areas pass daily, on their way to and from work. The site is northwest of the current centralities of mostly high-paying jobs. This offers the potential to divert development in the city away from a southward direction by presenting an alternative in the northwest. The CEAGESP area could become a new centrality in a network of other new and existing centralities. Changes to the mix of uses on the site could offer new economic and housing opportunities.

Warehouses in the CEAGESP area next to the Pinheiros River, with newer residential developments in the background. (Credit: Fábio Knoll)

The CEAGESP area has been functioning for many decades as a wholesale market for perishable goods. It is an important local employer. Within a radius of approximately one kilometer are numerous commercial businesses, specialist retailers,


FRUTABRAS

and service companies that are directly associated with the CEAGESP, such as plant nurseries, garden furniture retailers, and event agencies. The city government of São Paulo wants to relocate the commercial activity in the near future, moving it from the 640,000 square meter site to the periphery near the Rodoanel Mário Covas beltway. The primary reason for relocation is the high level of traffic associated with the CEAGESP, which significantly contributes to congestion in city.

Consequently, for the purpose of the competition, the vision for the existing industrial and commercial area is to develop a lively district with a dense mixture of living, working and services, uniting urban and economic considerations. Locally based economies contribute to the diversity, stability and identity of neighborhoods. The mix of uses is therefore of great importance, as are questions of mobility to define where and how residents and workers from the designed neighborhood commute and access their needs in greater São Paulo. This can substantially impact quality of life, and includes everything from employment and living to leisure. For example, well-designed neighborhoods with varied uses and good mobility connections could significantly improve commutes for a portion of the population, by reducing transit distances and the time people need to reach essential destinations in their daily lives.

New, contemporary forms and modes of mobility, such as car-sharing concepts, should be part of the thinking behind the design. There is an urgent need to develop alternatives to problems related to individual transport in car-dependent São Paulo. The role and function of public transportation is a key part of addressing these concerns.

The urban fabric of São Paulo is divided by massive road and rail infrastructures, many of which severely fragment the city. The question is whether – and how – infrastructure can support more diverse uses and functions. Infrastructure could enable more interfaces between uses and users, and become an integrated part of the public realm, rather than a mono-functional element that often isolates neighborhoods. The competition site contains the train station Ceasa, part of the CPTM (Companhia Paulista de Trens Metropolitanos) network. The station is segregated from the urban fabric and is only accessible from one side of the adjacent Pinheiros River. Changes to its range of uses and design could potentially create a new urban hub. The relationship of infrastructure elements to public space and how infrastructure functions as public space should be assessed. The design of the network of open spaces, roads and pathways, within and adjoining the competition site, should be planned and incorporated into the overall design.

The urban design should indicate how new buildings connect to public spaces, and address density along with urban form. São Paulo's urban development, driven largely by the real estate market and informed by security concerns, has mostly resulted in walled high-rise towers. These self-contained living environments abandon the street as unattractive residual space. This should be looked at critically. For city residents the fear of robberies and burglaries is high, and this is reflected in the building typologies. Building setbacks, the relationship of public, private and semi-private areas, as well as outright security measures, such as fences, gates and guards, should be examined. Alternatives that better integrate public space with the tower-based typology should be tested.

(Opposite page, top)
The Pinheiros River with the often-congested Marginal highway on either side.
(Credit: Fábio Knoll)

(Opposite page, bottom)
Heavily used cargo-handling areas and warehouses in the CEAGESP area.
(Credit: Fábio Knoll)

Adjacent to the site boundary, some of the plots of land have already changed in use, as industry has shifted away from the area. The site was a place of active industry starting in the late 19th century, but this has been in decline since the mid-20th century. This is due in large part to shifts in the economy, technological progress and changes in land prices. The industrial past is still visible, evident in the large-scale plot configurations and former industrial buildings. This gives the area a strong spatial identity. New and interim uses, including film studios, event halls, car dealerships and residential towers should somehow be included or addressed in the design. These new uses have attracted service industry businesses, such as restaurants and bars, which cater to workers and visitors. This progressive change is key to designing an area that can evolve over time, to become an increasingly complex and integrated part of the city. The residual space along the river, polluted and disconnected, is also a relic of the area's industrial past. This dividing element could attain its full potential as a new connecting open space and recreational area.

As today's city of nearly twelve million people continues to grow,[3] pollution will worsen. Exhaust emissions from motorized private transport are of particular concern. Deliberations about São Paulo's wastewater disposal and drainage problems should also be taken into account. The phenomenon of urban heat islands is common in São Paulo, where large portions of the urban surface are paved or covered by buildings, effectively sealing it. This means that evaporation is reduced and solar radiation is stored in buildings and road surfaces. Heat islands develop, raising surface temperatures significantly in certain areas. Additionally, because rainwater cannot percolate into the ground it immediately becomes surface runoff. This routinely overburdens the wastewater infrastructure, frequently leads to flooding and, even worse, to landslides. Consideration should be given to how the design of the new district can avoid exacerbating these negative environmental conditions and offer a high quality of life year-round.

Inherent in a holistic approach is the integration of found conditions into designs. Designs can draw on the historical identity of the CEAGESP site as they assimilate new ideas. These new ideas must engage the present-day situation and its requirements, to bring flexibility and adaptability for future development. The quality of life of the local residents should be a central concern and should be used to identify approaches that result in high quality urban development overall.

Topics

The choice of a focus for the design is essential, but the comprehensive nature of the competition means that a multifaceted response is required. Four essential topics are meant to guide proposals, and serve as the benchmarks for the evaluation of entries. Students are free to define additional considerations, but the following topics should be used to ensure holistic designs:

1. Regional and local urban design impact
2. Mobility and public space integration
3. Urban living, urban economy and creation of jobs
4. Cultural, social and architectural heritage

Designs should be grounded and linked to research and analysis. This allows a spectrum of pragmatism and imagination, generated from realistic starting points.

(Opposite page, top)
Market activity in the pavilion, built in 1964, at the center of the CEAGESP site.
(Credit: Fábio Knoll)

(Opposite page, bottom)
Cargo handing area between the CEAGESP warhouses, with residential developments visible in the background.
(Credit: Fábio Knoll)

Key Questions

The following questions are linked to the framework and topics of the competition. Designs should take each question into account. The Key Questions are the criteria by which the jury will evaluate entries. By taking a holistic approach urban design proposals should address the following aspects:

Regional and local urban design impact

a) What implications and gains are proposed for the immediate neighborhood?
b) How does the strategic gateway position of the site and its potential as a new centrality work in connection with other already existing centralities in the city and the region, in a condition of polycentrality?

Mobility and public space integration

a) How are the design suggestions integrated into the city's existing public spaces and transportation network?
b) How are the surrounding areas and mobility infrastructures on both sides of the river connected and made accessible?
c) How is the expected increase in mobility demands met, and what is the spatial and functional integration of the existing CPTM train station, and any new mobility access points? What are the spatial and functional qualities of these transfer points and transport interface nodes?
d) What new concepts and forms of mobility could help the site overall, such as those that result in lower emissions and traffic congestion?
e) How can the design of a high-quality public street network help to avoid or reduce the effects of urban heat islands and help with storm- and wastewater issues?
f) What are the green and open space concepts?

Urban living, urban economy and creation of jobs

a) How can a diversity and density of people, uses and offers – a frequency and interaction density – be achieved, to avoid, for example, dormitory quarters and areas that are dead outside of shop and office working hours?
b) How is safety and security balanced with the desire to improve public space and street relationships, especially considering the city's tendency toward walled towers?
c) Mixed-use: How are local businesses integrated? How can integrating mixed-use concepts encourage the creation of jobs, such as those related to urban manufacturing or new forms of urban production?

Cultural, social and architectural heritage

a) How is the existing urban fabric and the heritage of the site part of the design?
b) How is the transformation of the existing industrial site treated?

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[1] Estimated population 2015, IBGE (Instituto Brasileiro de Geografia e Estatística), accessed May 30, 2016, http://cod.ibge.gov.br/493

[2] Estimated population 2015 of the metropolitan region of São Paulo, SEADE (Fundação Sistema Estadual de Análise de Dados), accessed May 30, 2016, http://www.imp.seade.gov.br/frontend/#/tabelas

[3] 1.08% average yearly growth rate 2011–2025, United Nations, UN World Urbanization Prospects: The 2011 Revision (New York: United Nations, 2011), 8.

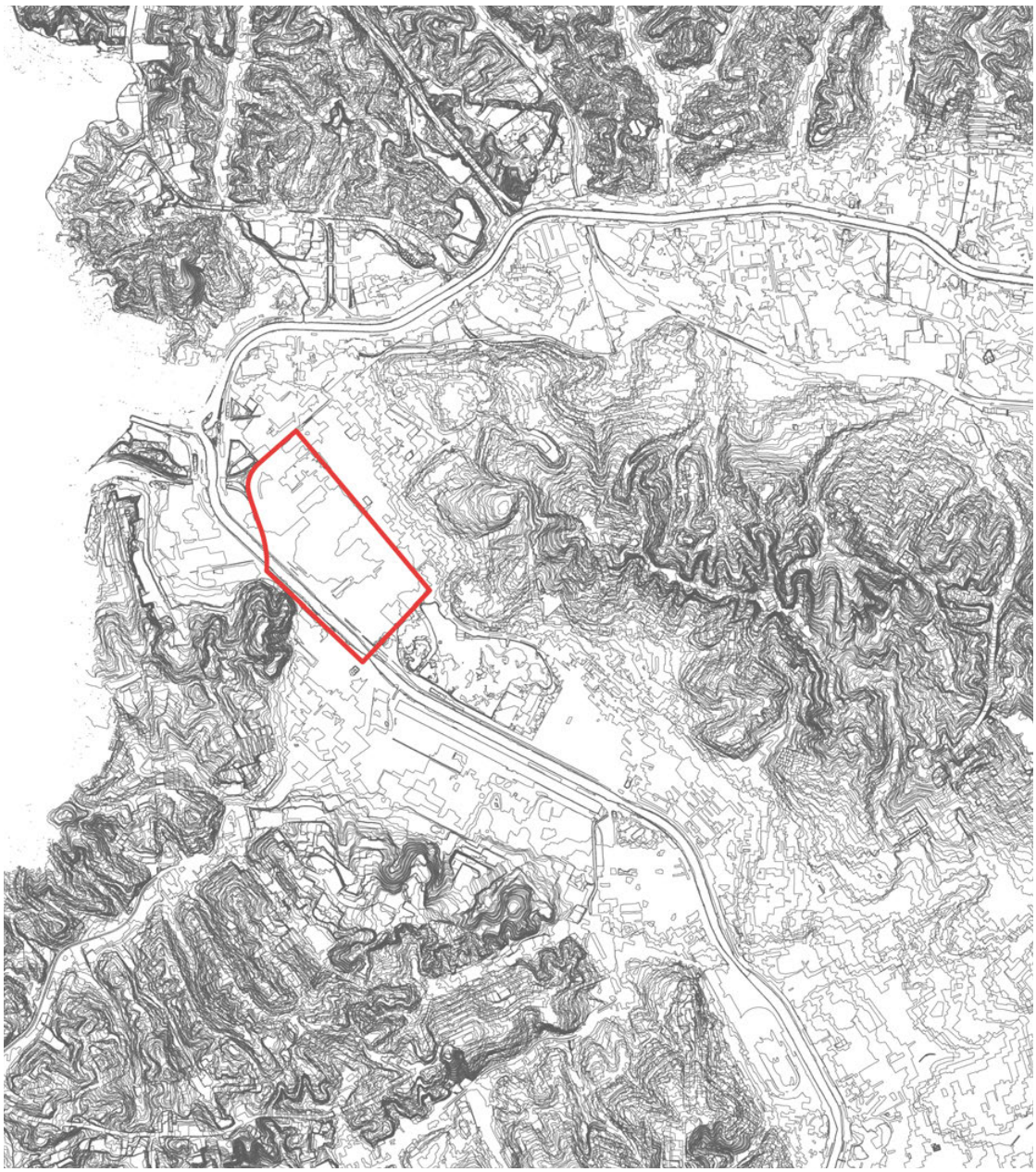
Figure-ground plan

(Base map source: http://geosampa.prefeitura.sp.gov.br; site research ETH Zurich 2016)

site perimeter
CEAGESP area

0 0.05 0.2 0.5 1km

Topography map

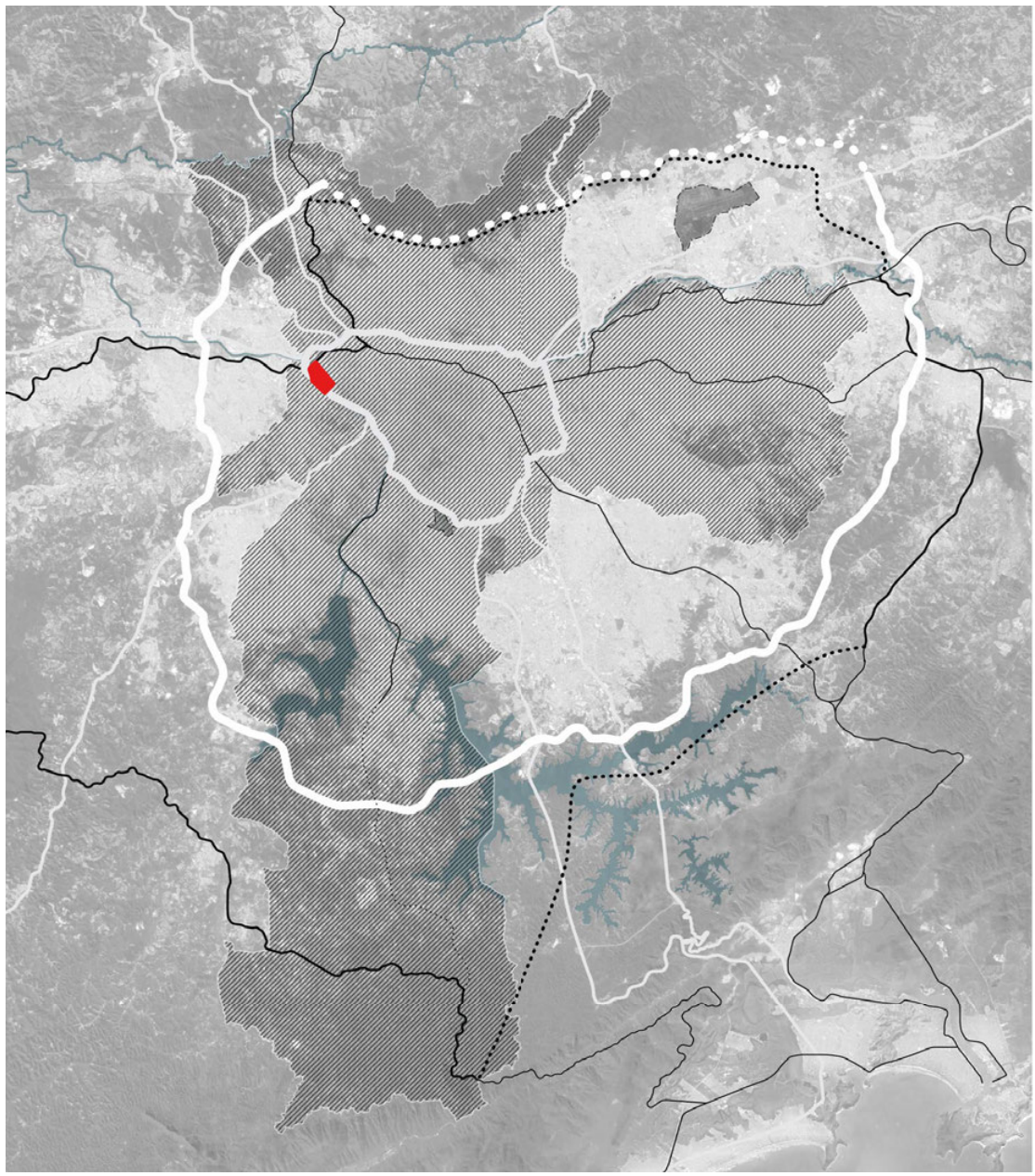


(Base map source: http://geosampa.prefeitura.sp.gov.br)

site perimeter

0 1 3km

Road and railway network – metropolitan region



(Base map source: http://geosampa.prefeitura.sp.gov.br; site research ETH Zurich 2016)

beltway (Rodoanel Mário Covas, SP-21)
beltway under construction
street / ring road
existing train line
train line under construction
planned Ferroanel
civil aviation airport
site

0 5 15km

Jury, from left to right: Hubert Klumpner, Kees Christiaanse (moderator), Paola Viganò, Anna Dietzsch (president), Claudio Bernardes, Georgeen Theodore, Carlos Leite, Sandro Pincherle, Fernando Mello de Franco, Neil Runcieman, Adriana Levisky, Elisabete França, Jose Castillo, Ciro Biderman (Credit: Dimitri Kron)

SCHINDLER GLOBAL AWARD 2017 JURY

The Jury Schindler Global Award met in February 2017 in São Paulo, Brazil. The two-day process was filled with lively debate about the student projects and methods of urban intervention. Jury president Anna Dietzsch guided the jurors in selecting twelve nominees from over 150 qualified competition entries. A final ranking of the winners was conducted at the close of the final session. The jury members were:

Ms. Anna Dietzsch (President)
AIA, Architect, Managing Director, Davis Brody Bond Architects and Planners, New York, USA and São Paulo, Brazil

Mr. Claudio Bernardes
Chairman of the Advisory Board of Secovi São Paulo, São Paulo, Brazil

Prof. Dr. Ciro Biderman
Economist, Professor of Public Administration and Government at Fundação Getúlio Vargas EASP; Chief of Innovation Office at City of São Paulo, Brazil

Mr. Jose Castillo
Architect and Urban Planner, Design Critic in Urban Planning and Design at Harvard University, Cambridge, USA; co-founder of arquitectura 911sc, Mexico City, Mexico

Dr. Elisabete França
Architect, Director of Planning at CDHU, State of São Paulo, Brazil

Prof. Hubert Klumpner
Architect, Professor of Architecture and Urban Design at ETH Zurich, Switzerland; Partner, Urban Think Tank, Zurich, Switzerland

Ms. Adriana Levisky
Architect and Urbanist, Levisky Architects, São Paulo, Brazil

Dr. Fernando Mello de Franco
Architect, former Municipal Secretary of Urban Development, City of São Paulo, Brazil

Mr. Sandro Pincherle
Director of FIABCI Brazil, Advisor to Secovi São Paulo, São Paulo Brazil

Mr. Neil Runcieman
Communications Director, Schindler Group, Ebikon, Switzerland

Prof. Georgeen Theodore
AIA, Architect, Urban Designer, Director and Associate Professor at New Jersey Institute of Technology, USA; Principal, Interboro Partners, New York, USA

Prof. Dr. Dr. h.c. Paola Viganò
Architect, Professor of Urban Theory and Urban Design at EPF Lausanne, Switzerland and Università IUAV of Venice, Italy; Principal, Studio Paola Viganò, Milan, Italy

Jury President Anna Dietzsch (Credit: Dimitri Kron)

STATEMENT FROM THE JURY PRESIDENT

Anna Dietzsch

São Paulo, like many other urban centers around the world, greatly expanded its demographics and territory in a short period of time, in a pattern that directly reflected (and reinforced) its divided and unequal social structure. The result is striking difference: infrastructure, streets, sidewalks and public amenities that can be impressively bad, and give no hint to the manicured wealth and quality of private spaces, or "privatized" public spaces. The Schindler Global Award 2017 Competition Brief, "Transforming the urban core: Urban design for coexistence" asked students to respond to these divergent urban tendencies.

The task wasn't easy and the projects swept through a great range of topics and approaches, pushing the jury to steer towards important contemporary urban design issues: can we unilaterally define the complete development of such a big and complex territory? Where do we stand in terms of its history, should we consider its built (and not built) memories? Is urban design "big architecture?" Can architects work alone? Is the criticism of planning and design a valid response?

In the first day, the group first selected 58 projects out of 157 and finalized the day with 32 projects after a long discussion about the selection criteria important to each individual juror and to the group as a whole. The second day was spent choosing the 12 winning projects and defining the final ranking. At that point it was interesting to note that the discussion would evolve and come back to two different points of view: one that identified with solutions which could be more easily implemented by the status quo of our city's reality and forces, and another that was attracted by projects that somehow questioned this status quo, pushing for resolutions beyond the boundaries of the questions posed in the competition brief.

The winning projects reflect this important duality and give us a range of solutions that point to both tendencies. This is in hope of taking the discussion even further and giving back to all of those students who participated in the competition. It is also in acknowledgement of their efforts to achieve the difficult – but important – balance in their professional positioning as problem-solvers, revolutionary thinkers and participative citizens.

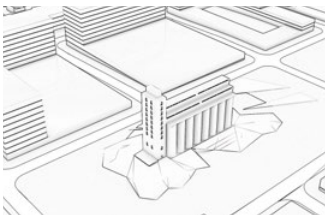
PROJECTS

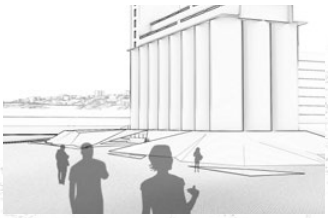
PALIMPSEST

The complex, layered nature of São Paulo is explored in this project, and used as an intellectual basis for design. Following an examination of the layers of the competition site, at multiple scales, "Palimpsest" then derives its strategy from the examination of a range of inputs, including history and land use. A design is then generated from this investigation. The project positions architects as synthesizers of diverse bodies of knowledge and practice. The proposal has nine thematic guides: community and local sense; building history with history; riverfront; eco-point, sewage garbage; co-generation; connectivity; sharing instead of owning; light timber frame low rise buildings and transformative infrastructure. The nine themes constitute a sophisticated and detailed strategy to reorganize the competition site. Social issues and questions of equality further ground the proposal. Special attention is focused on the CPTM rail line and transit connections including official city plans for future changes to the mobility network, along with measures to encourage diverse methods of public transport. The amenity offered by the Pinheiros River in combination with environmental challenges and pollution is brought into balance. Finally, the possibility of leveraging the history of the site – focused on the CEAGESP market hall – is positioned to imbue the future of the site with the significance of the past and urban memory.

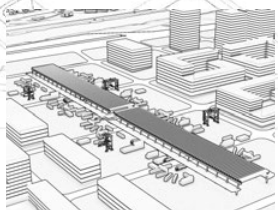
This project took some time for the jury to understand due to the unusual representation strategy, often operating in literary modes, chosen by the entrants. The project proposal is dense with text – a literal palimpsest. This appealing to some jurors for its subversion of graphic norms and opaque to others, at least initially. This was remarked on by some jurors as strategically appropriate for the level of sophistication that the project achieved. Many jurors praised the high quality of the writing, as "beautiful prose". The project had both "ambition at an urban and social scale … and a positive humbleness in the physical decisions." A remark was made that the project correctly conveys "the production of the city as a process that can only be done through time … to transform the city incrementally." Many jurors felt that the proposal was outstanding in its focus on social issues, using a pragmatic and plausible approach to the challenges posed in the brief.

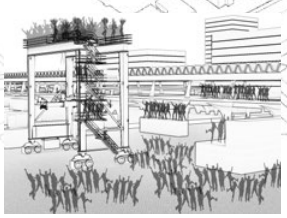
First Prize
Team 829
Students
Eduardo Ganança,
Luiz Boschi Grecco,
Jessica Luchesi
Academic Supervision
Prof. Dr. Fábio Mariz Gonçalves,
FAUUSP – Faculdade de
Arquitetura e Urbanismo da
Universidade de São Paulo,
Brazil
Prize Amount
US$ 25,000

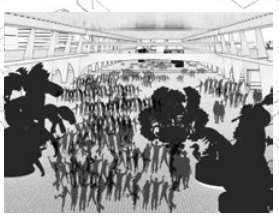




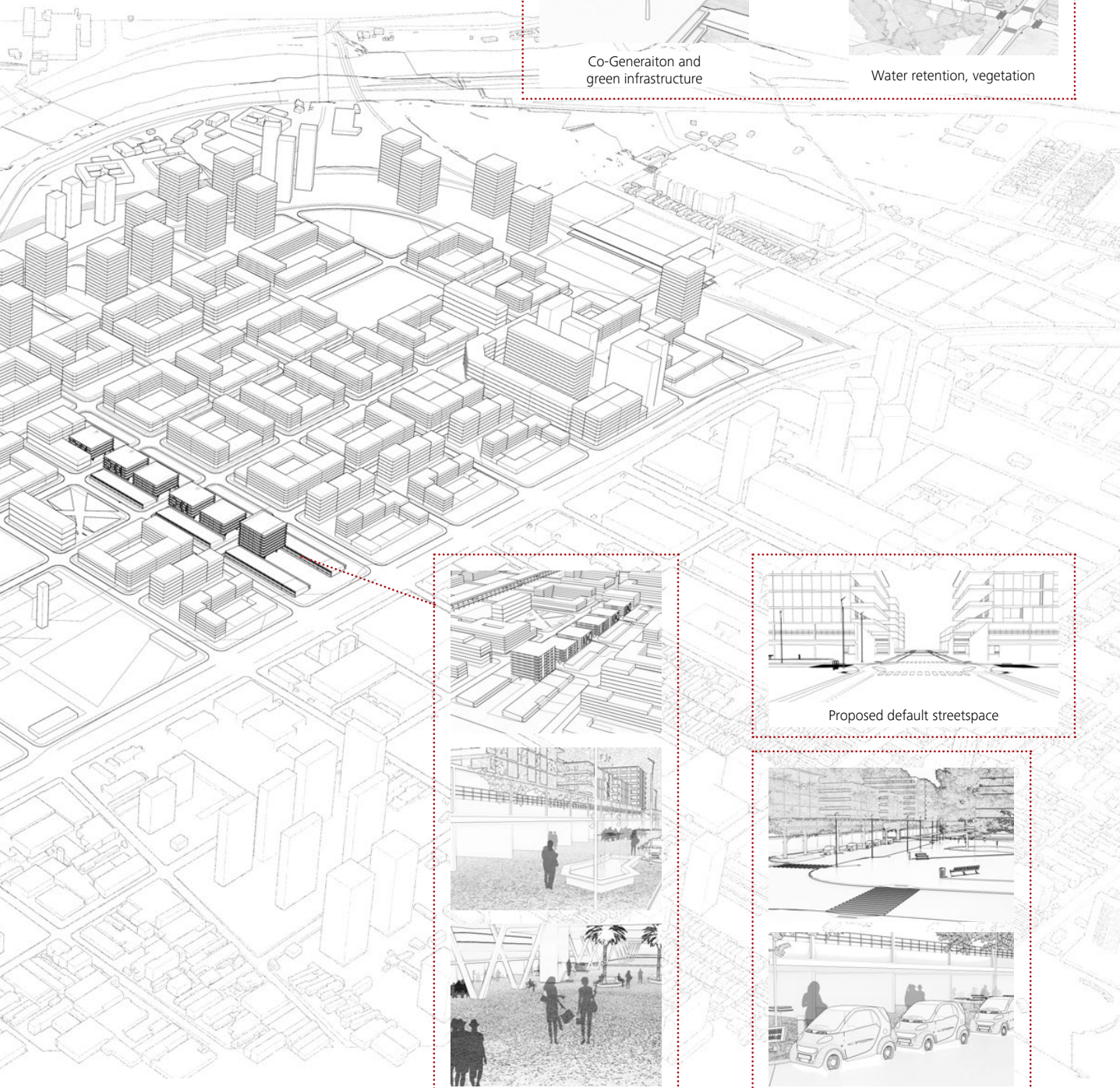
Heritage and reuse: silo

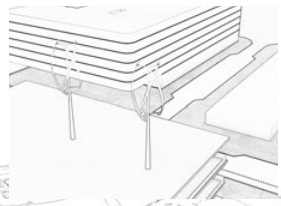




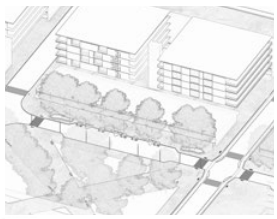


Heritage and reuse: pavilion





Co-Generaiton and
green infrastructure

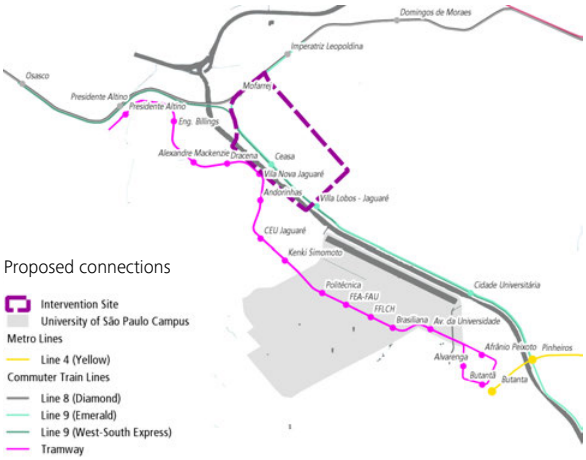


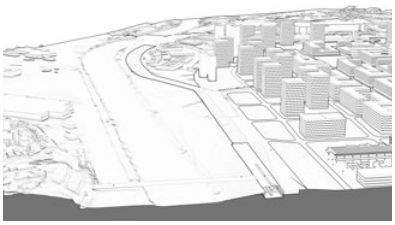
Water retention, vegetation

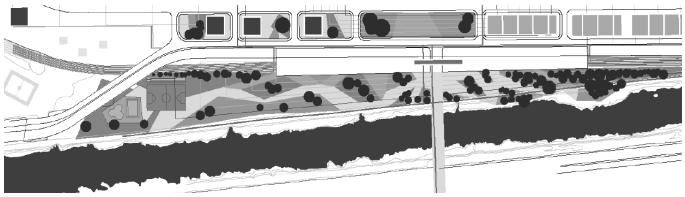
Heritage and reuse: warehouses

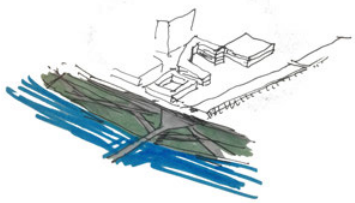
Proposed default streetspace

Slow speed, pedestrian friendly, car-sharing

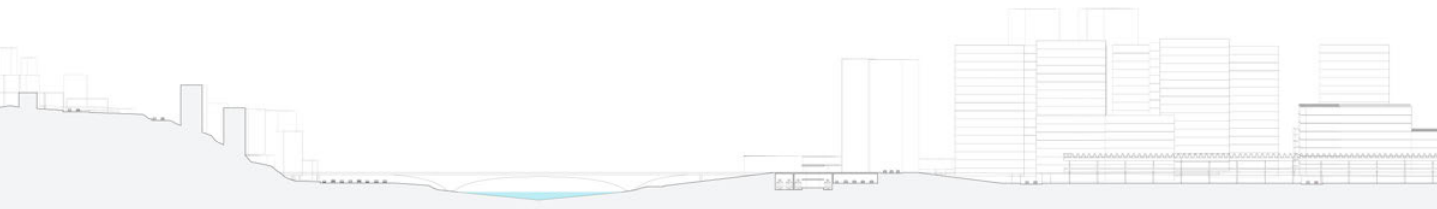




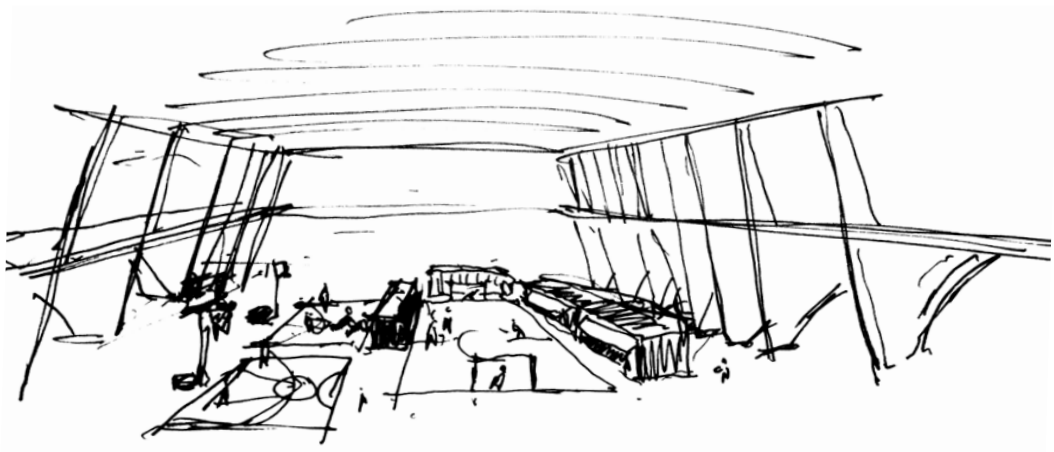


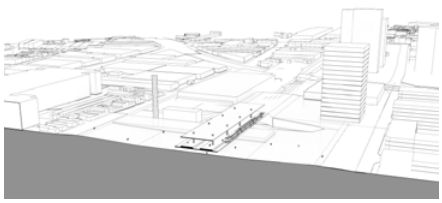


Riverfront park, new Ceasa station and the connection to Jaguaré hill

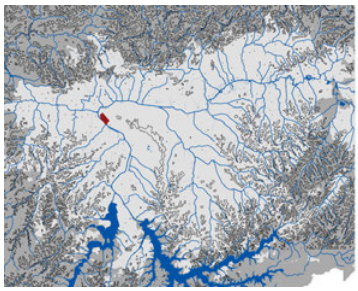


Flexible living / work / rental spaces





Mofarrej station



Physical

- Intervention Site
- Urban Area
- Hydrography

Topography

- 100m Level Curves

Infrastructure

- Intervention Site
- Urban Area
- Airports
- Commuter Railway
- Commuter Railway U.C.
- Metro Line
- Metro Line U. C.

Roads

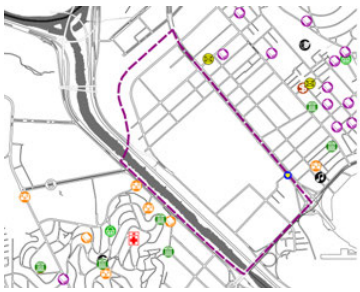
- State
- Federal
- Roads U.C.

Daily Trips

- Intervention Site
- Urban Area
- 500 - 3000 daily trips (lineweight scale)

Jobs per Capita

- Intervention Site
- 0.0-0.2
- 0.2 -0.3
- 0.3-0.5
- 0.5-0.9
- 0.9-2.0
- >2.0



Public Facilities

- Intervention Site
- Rivers
- Social Counselling
- Public Kingergarten
- Public School
- Private School
- Health
- Firefighters
- Police Departament
- Stage and Film Theater
- Post Office
- Open Street Market
- Customhouse

Infrastructure

- Intervention Site
- Parks
- Rivers
- Cycleway
- Excluse Bus Lane
- Commuter Train Station

Commuter Train Line

- Line 8 (Diamond)
- Line 9 (Emerald)

Building Height

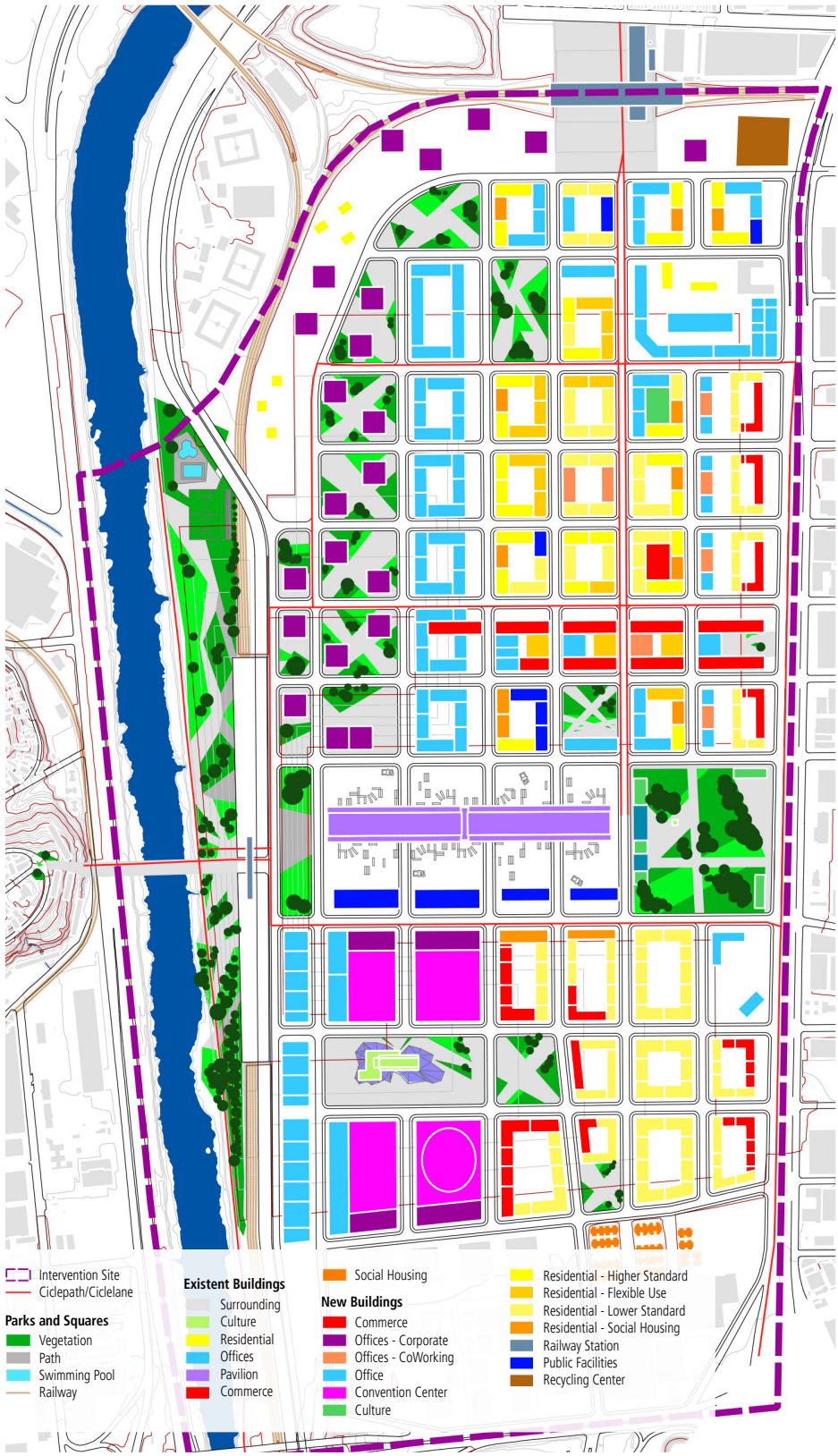
- Intervention Site
- Rivers

Height (meters)

- 0-4
- 4-12
- 12-30
- 30-60
- 60-105

Land Use (Predominant)

- Intervention Site
- Rivers
- No Info
- Res. - Horizontal and Low Standard
- Res. - Horizontal and Medium/High Standard
- Res. - Vertical and Low Standard
- Res. - Vertical and Medium/High Standard
- Commerce and Services
- Industry and Warehouses
- Residential + Commerce and Services
- Parks
- Edication
- Vacant
- No Predominance


Intervention Site
Ciclepath/Ciclelane
Parks and Squares
Vegetation
Path
Swimming Pool
Railway
Existent Buildings
Surrounding
Culture
Residential
Offices
Pavilion
Commerce
Social Housing
New Buildings
Commerce
Offices - Corporate
Offices - CoWorking
Office
Convention Center
Culture
Residential - Higher Standard
Residential - Flexible Use
Residential - Lower Standard
Residential - Social Housing
Railway Station
Public Facilities
Recycling Center

Functional Plan

STRATEGY OPEN CITY

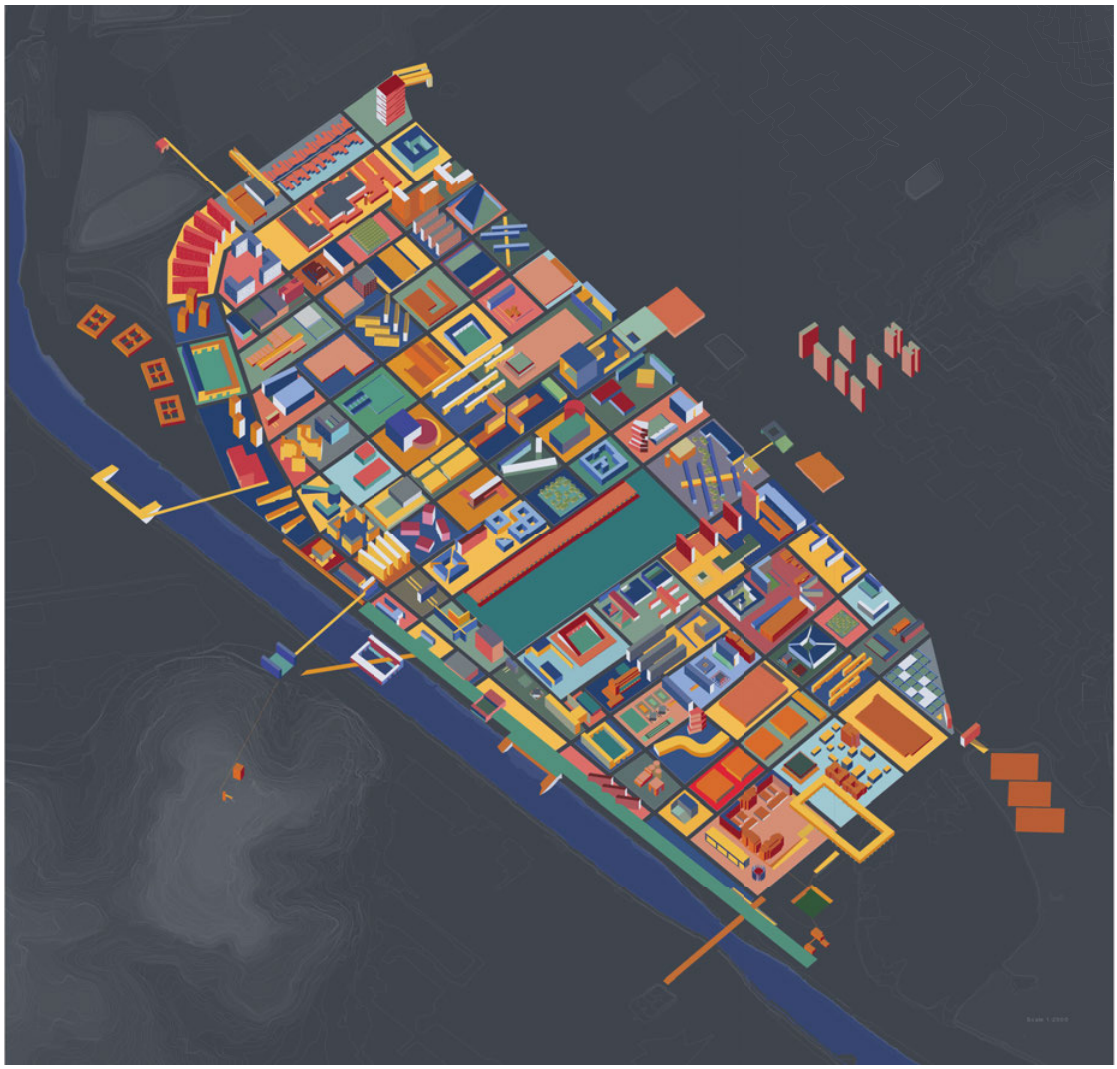
Voids, walls and the perimeter of the site give this project an internal logic. The "Strategy Open City" uses the idea of eyes on/upon the street to ensure safety and establish community. This is then transformed into a library of architectural and urbanistic typologies deployed on a grid overlaid on the site. The design proposes intensification from the perimeter to a core around the CEAGESP market, maintained for its historical value and neighborhood significance. Connections to the surroundings are proposed through mobility focused means and a more porous site perimeter. A two-step layering process establishes the proposed urban moves, along with three scales of architecture and a function plan. Precedents for the architecture are cataloged and some buildings are depicted in large-scale axonometric drawings to indicate the relationship between interior and exterior space – a focus of the overall design along with public and private areas. The representation strategy relied upon simple bold colored forms, using the conventions of the diagram melded with 3D modes.

Strategy Open City was noticed early in the jury process because of its striking graphics. Remarked upon as being "somewhat Rem Koolhaas" and "a bit Barragán" some jurors immediately were attracted to it, stating, "the project is beautifully translated in a refreshing splash of drawings" while some were initially unsure about the underlying design. "It succeeds in realizing a new part of the city," was one remark, "very well structured" was another. There was debate about the realization of the project beyond the conceptual framework and the relationship of pragmatism to provocation in student urban design proposals. Throughout the jury process the project rose up in the ranking as the early reactions to the provocative graphic strategy evolved into an understanding of the "strong and flexible" proposal.

Second Prize
Team 1023
Students
Niti Malik, Alisa Labrenz
Academic Supervision
Prof. Dr. Marc Angélil,
Guillaume Dopchie,
Guillermo Dürig,
Marcin Ganczarski,
Ciro Miguel,
ETH Zurich, Switzerland
Prize Amount
US$ 15,000

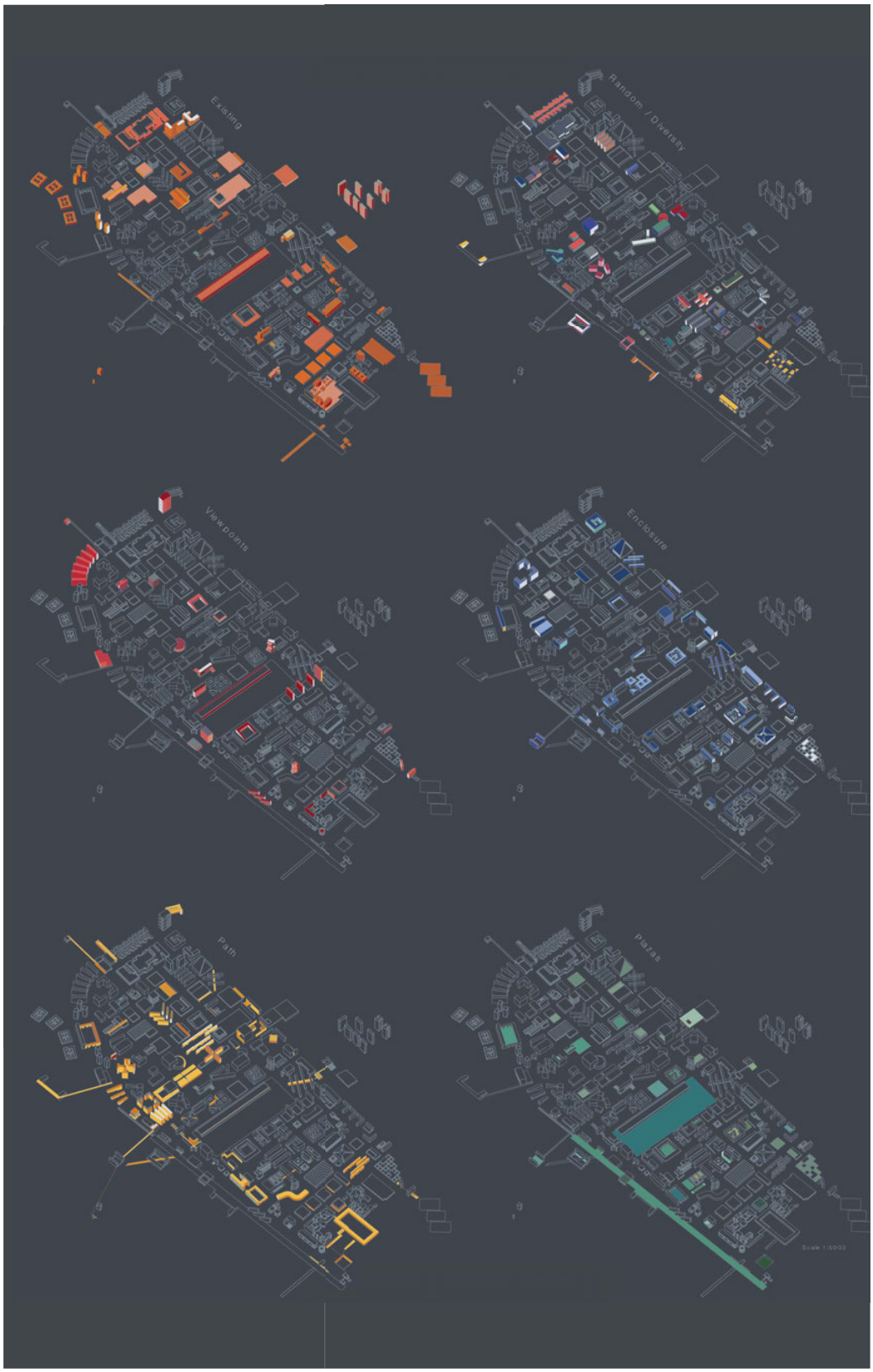
Analysis

Concept Sketch

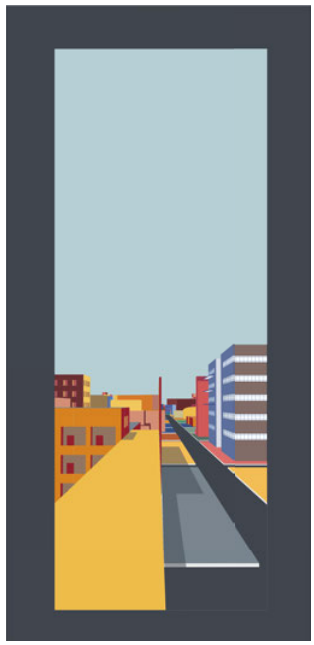


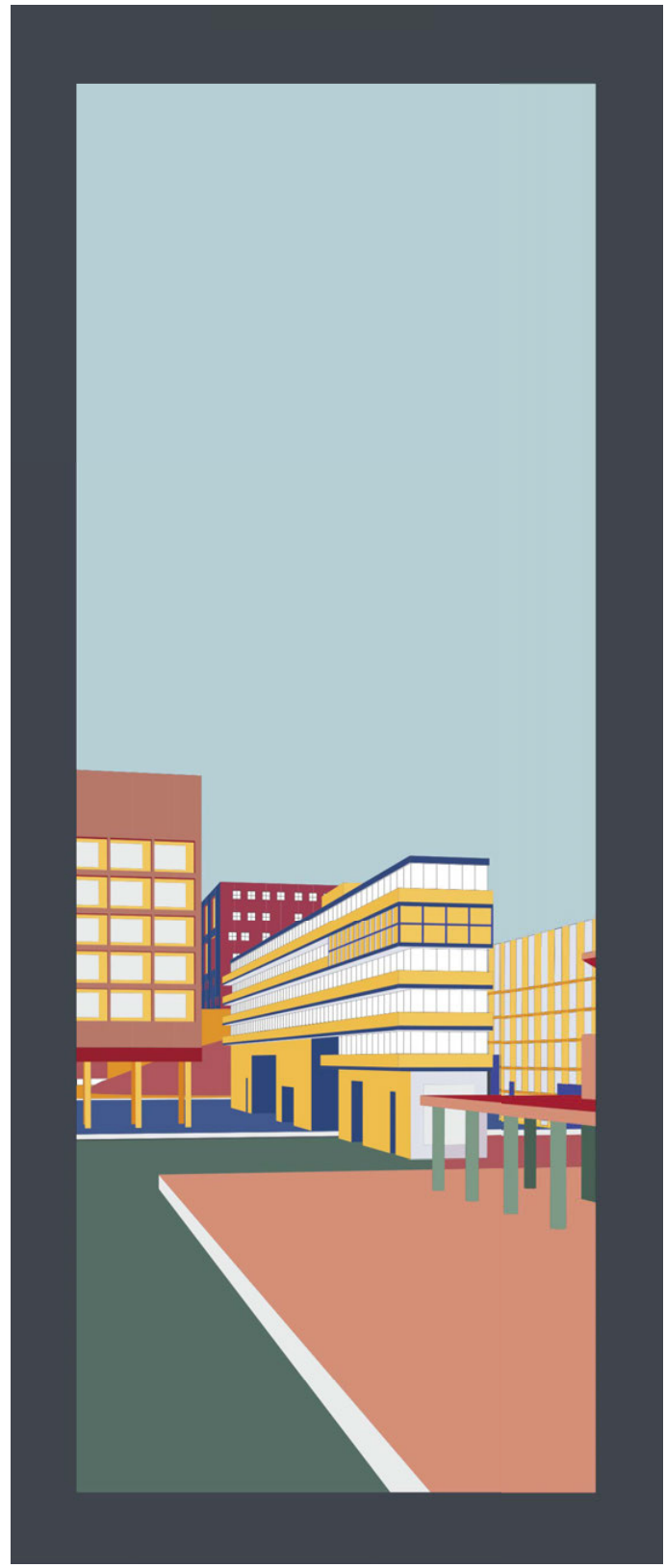
Final Product

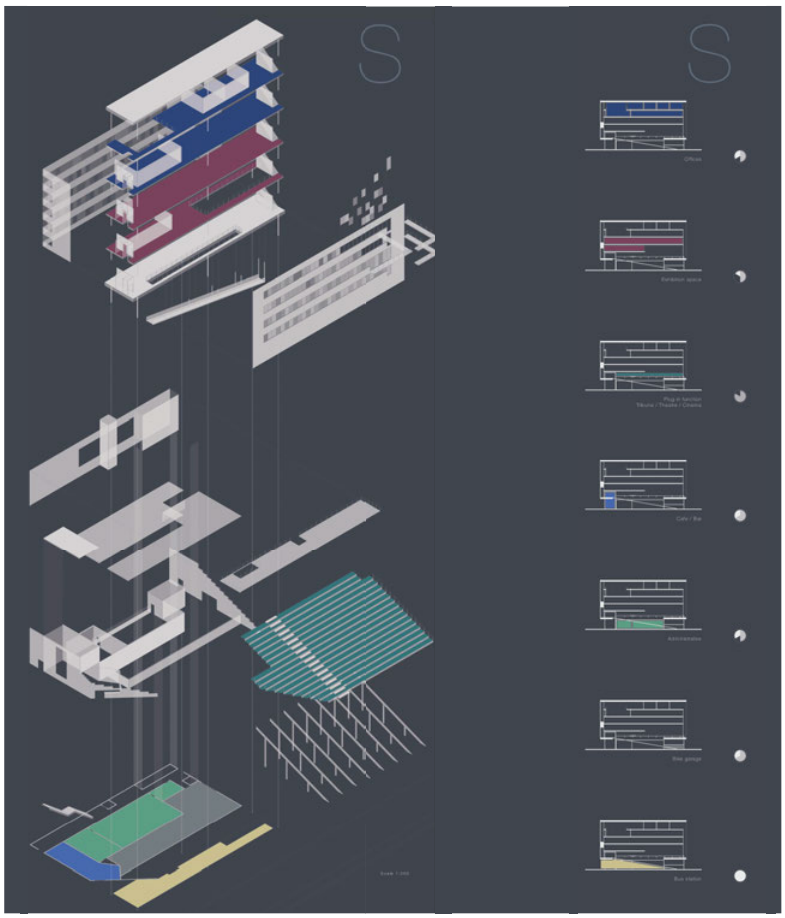
Layers

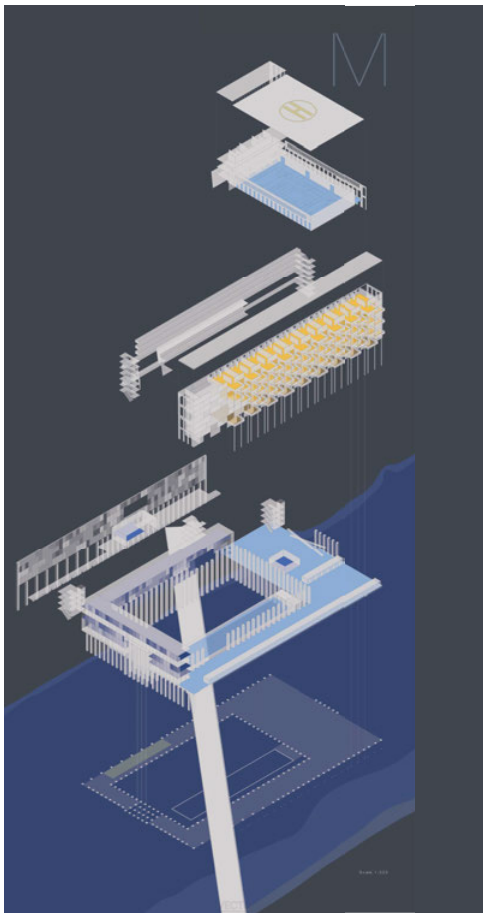

Existing
Random / Diversity
Viewpoints
Enclosure
Path
Plazas

Urban Spaces

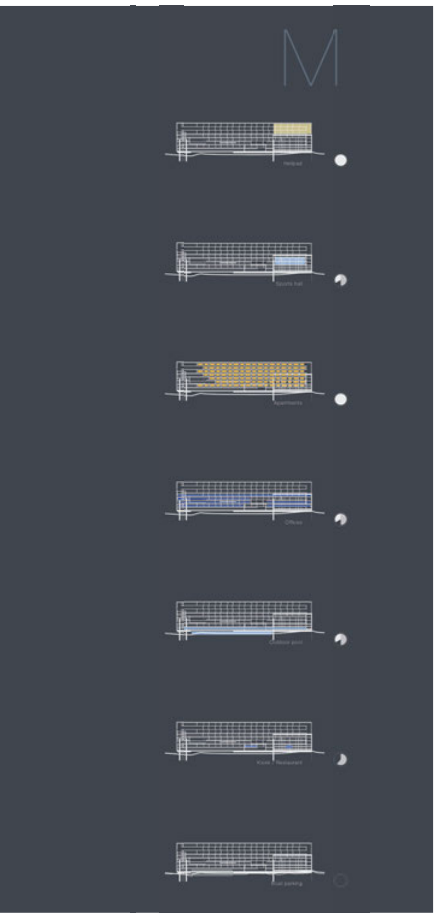








Interior Spaces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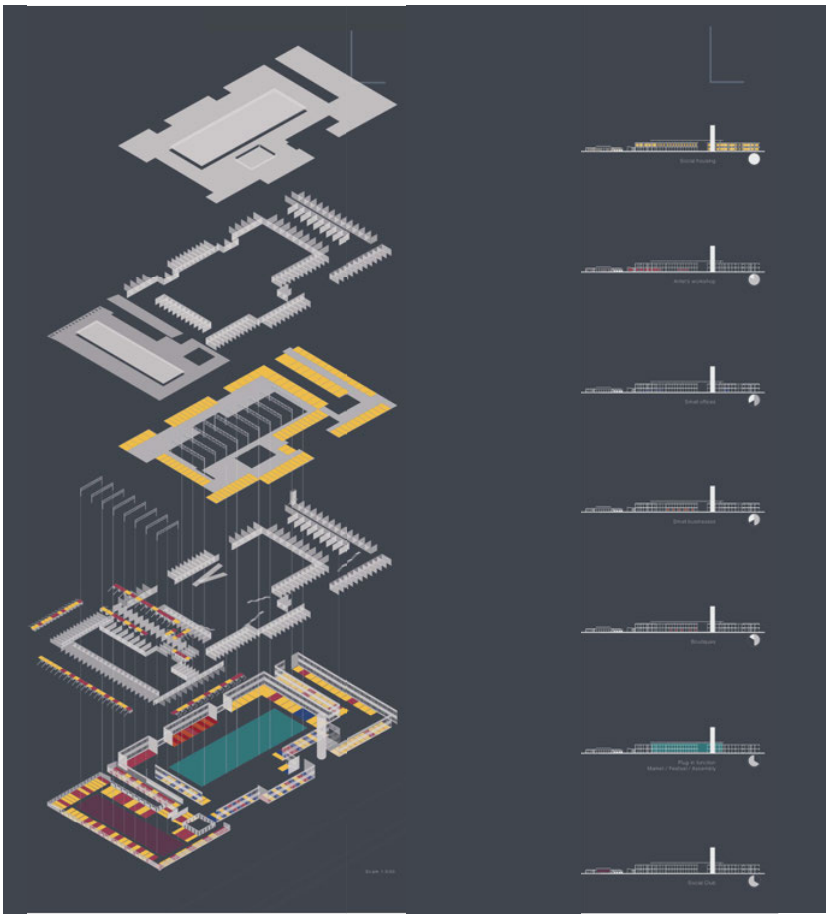
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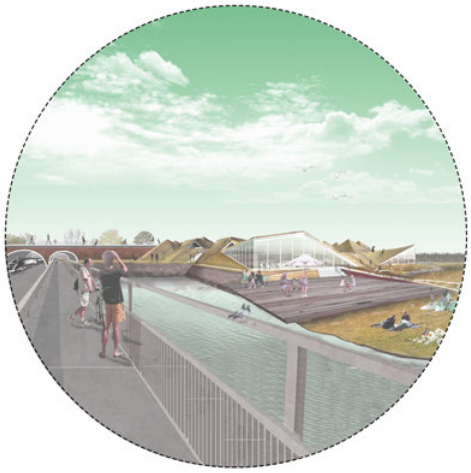
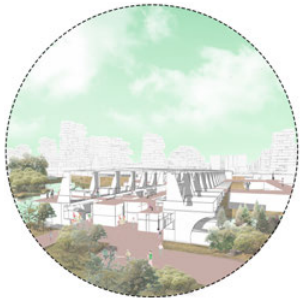
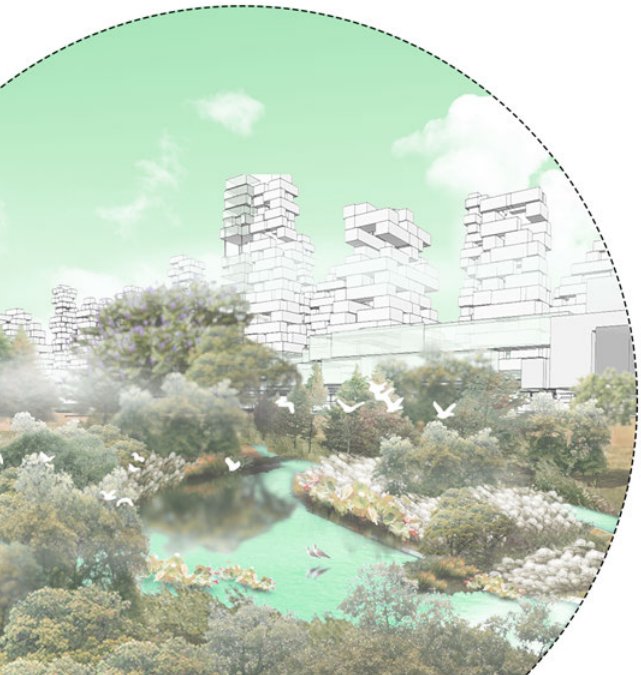






GRAY TO GREEN

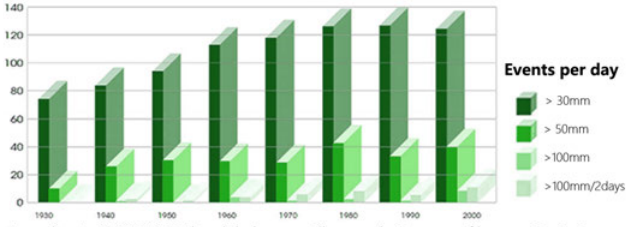
Living Under Urban Ecological Economy

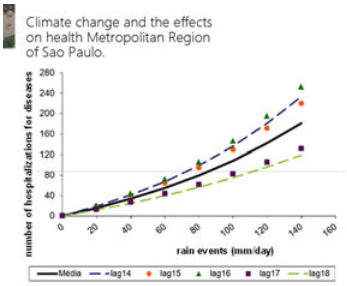
City and nature are brought together in "Gray to Green," a project which can be explained through its subtitle, "Living Under the Urban Ecological Economy." The strategy is to create an ecological sustainable development model, subverting what the project identifies as a false dichotomy between economy and environment. Detailed analysis of the social, economic, environmental and transportation conditions on the site and in São Paulo is used to structure an ecological and urban design framework. A large park-like area is proposed along the river, positioned as ameliorating environmental challenges such as storm water and pollution as well as providing recreational space. Four terms are used to focus research and subsequent design: "ecology," "compact city," "industry," and "mobility." Each links development and economic factors with environment. Attention to social class and economic opportunity is detailed. Contemporary ideas about communal and shared space and city services, along with innovation, are presented. The multifaceted representational approach connects underlying research and analysis to design moves throughout the project.

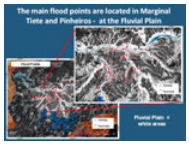
This project rose to the top rankings early and stayed, praised by many as "the best landscape-based solution" and for its "deep analysis." Many jurors commented on the mobility connections within the site and beyond its perimeter, noting the "original solution" for establishing a river crossing. It was seen by some as "an ambitious proposal to establish a different rapport between city and river," while others questioned the balance of green and built areas, along with the scale of the park. The project gave rise to some debate about landscape-led strategies vs. classical urban design, fitting for the dichotomies that the project sets up for the purpose of generative subversion. Much of the jury commended the abundance of clearly represented research and overall analysis, along with the "clear methodology" proposed.

Third Prize
Team 969
Students
Jianfeng Lin, Luqing Liu, Yangwenbo Xue, Fenghuang Zheng
Academic Supervision
Prof. Dr. Chia-Peng Chou, Assoc. Prof. Zhihong Yu, Assoc. Prof. Zheng Wu, Wei Xu,
Fujian University of Technology (FJUT), China
Prize Amount
US$ 12,500

Water

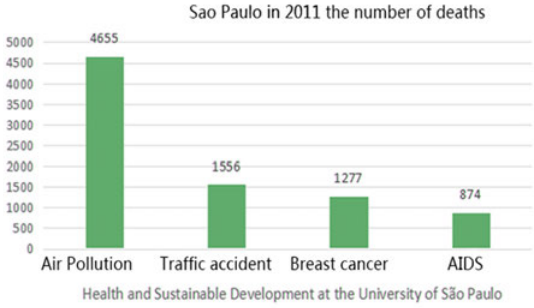




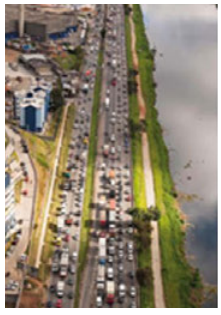


Estimates of the increase in hospitalization for Leptospirosis (diseases spread by rat urine) to each 20mm of rain - Fonte: Coelho-Zanotti,2010

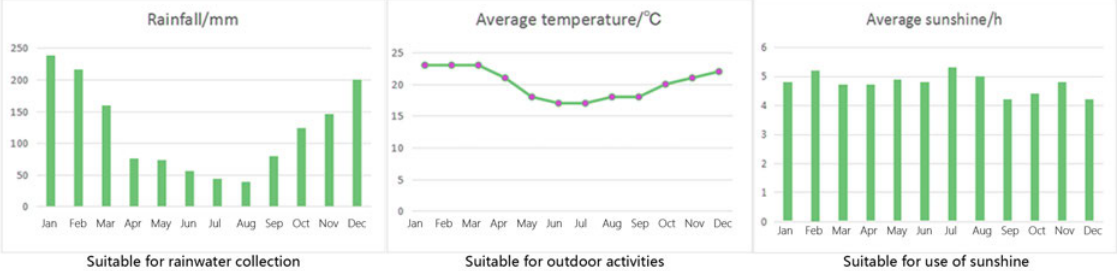
Air



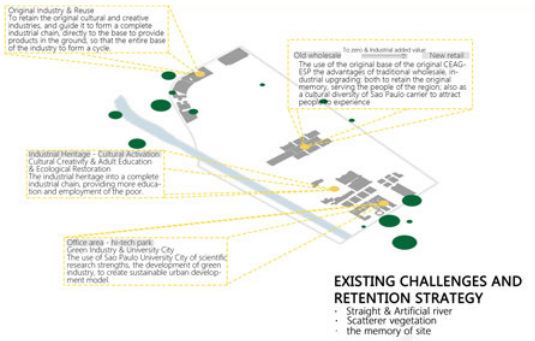
Transportation



Climate

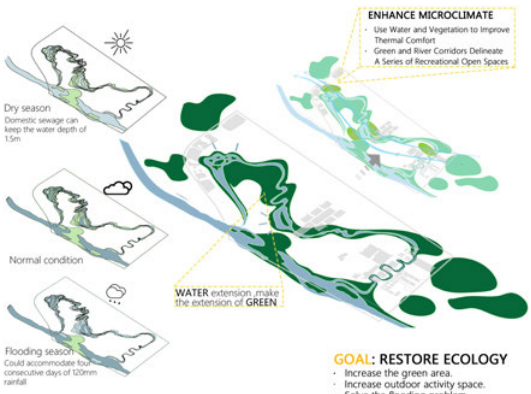


Strategies



EXISTING CHALLENGES AND RETENTION STRATEGY

- Straight & Artificial river
- Scatterer vegetation
- the memory of site



GOAL: RESTORE ECOLOGY

- Increase the green area.
- Increase outdoor activity space.
- Solve the flooding problem.

GOAL: ECOLOGICAL LIFE

- The higher the building,
- The lower the density of the building,
- The more the land is left to the living

GOAL: ECOLOGICAL MOBILITY

- The less Pavement,The more green,The healthier lifestyle.
- Integrate Two Urban Nodes Into the park.
- Make People who from different classes have a communication

GOAL: WAKE UP OLD ARCHITECTURE

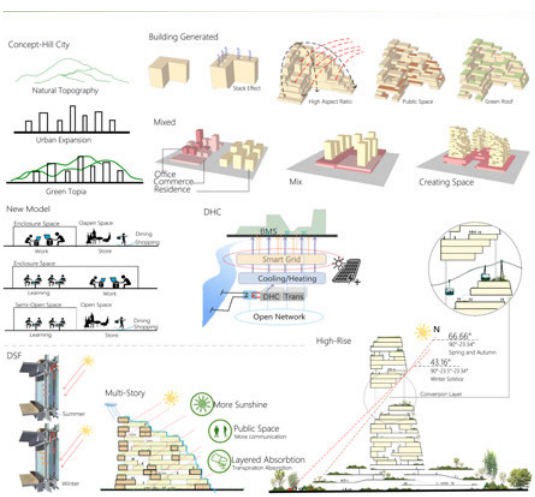
- Retention of site memory.
- Serving the people of the region.
- Solve the flooding problem.

GOAL: ECOLOGICAL INDUSTRY

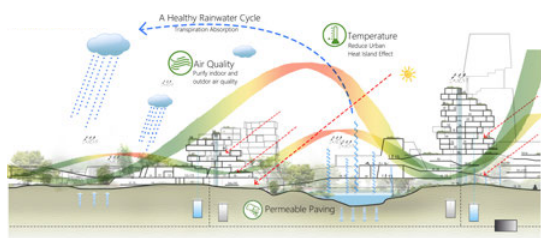
- More employment opportunities.
- Economic value of water purification.
- Economic support for the development of ecology.

Compact City

Concept

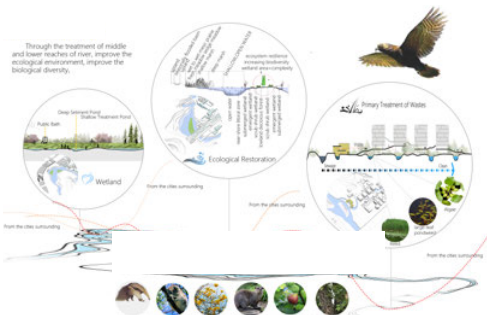


Micro-Climate



Ecology

Eco-Biodiversity



Micro-Climate

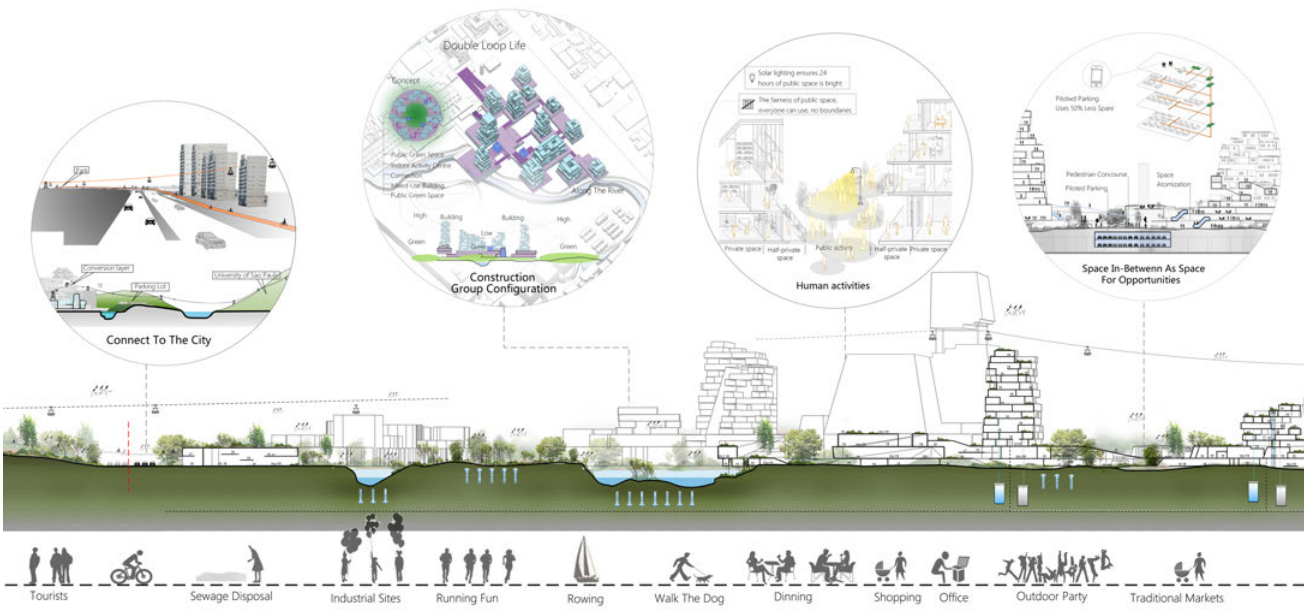
Eco-Biologic-Chain

Reduce-Reuse-Recycle

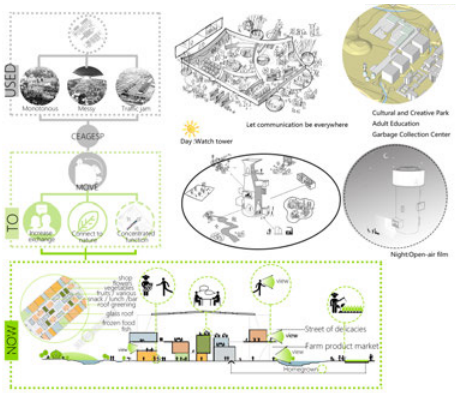
Activities Along The River

Industry

Culttural and Creative Industries

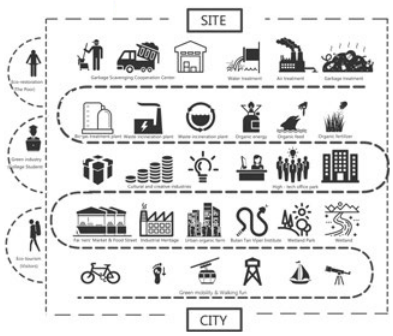


Ceagesp Reborn

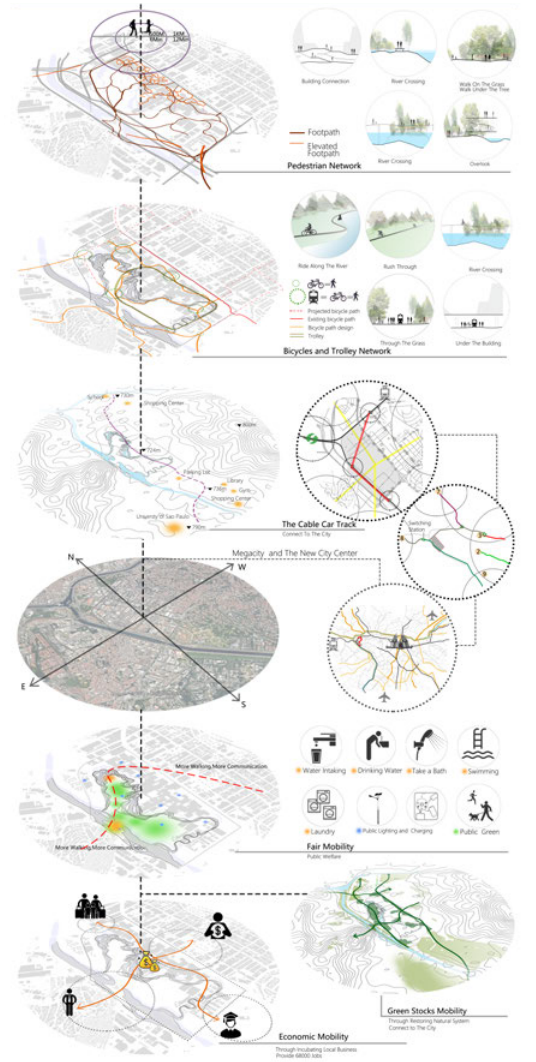


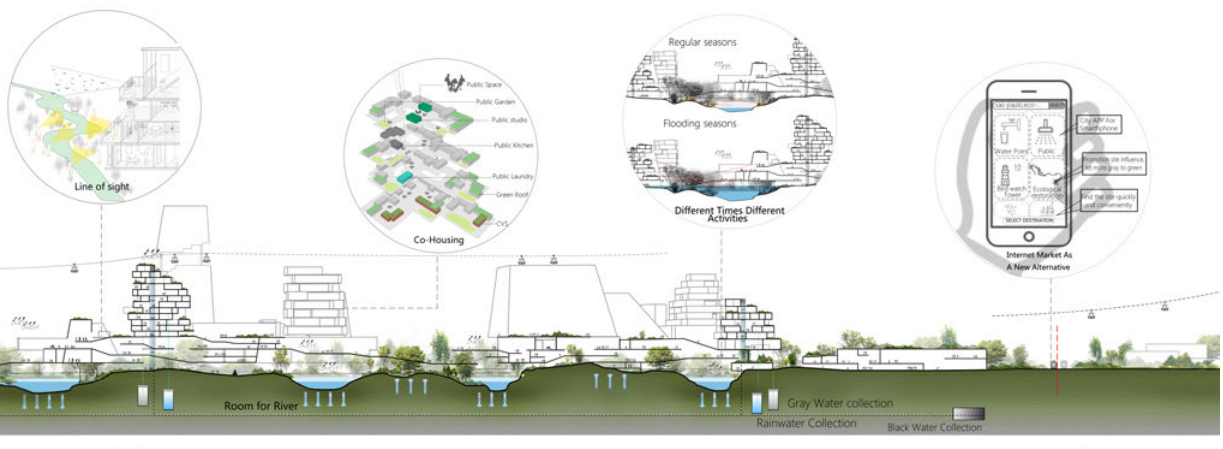
Architectural relics

Industry Chain



Mobility





Registration number:1787-969-3789


13
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2
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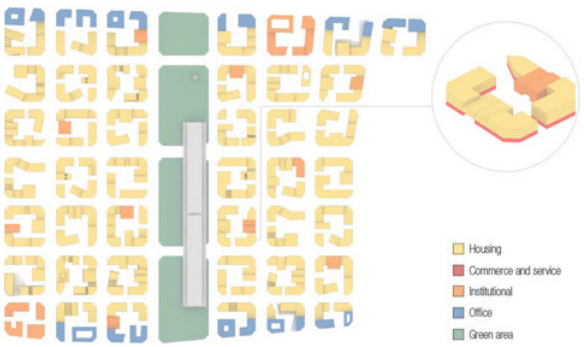
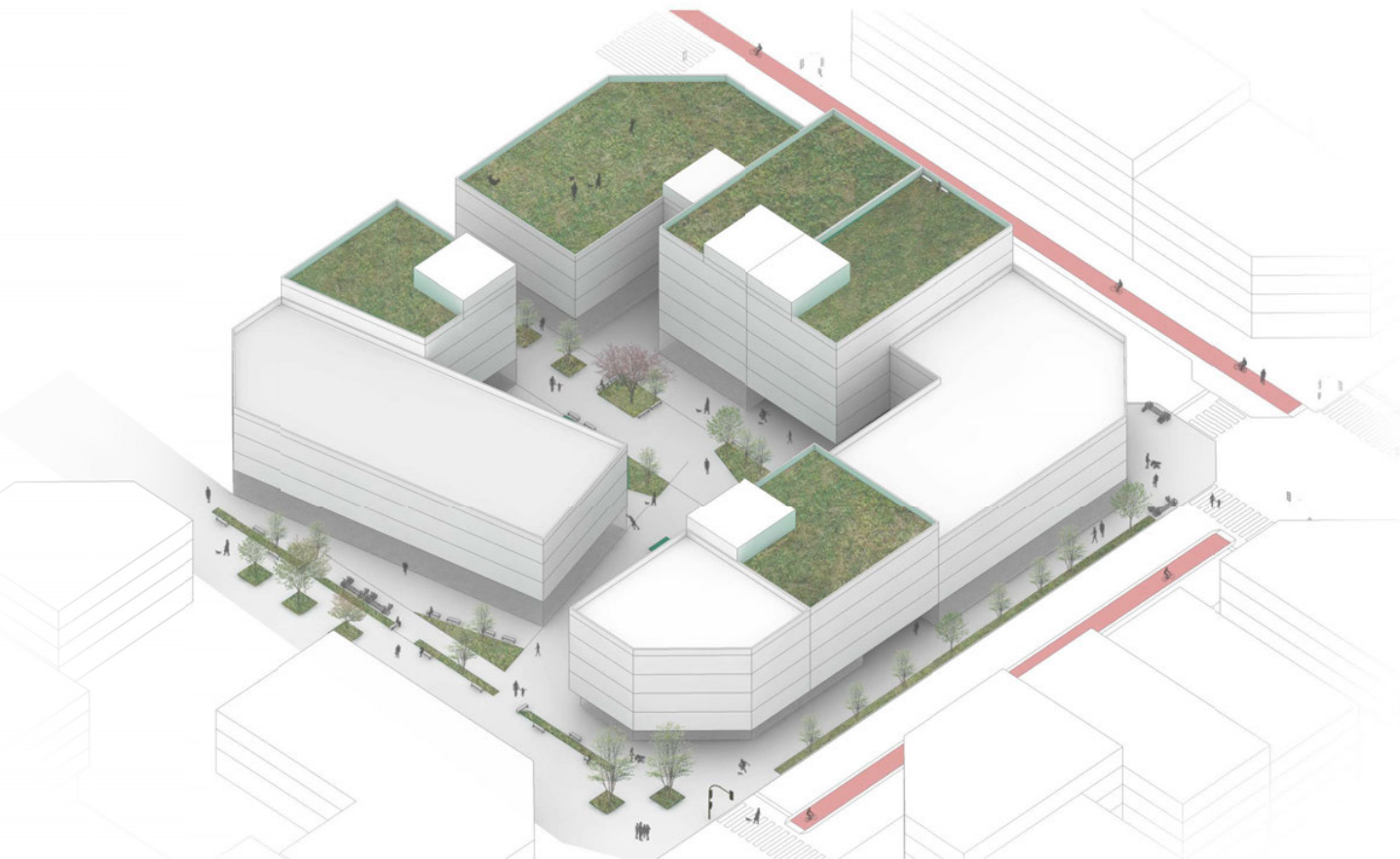
7


1 Wetland Education
2 Riding Fun
3 Listen to a Concert
4 Take a Walk
5 Walk The Dog
6 Take a Picnic
7 Reading
8 Shopping
9 Fly a Kite
10 Adult Education
11 Energy Education
12 Play The Guitar
13 Painting
14 Show
15 Play Games
16 Overlook


Housing
Commerce and service
Institutional
Office
Green area



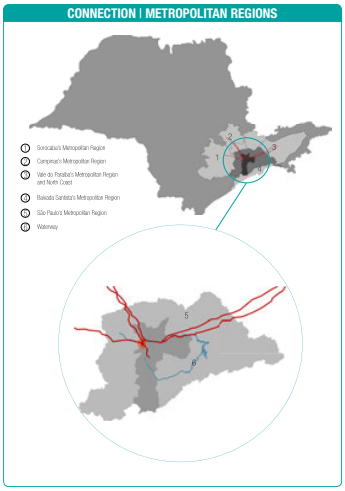
SÃO PAULO, OPEN CITY

This project uses an open-block structure to "reurbanize" the CEAGESP site. Analysis of the current situation, at the regional and local scales, is presented in the competition booklet, coupled with design gestures. References to urban design texts and literary sources are complimented by site-specific studies and official urban plans. Attention to a holistic and inclusive model of development is present throughout the design. The cultural value of existing structures and landmarks is clearly prioritized. Multimodal transportation is embedded in the project, from new cycle tracks to a rethinking of private motor vehicle transport. A regular gridded block structure is overlaid on the site. Buildings are structured to achieve porosity and flexibility. This allows for the creation of public space throughout the site, following a calculation of density by typology and use. A palette of trees for the green spaces is outlined for the linear park along the river, part of the project's overall focus on issues of climate and environment.

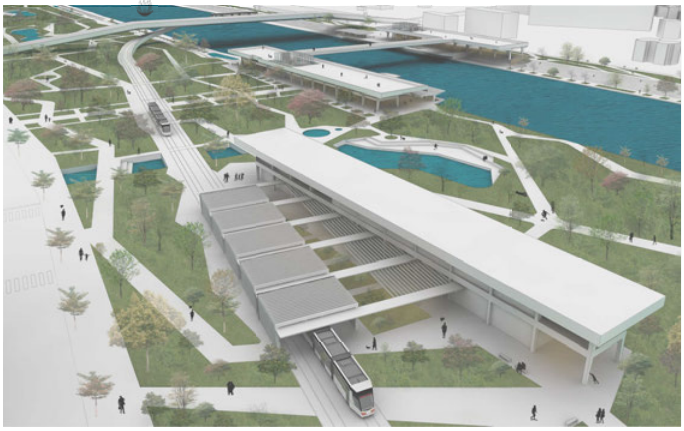
The clear and strong design language of this project attracted attention throughout the jury process. The open block typology was remarked upon as referencing Cerda by many, and in a way that seemed appropriate. "Correct, responsible, interesting and beautiful," commented one juror, and another that it was "well-resolved and convincing." Yet some wished the project took more risks in terms of urban design conventions. The jury praised the presentation as embodying a "degree of professionalism rare in a student contest." The "integration of diverse modalities of transport," stood out, along with the decisions made about balancing density with open space within the open blocks.

Honorable Mention
Team 919
Students
Jorge Saliba Abdalla,
Carol Almeida,
Fábio Alberto Alzate Martinez,
Renata Arcelli Doro,
Fernanda Barreiros Rosa,
Giovanna Lis Bellinello,
Lívia Biaso Bacha Martins,
Andrea Calderon Lama,
Tales Eduardo Ferretti Pacheco,
Isabella Ganme,
Maria Teresa Muniz da Silva,
Carolina Pessoa de Souza Bitelli,
Eric Eduardo Ribeiro Senedese
Academic Supervision
Prof. Sérgio Sandler,
Fundação Armando Alvares Penteado,
Brazil
Prize Amount
US$ 7,500

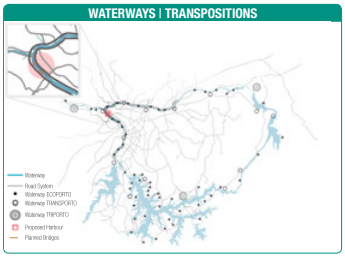
CONNECTION | METROPOLITAN REGIONS



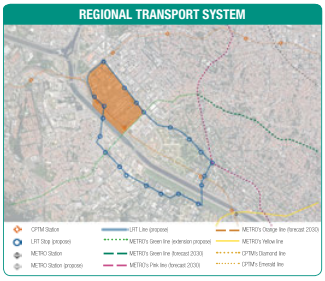
TRANSPORT | ROAD SYSTEM



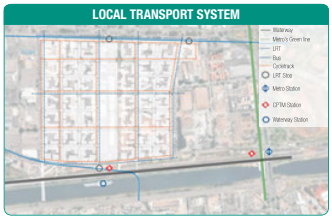
WATERWAYS | TRANSPOSITIONS



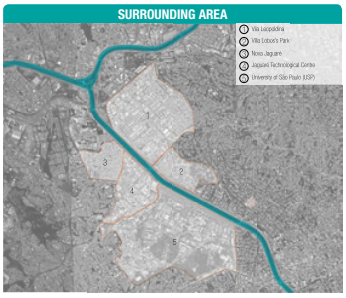
REGIONAL TRANSPORT SYSTEM



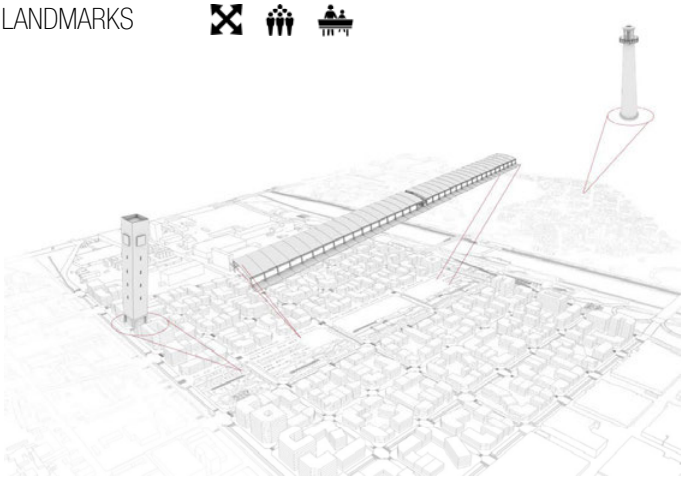
LOCAL TRANSPORT SYSTEM



SURROUNDING AREA

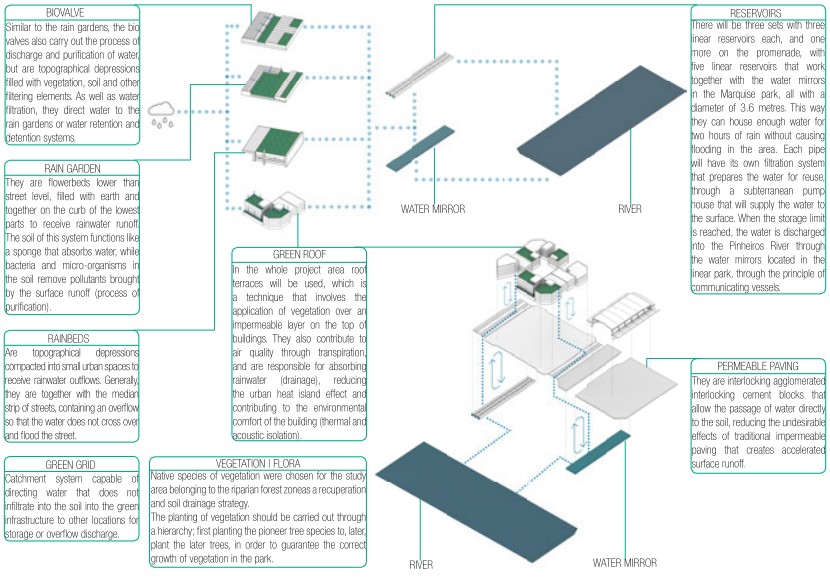


LANDMARKS

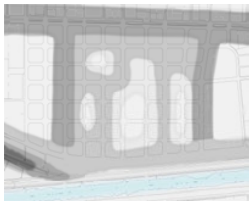


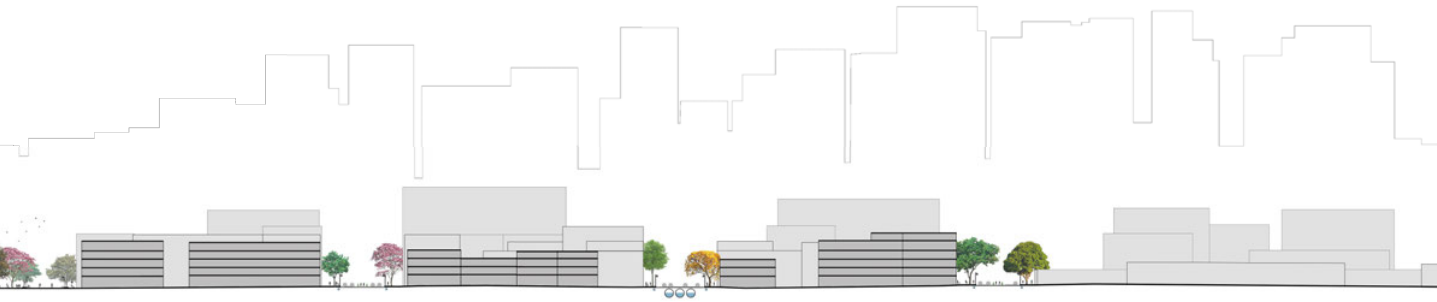
CONNECT	The change in usage and function of the lots forces its connection to the urban mesh, in order to provide the necessary road links that also pass over the Pinheiros River.
DENSITY	A measure for the protection and maximization of urban resources.
DRAINAGE	The question of drainage has a double value, first as a problematic aspect of the area, and second as a facilitator of the use of green technology and infrastructure.
ROUTING	Like a river, the street is the main means of urban route, because of the flows it receives. It is part of a system. The route includes travel within the blocks, allowing renewed alternative routes.
REST	Another functionality of public space is to allow people to stay within it. It is the refuge, momentary or prolonged rest in a collective space, that belongs to all.
INTEGRATE	The new functions of the place should contribute to the integration with the city on various scales.

DRAINAGE

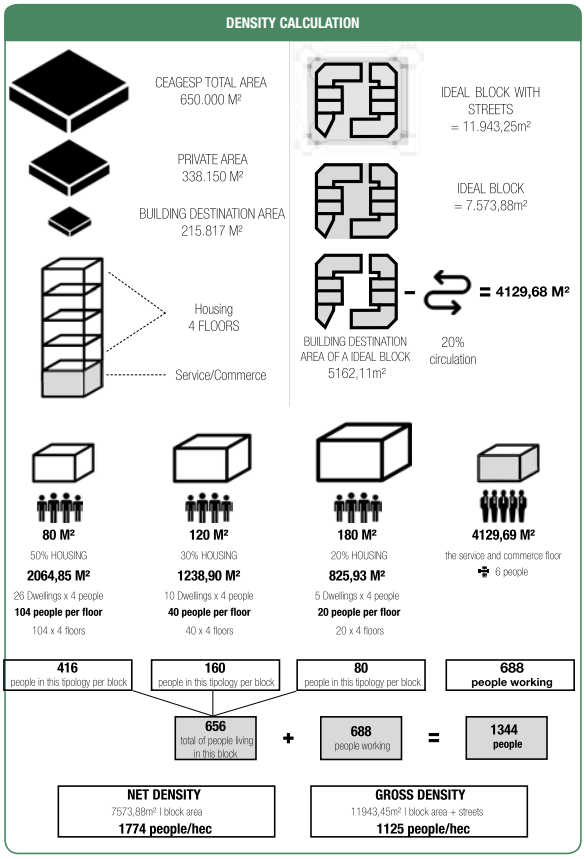


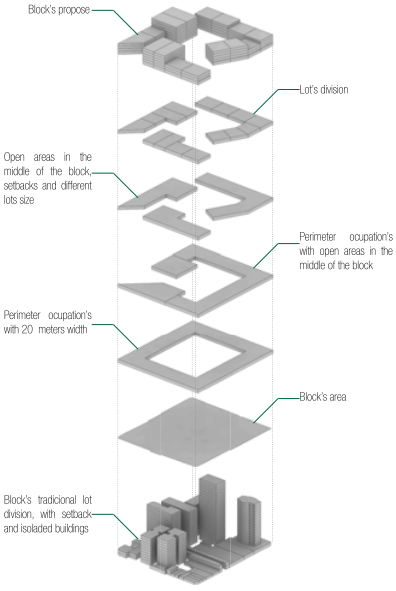
PURIFICATION	The rainwater is purified by sedimentation, filtration or biological absorption.
CONTAINMENT	Decelerates the flow of water to relieve pressure on the drainage system to the reservoir/downstream. The outflow is slowed by the infiltration of water through vegetation or temporarily stored.
RETENTION	Relieves pressure on the drainage system downstream (river/dewatering). The water is retained for a period of time (two hours of rain, approximately) until it is possible to direct it back.
DIRECTION	Directs water and steers it from the initial point of rain to dewatering.
INFILTRATION	Is when the water infiltrates the soil (passing through a process of purification) to recharge the water table and aquifers.

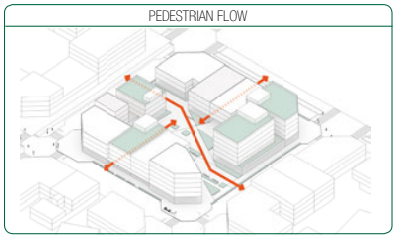




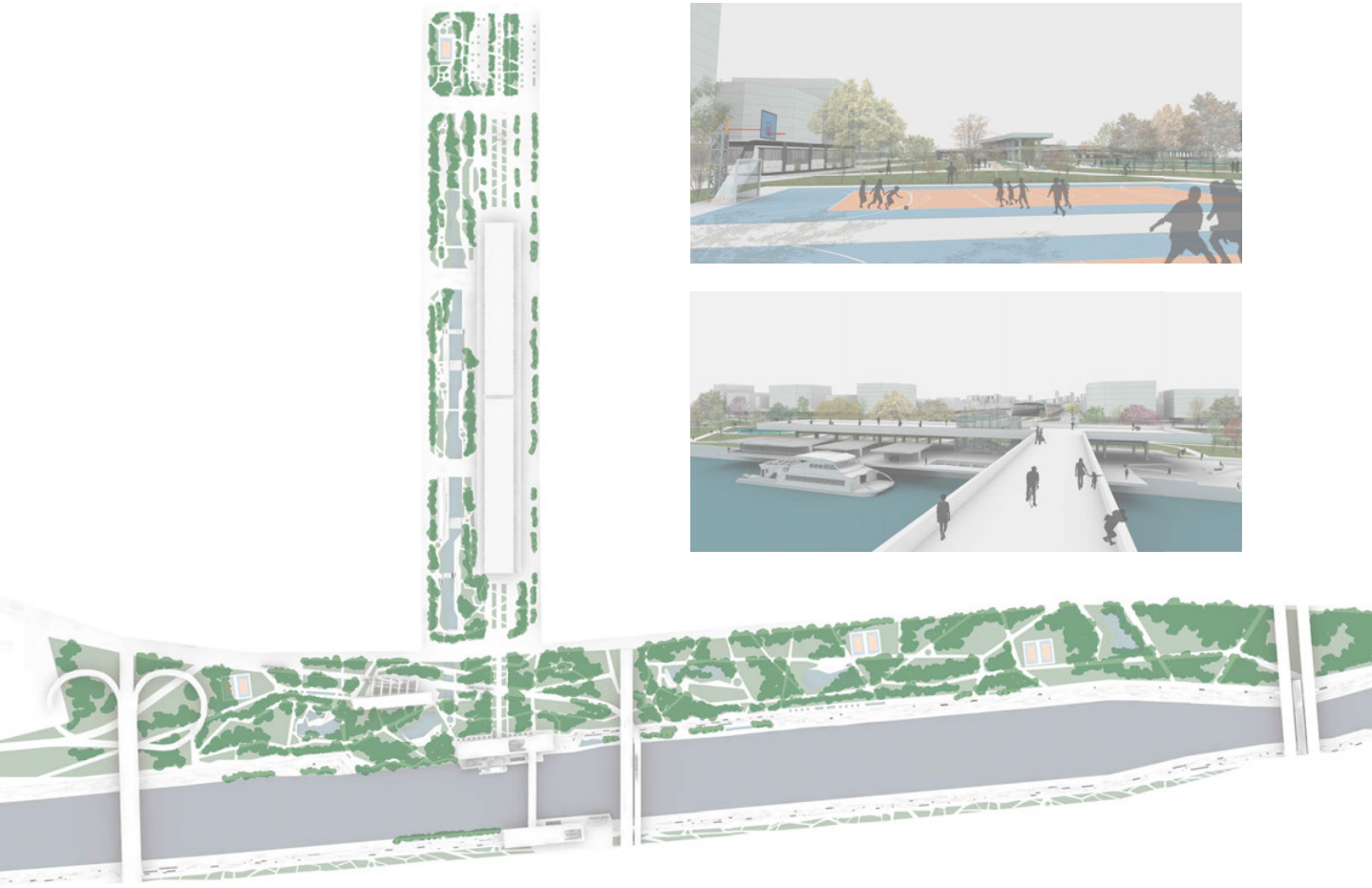
BLOCKS | DENSITY

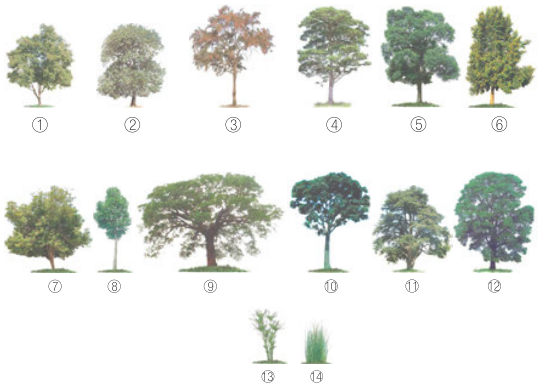






TRANSPOSITION





① Goiabeira | Psidium guajava
- H: 5m
- D: 8 m
- Fruit feeds the bird species

② Capixingui | Croton floribundus
- H: 5 a 10 m
- D: 15 a 30 m
- Half Shadow, fruit feeds the bird species

③ Tucaneiro | Citharexylumm myrianthum
- H: 15 a 20 m
- D: 5 m
- Half Shadow, non-edible fruit

④ Jatobá | Hymenaea courbaril
- H: 15 a 20 m
- D: 15 m
- Shadow, fruit feeds the bird species

⑤ Pindaíba | Xylopia emarginata
- H: 15 a 20 m
- D: 5 m
- Full sun, fruit feeds the bird species

⑥ Guanandi | Calophyllum brasiliense
- H: 15 a 20 m
- D: 15 m
- Full sun, non-edible fruit

⑦ Pindaíba | Xylopia emarginata
- H: 15 a 20 m
- D: 5 m
- Full sun, fruit feeds the bird species

⑧ Pinha do brejo | Magnolia ovata
- H: 20 m
- D: 5 m
- Full sun, non-edible fruit

⑨ Timbouva | Enterolobium contorstisiliquum
- H: 20 a 35m
- D: 25m
- Full sun, non-edible fruit

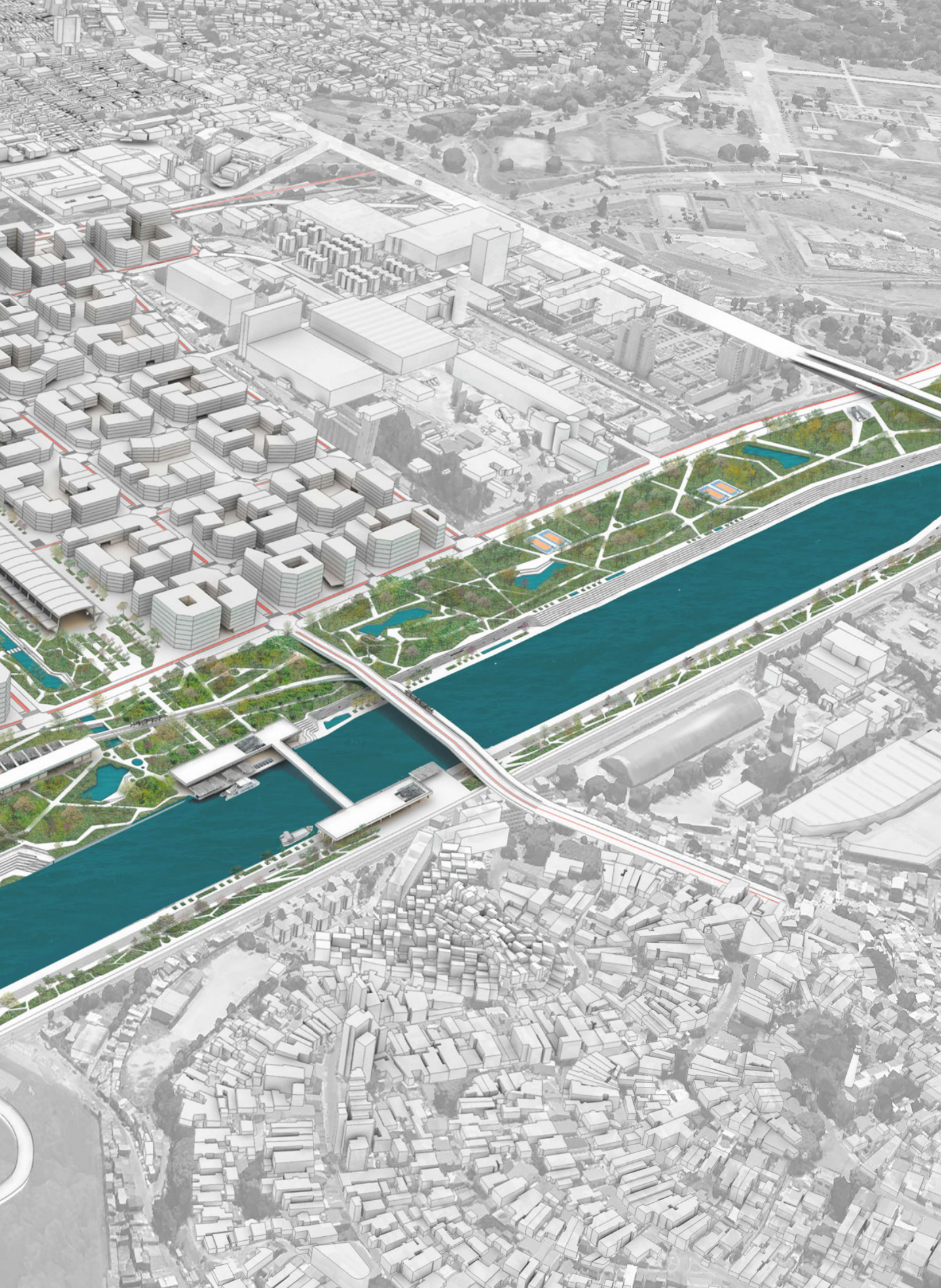
⑩ Cedro do brejo | Cedrela odorata
- H: 25 a 35m
- D: 15 m
- Full sun, non-edible fruit

⑪ Cedro | Cedrella fissilis
- H: 10 a 30 m
- D: 15 a 30 m
- Shadow, non-edible fruit

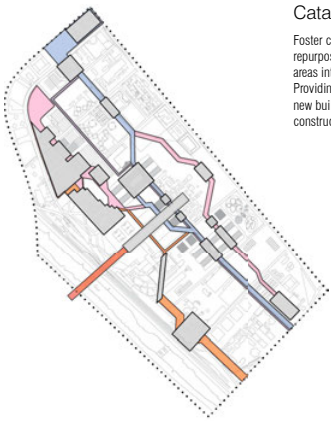
⑫ Jequetibá branco | Cariniana estrellensis
- H: 35 a 40 m
- D: 50 m
- Shadow, fruit feeds the bird species

⑬ Papiro brasileiro | Cyperus giganteus
- H: 2,4 a 3 m
- D: 2 m
- Full sun, not fruitful

⑭ Cavalinha | Equisetum hyemale
- H: 0,2 a 0,5 m
- D: 5 m
- Full sun, not fruitful



STRATEGIC FRAMEWORK

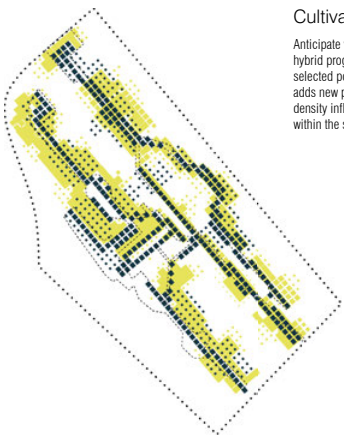


Catalyze armature growth

Foster connections between renovated and repurposed structures; incorporate developing areas into evolving infrastructural network. Providing an initiative for investors to construct new buildings on the site and incentivise construction of public squares for community use.

Expand multimodal mobility

Connect to existing transit networks, including Av. Dr. Gastão Vidigal, CPTM L09, Estação Imperatriz Leopoldina, enable newly emerging forms of mobility, such as bike sharing, and establish efficient transportation hubs linked to the Armature. Shuttle networks mobilize resources and large groups of people across the site while bike lanes and pedestrian walkways allow for interaction at the urban scale.



Cultivate adaptability

Anticipate varying density scenarios and encourage hybrid programming. Armature runs through selected points which reflects upon context and adds new program to accommodate a projected density influx, in turn creating a new atmospheres within the site after the market's removal.

Diffuse site edges

Increase accessibility from Vila Leopoldina by activating street edge program. Provide access from Jaguare through MLP extension and water treatment facilities. Recuperate river edge as a functioning ecological landscape.

Sponsor hybridity

Promote mixed-use and hybrid typologies to generate resilient urban activity by renovating existing structures and transforming them for public use. Facilitate new modes of work, live, and play through diverse, interdependent exchange and interaction with emerging structures that operate at an urban scale.

ARMATURE URBANISMO

This project sets up a strategic framework that operates at multiple scales. Strategies, including those for mobility and adaptability, are linked with the creation of an armature, grounded in public and circulation space, but also including areas above street-level. Existing resources on the site are linked into this armature, which also generates new resources and opportunities. The armature is designed to be a new type of urban infrastructure, knitting together both connections within the site and beyond its borders. Stakeholders as contributors, tactical urban interventions and the creation of hybrid conditions to encourage coexistence are some of the central means to support the creation of the armature – and, in turn, positive change on the CEAGESP site. The project proposes the use of established social and political means to accomplish goals at multiple scales. The intricate three-dimensional drawings and diagrams explain various facets of the scheme in detail.

A "wise approach to the site" was one comment about this project, which the jury generally found "a good approach to the competition's key questions." The project was seen as well structured and was commended as a comprehensive design with depth and rigor. There was some confusion about the physical ramifications of the armature, and if it was intended to be built as drawn. The jury appreciated the intricacy and care in the proposal, especially for its allowing "cohesion and an incremental way of development." Many jurors found the presentation and graphics sophisticated, noting it "must be lauded for its imaginative, beautiful and multivalent visualizations."

Honorable Mention
Team 974
Students
Spoorthi Bhatta, Guan Yi Chuah, Thomas Dores, Alexis Luna, Brian Mourato, Brandon Muir, Chit Yee Ng, Pier Paolo Pala, Kanisha Patel, Elliott Perez, Vinh Phung, Christopher Santos, Roman Schorniy, Liliana Torres, Chau Tran
Academic Supervision
Ass. Prof. Dr. Jesse LeCavalier, New Jersey Institute of Technology, USA
Prize Amount
US$ 7,500

INCREMENTAL DEVELOPMENT TO SUPPORT OPPORTUNISTIC GROWTH

Reclaim underutilized lots

Demolish underused facilities

Demolish underused facilities

Absorb and create urban activity

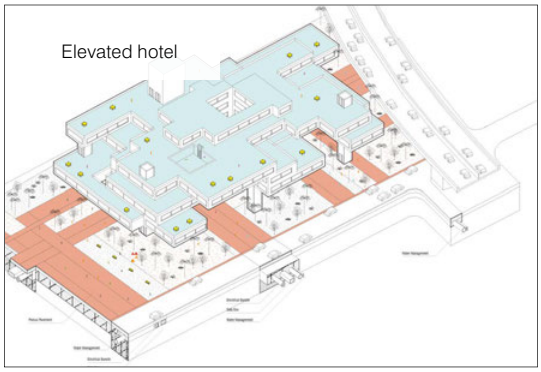
Establish armature nodes

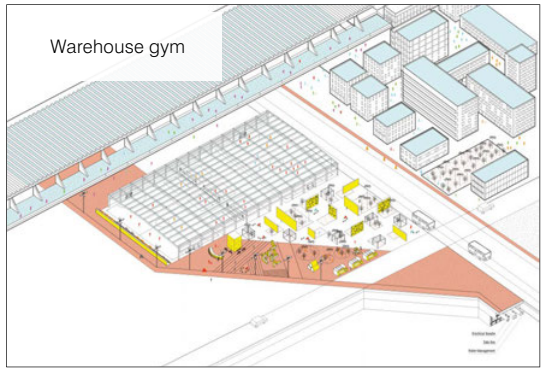
Amplify network

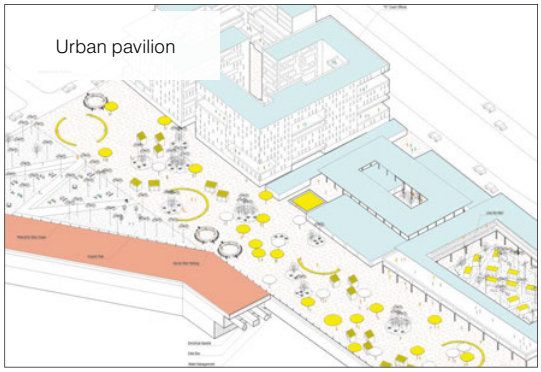
Activate growth

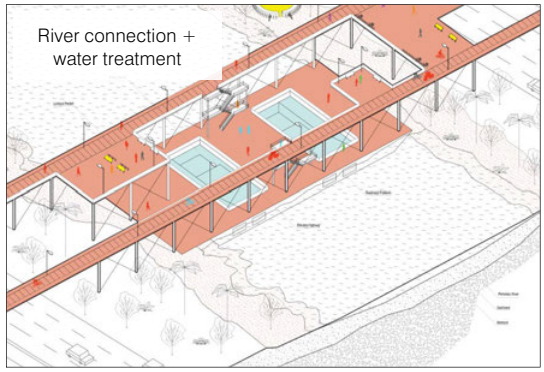
Deploy multi-scale elements

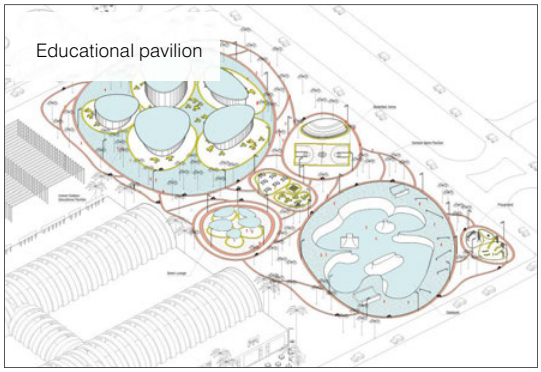
HYBRID CONDITIONS TO CULTIVATE COEXISTENCE

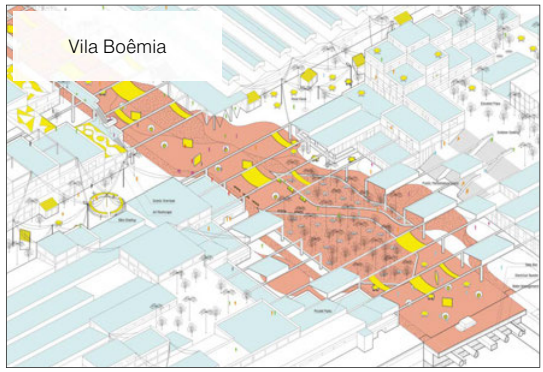


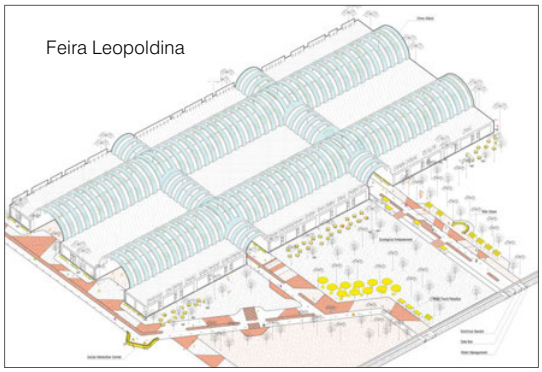


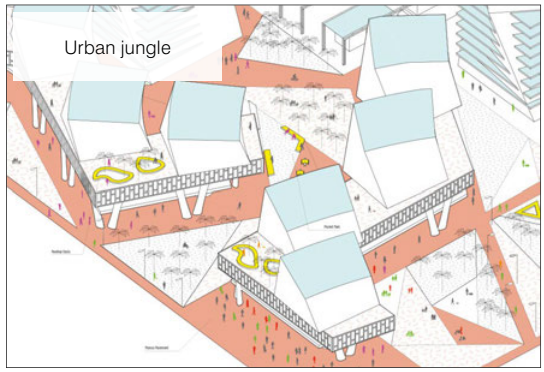




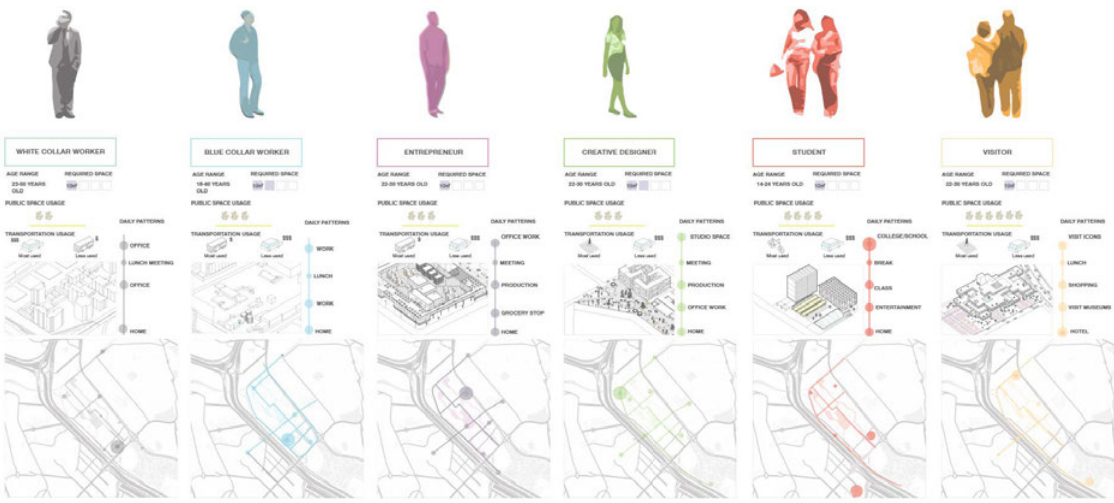




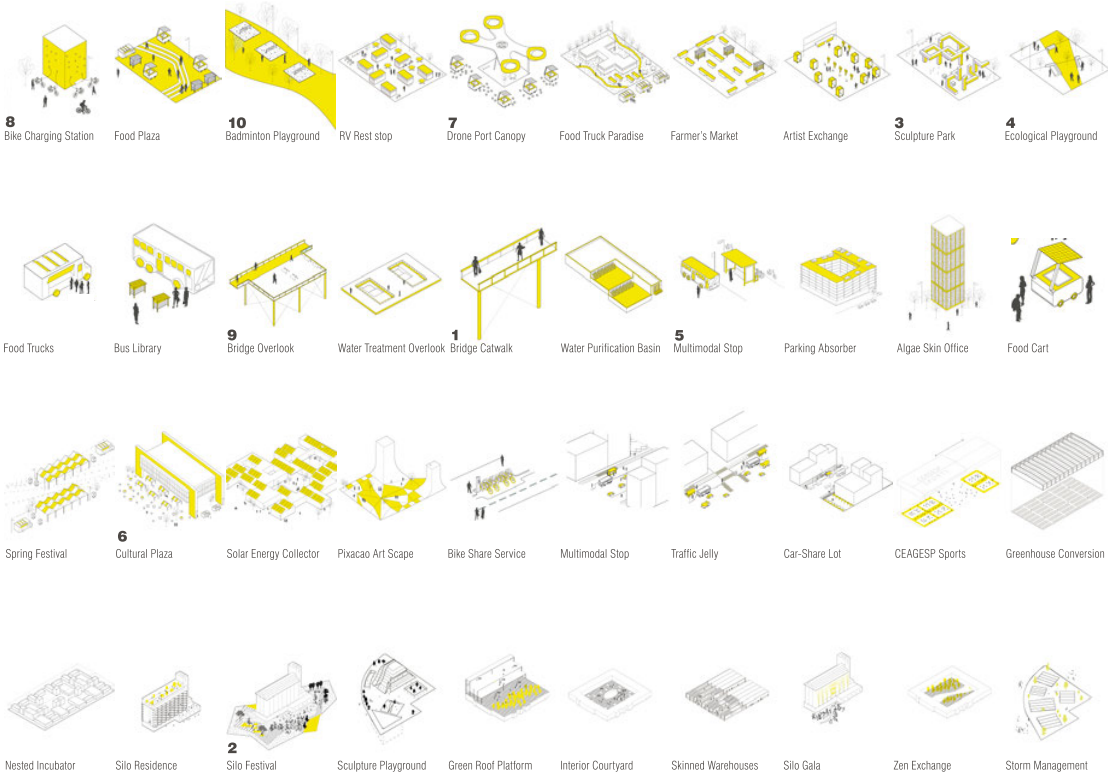


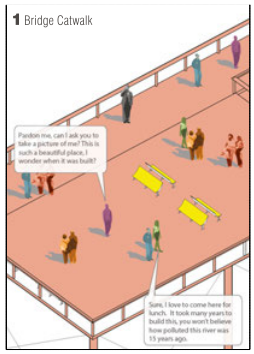


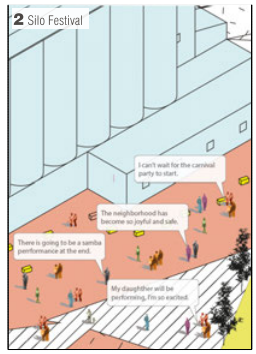
MULTIPLE STAKEHOLDERS AS ACTIVE CONTRIBUTORS

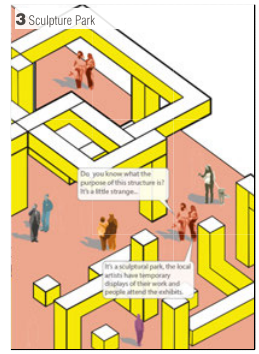


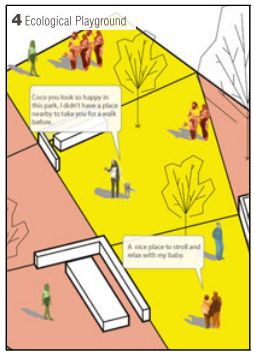
TACTICAL URBAN INTERVENTIONS

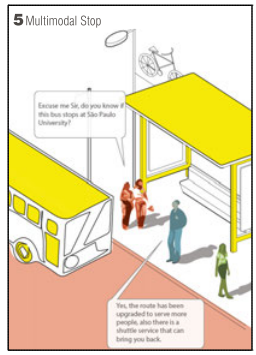


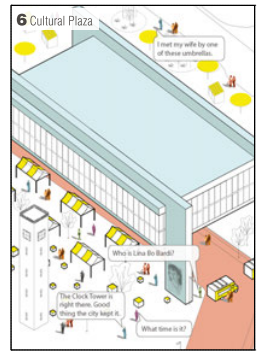

1 Bridge Catwalk
Pardon me, can I ask you to take a picture of me? This is such a beautiful place, I wonder when it was built?
Sure, I love to come here for lunch. It took many years to build this, you won't believe how polluted this river was 15 years ago.

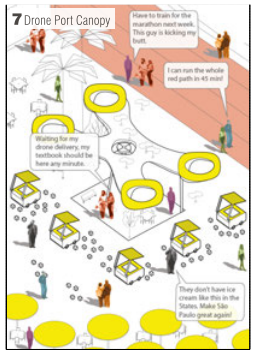

2 Silo Festival
I can't wait for the carnival party to start.
The neighborhood has become so joyful and safe.
There is going to be a samba performance at the end.
My daughther will be performing, I'm so excited.

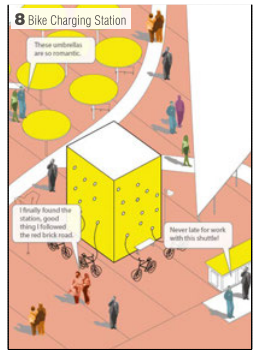

3 Sculpture Park
Do you know what the purpose of this structure is? It's a little strange...
It's a sculptural park, the local artists have temporary displays of their work and people attend the exhibits.

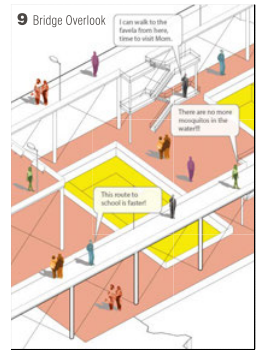

4 Ecological Playground
Coco you look so happy in this park, I didn't have a place nearby to take you for a walk before...
A nice place to stroll and relax with my baby.

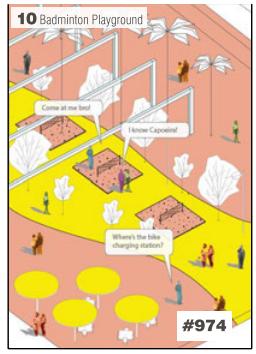

5 Multimodal Stop
Excuse me Sir, do you know if this bus stops at São Paulo University?
Yes, the route has been upgraded to serve more people, also there is a shuttle service that can bring you back.

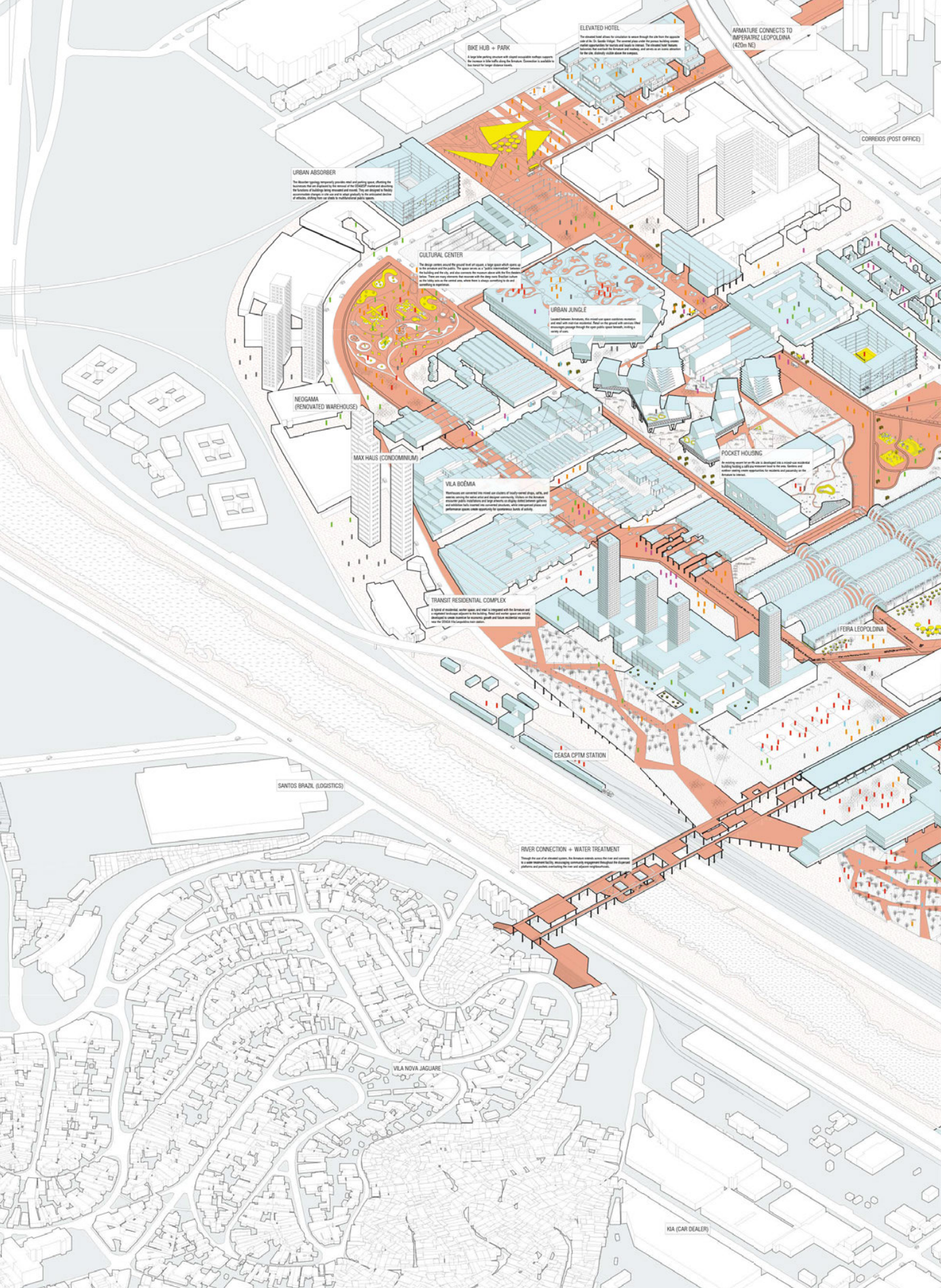

6 Cultural Plaza
I met my wife by one of these umbrellas.
Who is Lina Bo Bardi?
The Clock Tower is right there. Good thing the city kept it.
What time is it?


7 Drone Port Canopy
Have to train for the marathon next week. This guy is kicking my butt.
I can run the whole red path in 45 min!
Waiting for my drone delivery, my textbook should be here any minute.
They don't have ice cream like this in the States. Make São Paulo great again!

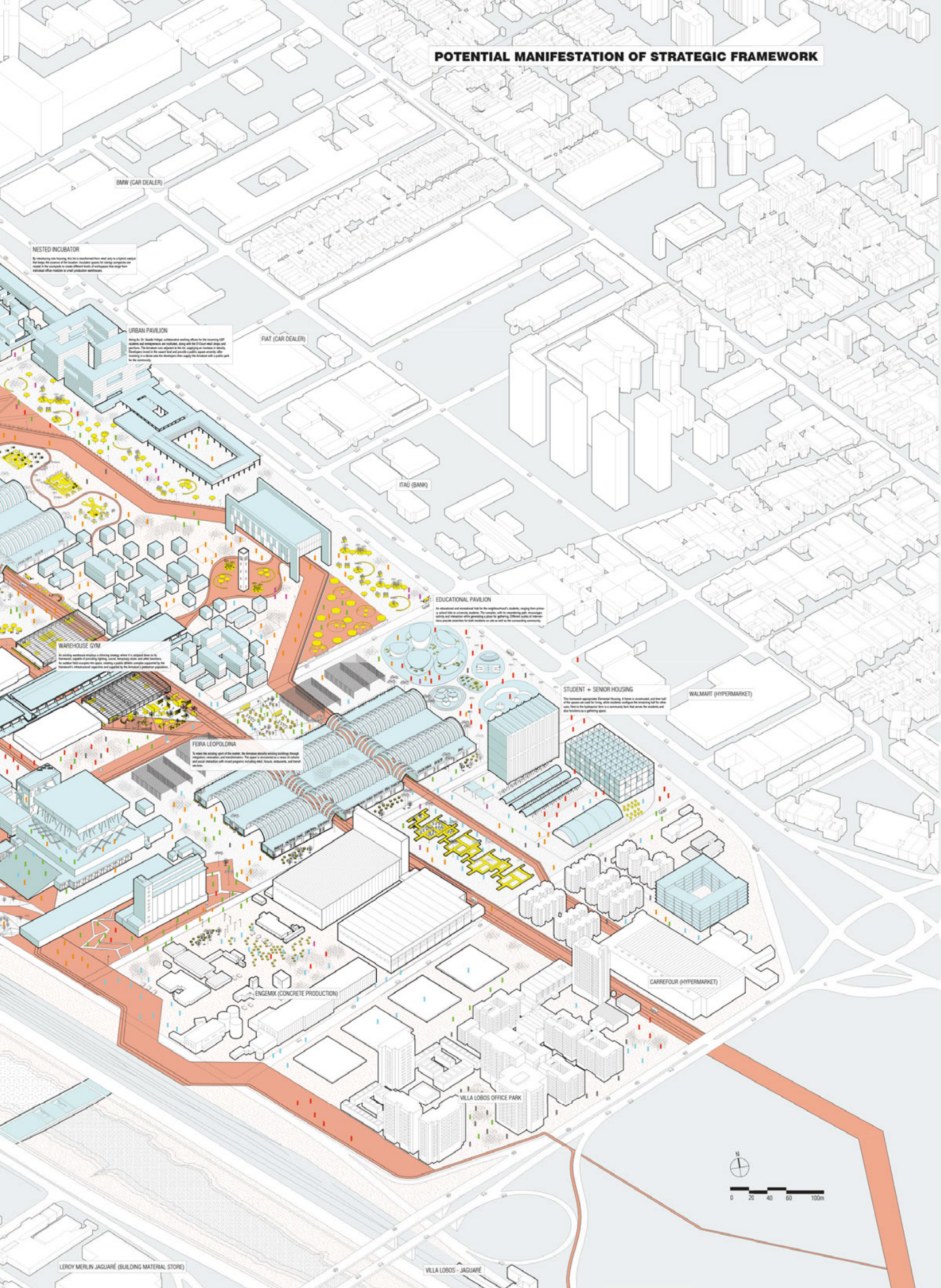

8 Bike Charging Station
These umbrellas are so romantic.
I finally found the station, good thing I followed the red brick road.
Never late for work with this shuttle!


9 Bridge Overlook
I can walk to the favela from here, time to visit Mom.
There are no more mosquitos in the water!!!
This route to school is faster!


10 Badminton Playground
Come at me bro!
I know Capoeira!
Where's the bike charging station?
#974


ELEVATED HOTEL
BIKE HUB + PARK
ARMATURE CONNECTS TO IMPERATRIZ LEOPOLDINA (420m NE)
CORREIOS (POST OFFICE)
URBAN ABSORBER
CULTURAL CENTER
URBAN JUNGLE
NEOGAMA (RENOVATED WAREHOUSE)
MAX HAUS (CONDOMINIUM)
POCKET HOUSING
VILA BOÊMIA
TRANSIT RESIDENTIAL COMPLEX
FEIRA LEOPOLDINA
CEASA CPTM STATION
SANTOS BRAZIL (LOGISTICS)
RIVER CONNECTION + WATER TREATMENT
VILA NOVA JAGUARE
KIA (CAR DEALER)

POTENTIAL MANIFESTATION OF STRATEGIC FRAMEWORK




SHI2
SHI4
SH1
IH6
HH4
HH6
II3
HH3
SS3
1814-996-3876 / 1814-996-3877 / 1814-996-3878 / 1814-996-3879

FAVELOSO

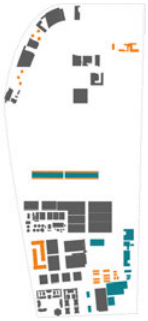
Improving Lower Class Everyday Lifestyle

The project slogan "Improving lower class everyday life" reflects the overall ambition of "Faveloso." The scheme is inspired by the spatial qualities of favelas, characterized by high density, a finely branched public space network, and small-scale housing typologies. The favela is then reinterpreted as an organizing structure for desirable densities and mixed use, along with social and communal value. A street structure is laid out on the site, with the close grain typical of favelas but reconfigured into rectilinear order to allow better circulation. Space is allotted for the provision of services and function of industry. Recycling and waste handling are central components of the scheme. Construction materials are drawn from these processes to build a palette of small-scale and high-density structures. A phased plan for development is proposed. The project uses a straightforward graphic strategy, including a detailed and layered masterplan and annotated diagrams.

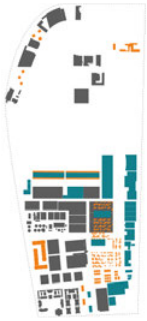
This project gave rise to fierce debate about the appropriation of the favela as a typology for development. Certainly "provocative," the project enabled discussion about a range of important social and urbanistic issues. According to the jury, it "allows a space for experimentation" for reconciling top-down and bottom-up development tendencies, along with attention to fundamental issues about the right to the city for low-income people. One juror proposed renaming the project "Fabuloso" to avoid possible glorification of slum-like conditions. It was lauded for the "courage to tackle a global problem in an innovative way" and for opting to have a strong focus on social housing. The jury found the combination of a fine-grained urban fabric, large-scale elements, and the articulation of corresponding public space noteworthy, commenting that it "produces a rich environment."

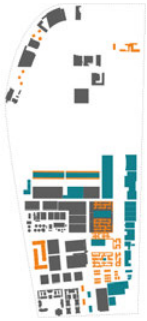
Honorable Mention
Team 996
Students
Urška Eler, Dominik Jakša, Nina Jakša, Tjaša Kimovec
Academic Supervision
Ass. Prof. Darja Matjašec, Nejc Florjanc, Tomaž Pipan, University of Ljubljana, Biotechnical Faculty, Department of Landscape Architecture, Slovenia
Prize Amount
US$ 7,500

20-YEAR AREA DEVELOPMENT SCENARIO

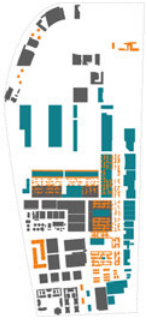


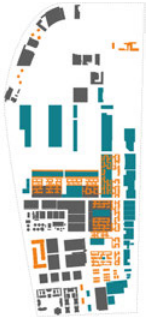
After the removal of the existing market area, begins the reconstruction of the Centre for waste recycling and separation, as well as the final adaptation of existing market building, in which apartments are built.



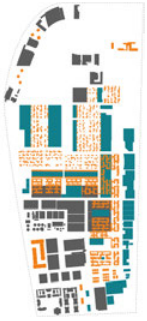


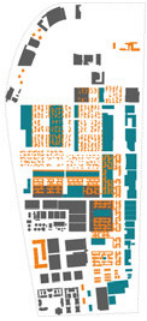
Next phase includes construction of the entire infrastructure for planned housing, arranged in the vicinity of recycling center and on the roofs of the storage facilities. Residential tower blocks near existing commercial zones and parking garage are also built. Existing surrounding buildings are converted into an elementary school and new services.



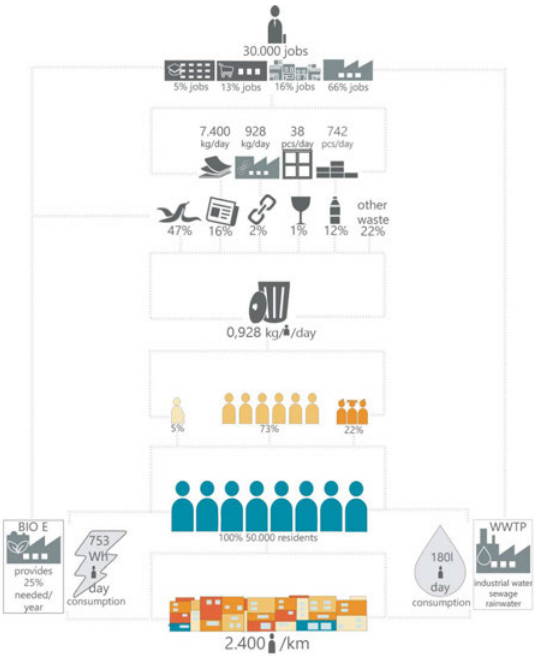


In the next few years the southern part of the area is filled by arranging the infrastructure and foundations for construction of regulated housing by using recycled materials from the waste separation center. This phase begins with the construction of biomass plant and additionaly new service activities in the vicinity.

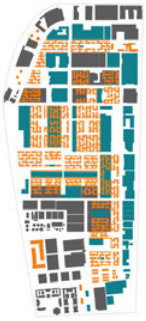




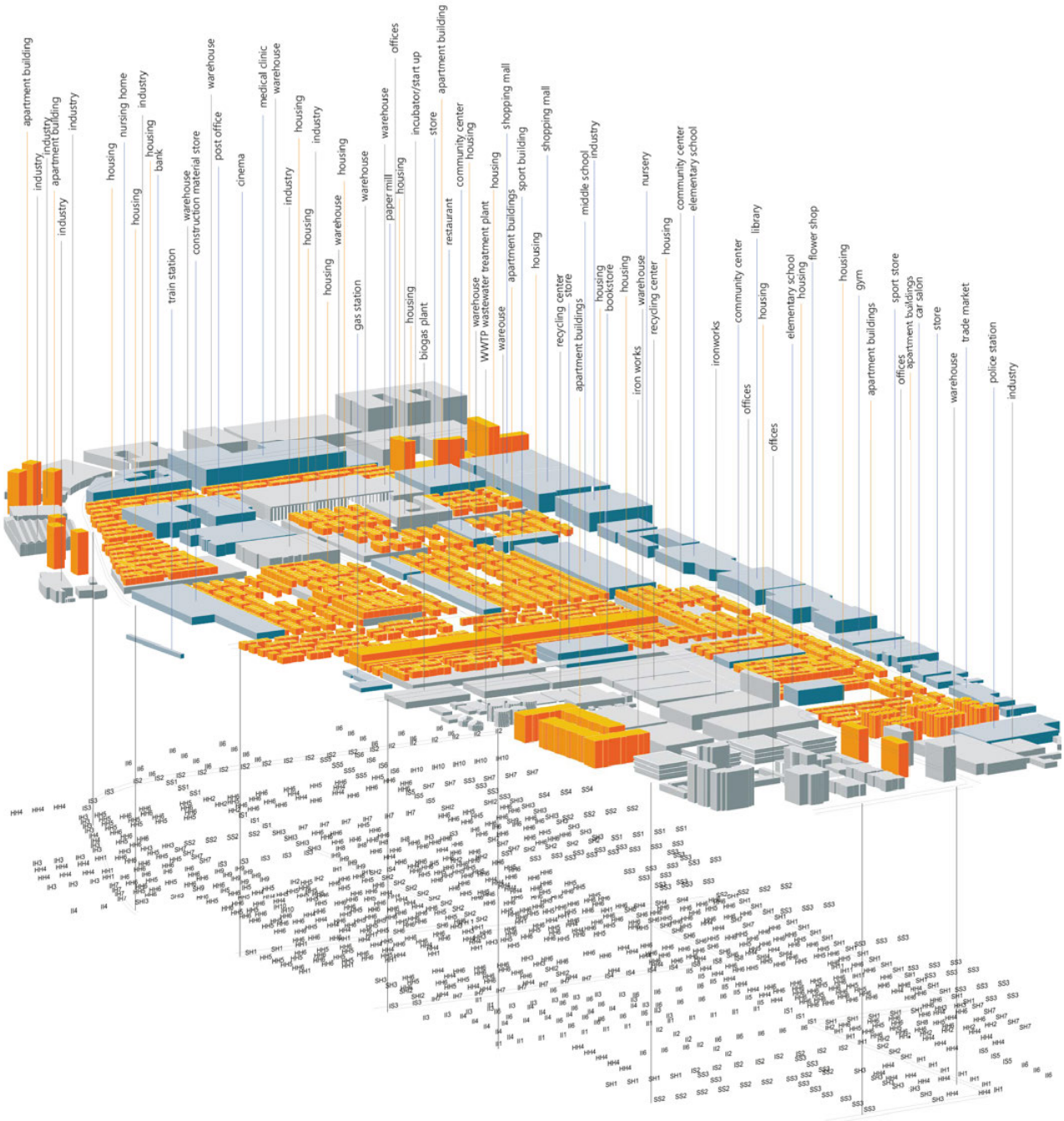
In the following years, the wastewater treatment plant is built, followed by the construction of a school centre including a kindergarten, an elementary and a secondary school and their accompanying sports facilities. Further construction and land sites continue to be developed for intended housing.

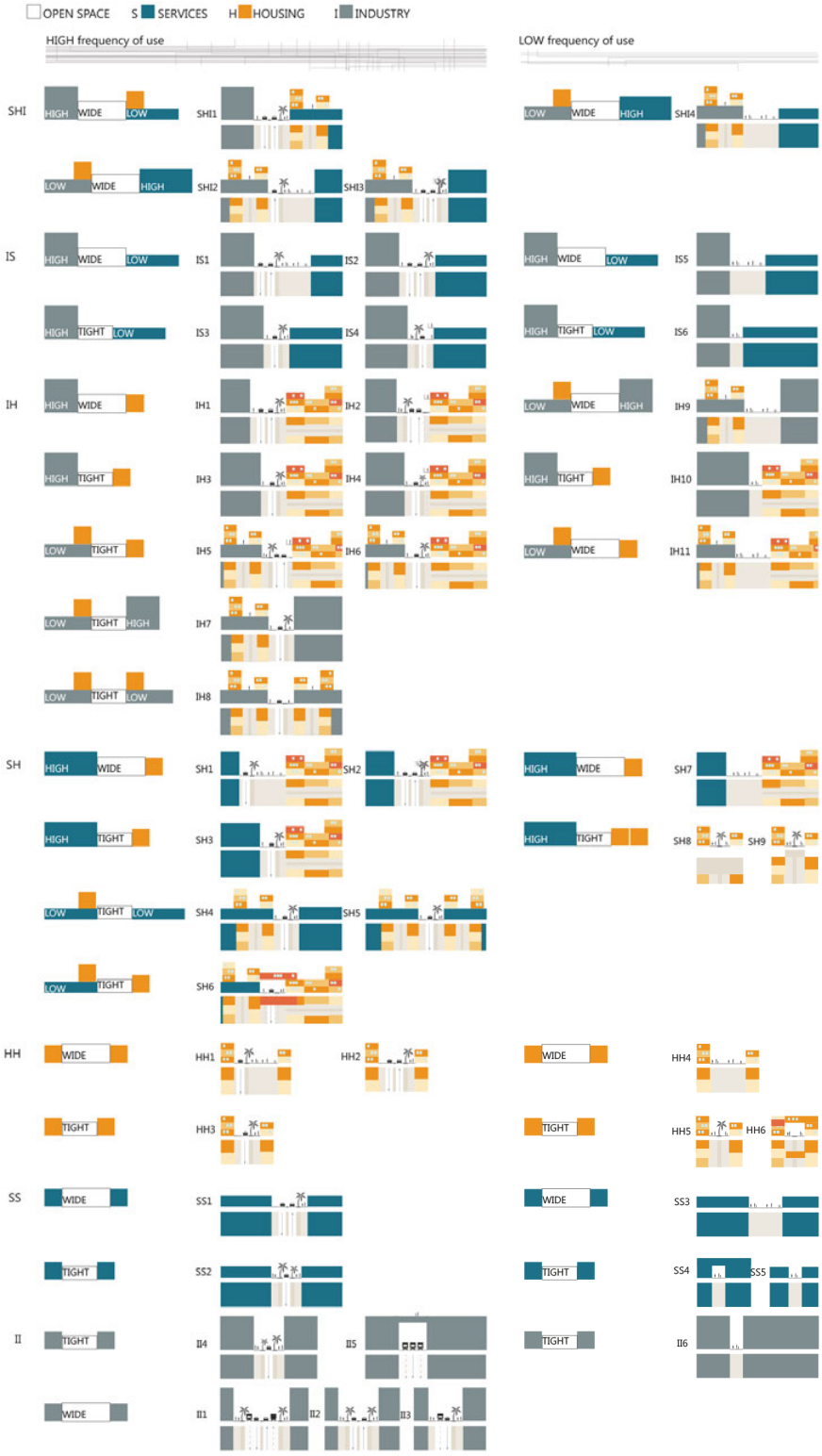


Furthermore, the northern part of the region is filled with the rest of the facilities including a health center, a nursing home, a bank, a post office, a new parking garage, a movie theater, a shopping center, a construction material store, etc.



With the expansion of housing, parks and squares also begin to link, forming important connection links throughout the area and a common open public space dedicated to the residents and the visitors.


apartment building
industry
industry
apartment building
industry
industry
housing
nursing home
housing
industry
housing
bank
train station
warehouse
construction material store
post office
cinema
warehouse
medical clinic
warehouse
industry
housing
housing
industry
housing
warehouse
housing
gas station
warehouse
warehouse
offices
paper mill
housing
incubator/start up
housing
biogas plant
store
apartment building
restaurant
community center
housing
warehouse
WWTP wastewater treatment plant
housing
wareouse
apartment buildings
shopping mall
sport building
housing
shopping mall
recycling center
store
apartment buildings
middle school
industry
housing
bookstore
housing
iron works
warehouse
nursery
recycling center
housing
community center
elementary school
ironworks
community center
offices
library
housing
offices
elementary school
housing
flower shop
housing
gym
apartment buildings
sport store
offices
apartment buildings
car salon
store
warehouse
trade market
police station
industry


OPEN SPACE
S SERVICES
H HOUSING
I INDUSTRY
HIGH frequency of use
LOW frequency of use
SHI
IS
IH
SH
HH
SS
II
HIGH
WIDE
LOW
TIGHT
SHI1
SHI2
SHI3
SHI4
IS1
IS2
IS3
IS4
IS5
IS6
IH1
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SS1
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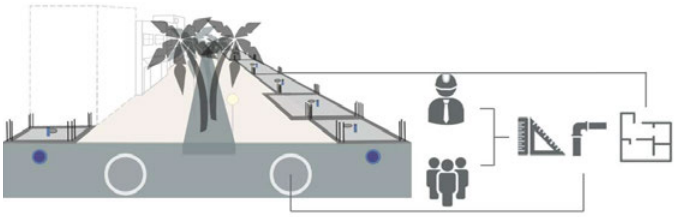
II5
II6

Favelas that occur spontaneously due to the needs of the poorest population are characterized by very dense settlements in erosion and flood-prone areas, poor infrastructure and, consequently, water pollution, poor quality of construction, and the presence of crime. (geocases2.co.uk)

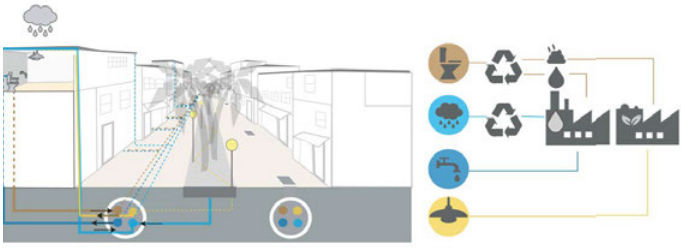
With arranged favelas we tend to eliminate defects and contribute to the positive effect of dense settlements, and care for the life-friendly environment for the poorest. By constracting the broad, open and well-lighted streets we take care of pedestrian wellfare, the regulation of dimensions, and infrastructure for the quality of life in the favelas. Mixed use and placing of various activities within the new favelas contributes to the development and popularity of sites for external visitors.

REGULATED FAVELAS STRUCTURE PLAN



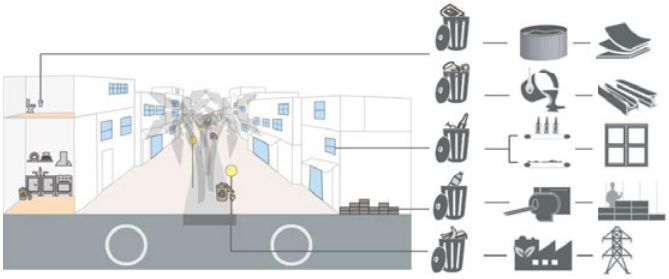
STRUCTURE

The main component of regulated favelas are streets with predetermined dimensions, including built-in foundations for residential houses and new green areas.



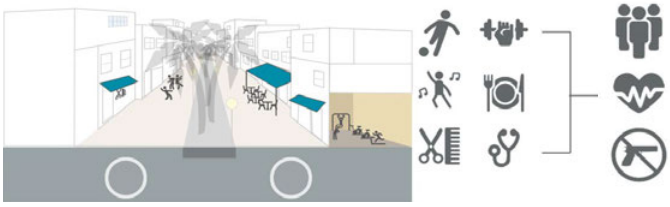
INFRASTRUCTURE

Arranged and regulated public infrastructure including the complete recycling sistem for waste water and rain water, as well as electricity production.



GARBAGE SYSTEM

Nearby establishments, also offering new job opportunities, include recycling of all waste, occuring within the favelas, and reusing them for construction and production of various materials and energy.

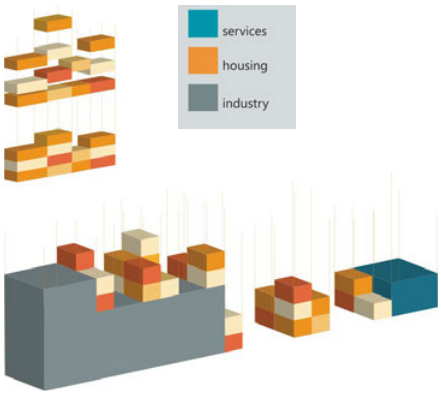


PROGRAM

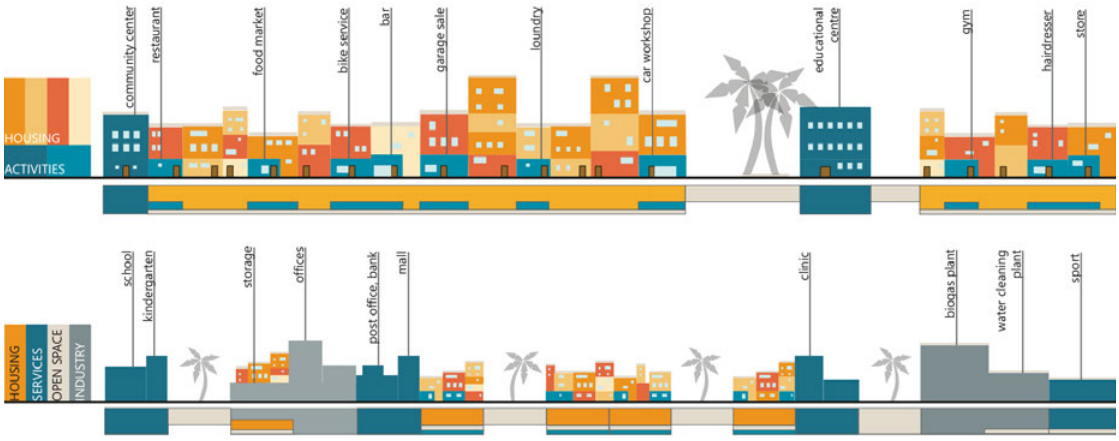
Regulated favelas are open and traversable, including many services offered by their local residents, making the life in general and a walk through the streets a pleasant experience.

PRESERVED AND NEWLY PLACED STRUCTURES WITH CONSTRUCTION SYSTEM SCHEME

existing building | preserved buildings | newly constructed areas



PROGRAM IMPLEMENTATION



CONNECTIONS PRINCIPLES AND PUBLIC OPEN SPACE SYSTEM

housing / industry / services | housing links | services links | industry links | linked connections form public open space | open space | traffic structure | green system

SÃO PAULO WALLED

This project interprets São Paulo as a city of hard boundaries, and seeks to reclaim the walled condition as a connective tool to foster interaction. The project catalogs the boundaries on the CEAGESP site, and examines the current situation in São Paulo in terms of mobility and boundary. Cars and walls are positioned as the most important factors in the city's development. The proposal uses the wall as a unifying element for public space, rethinking its function as a separator. Walls are recast as potential canvas, infrastructure and urban furniture. Seven clusters are defined to establish space for diverse desirable urban elements, including creative industries, leisure and social housing. The clusters are proposed to inhabit both new and existing structures. The presentation features a catalog of wall conditions and their potential new uses, with illustrations of the resulting urban situations according to the defined clusters.

The jury appreciated the recognition of São Paulo's walled condition as the starting point for this scheme. Turning what many see as a negative quality into a positive condition was lauded, and provided "interesting discussion" about the nature of walls and their potential as catalysts for "generative design strategy." While there was debate about the level of realization that the project achieved, and the scope of concerns that the project could address, it was recognized as "ingenious," "evocative" and an "original interpretation of existing conditions." Others commented on its aspiration to "stimulate creative economy" as suited to contemporary urban development discourse.

Travel Grant
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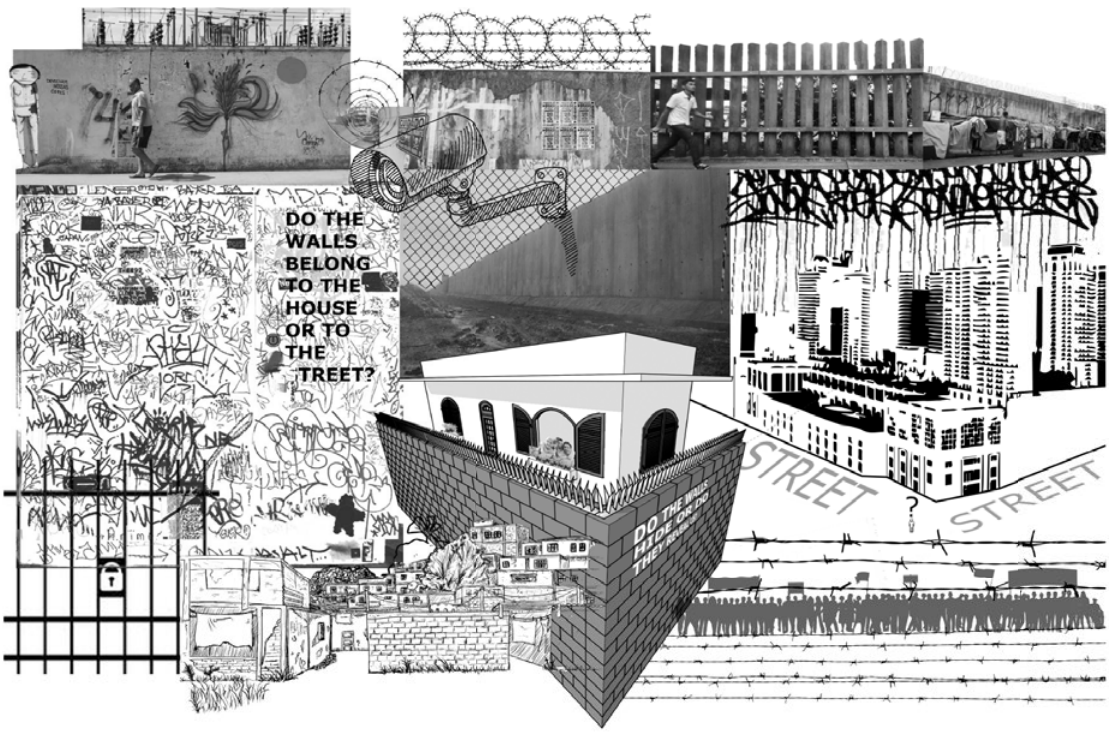
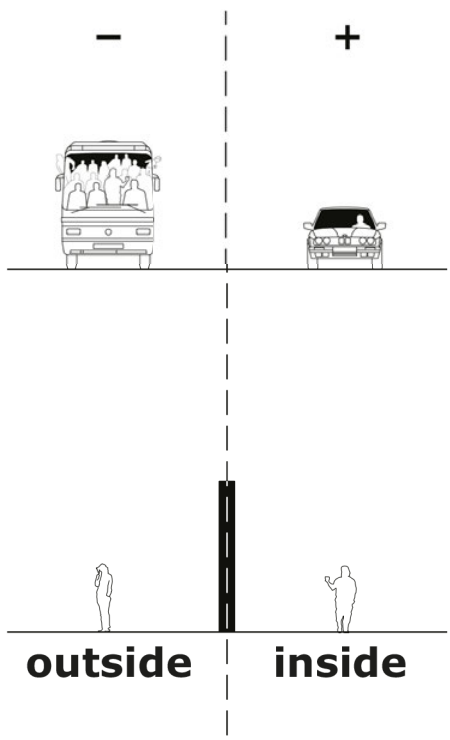
US$ 5,000



current scenario in São Paulo

*some facts and some ostensible advantages of cars and walls in the daily life and how they affect the way people interact and use public spaces.



On average, the travel and locomotion time per day is of 3:06 hours by car and of 3:11 hours by public transport.

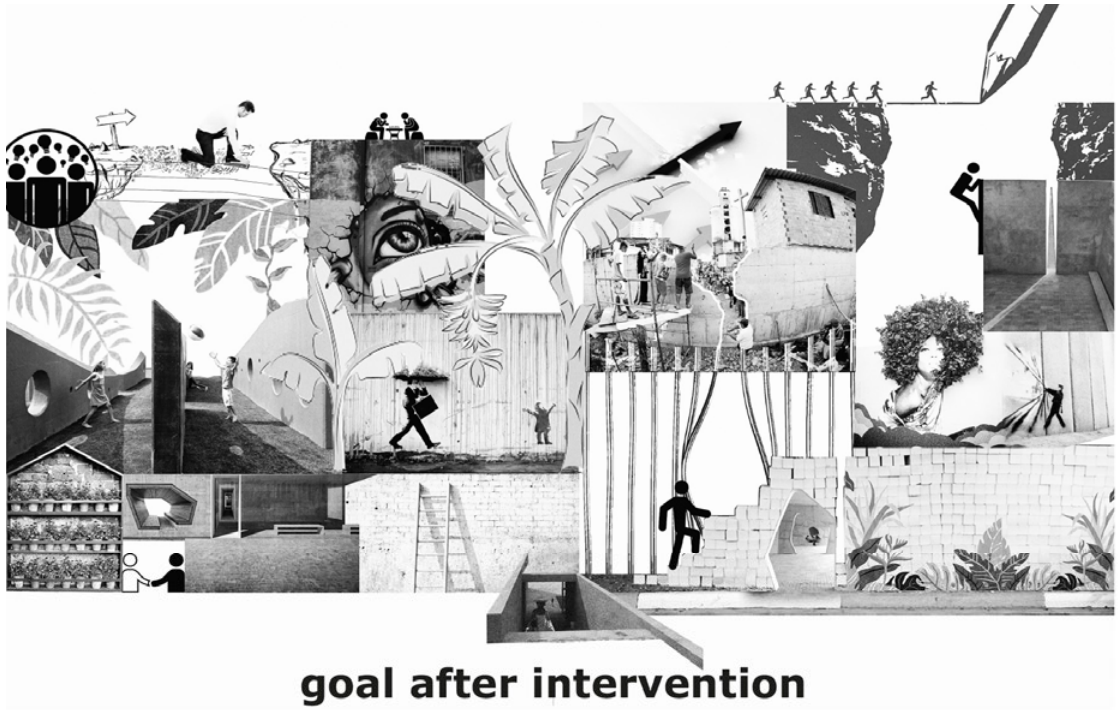
At peak and rush times, the standing passengers density per square meter inside public vehicles is usually higher than 6 (comfort´s limit number) resulting also in crush loads.

The traditional public sphere of the streets are many times abandoned to the poor and to the different; to the marginalizes and to the homeless.

In Spite of usually offering more advantages when compared to the current public transport system, the car (just like the wall) is a symbol of status. Mainly used for individual purposes, increasing the social isolation and degradation of the public space as a whole.

The average number of passengers per car is of 1,4 in the city.

Walls give the idea of exclusivity; of being part of a privileged group that lives isolated and protected while enjoying a homogeneous space and its facilities.



goal after intervention

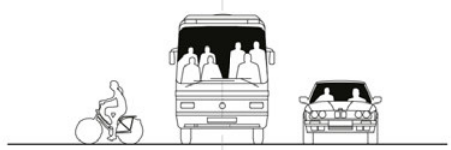
=

Diversity of public transport modes and encouragement of sharing systems.

Increase and diversification of social interaction during journeys.

Appropriation of cars´ lanes as public spaces due to the reduction of cars´ demand.

Recover the heterogeneity and interaction values of the citizens.

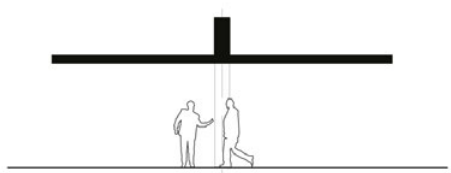


Challenge the walling process of the city and offer a new perspective towards the walls.

Recover the street or the outside as a lively, common and meeting space.

Give alternatives for people with several backgrounds to meet and exchange experiences under new circumstances.

Reinforce the relation of the pedestrians with the city and its streets.

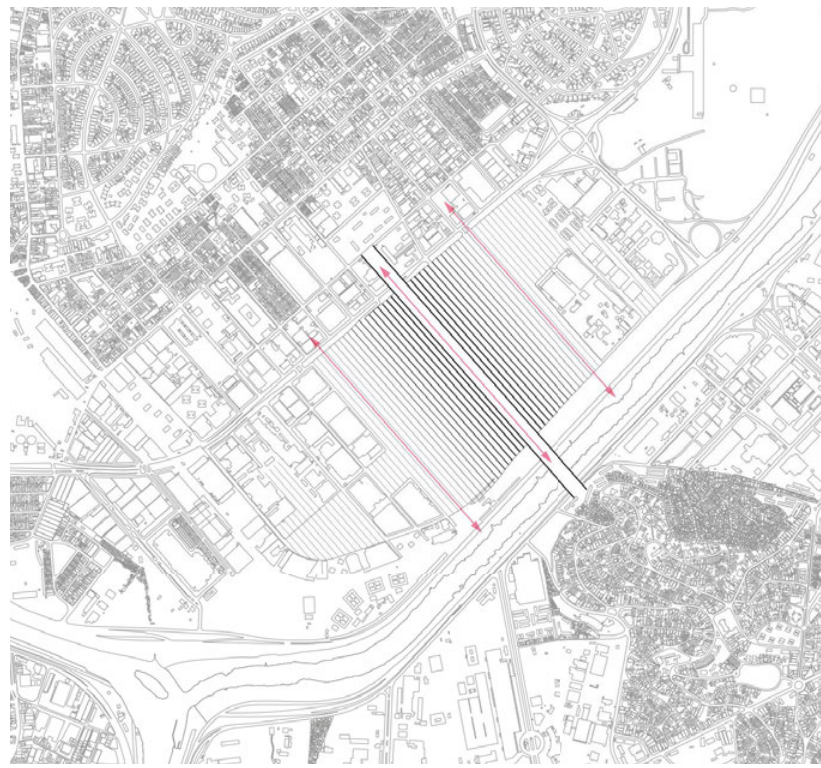


common

breaking through:

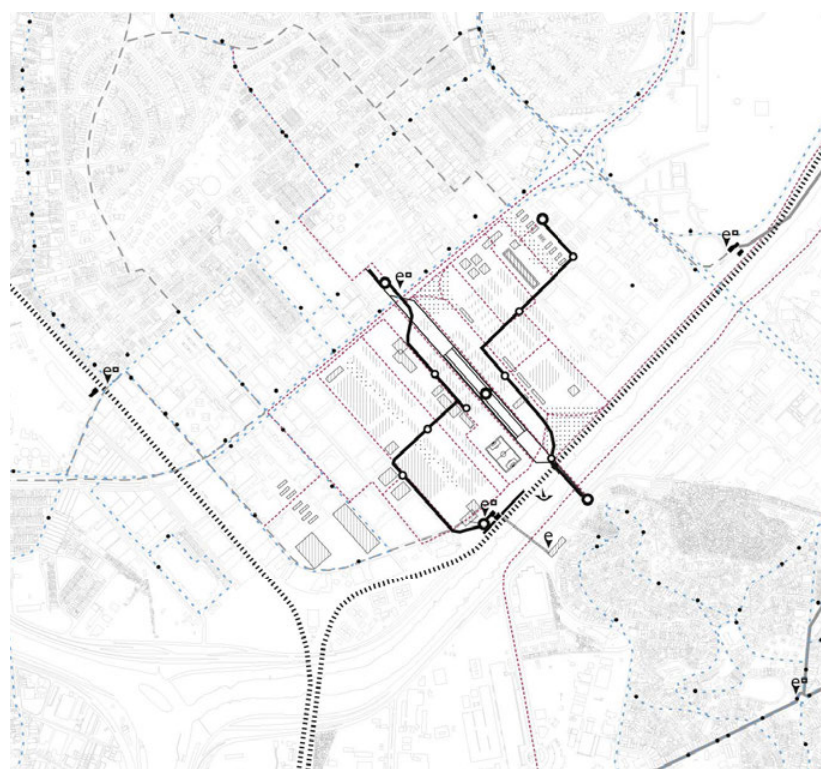
existing walls

the void - as main axis and urban core



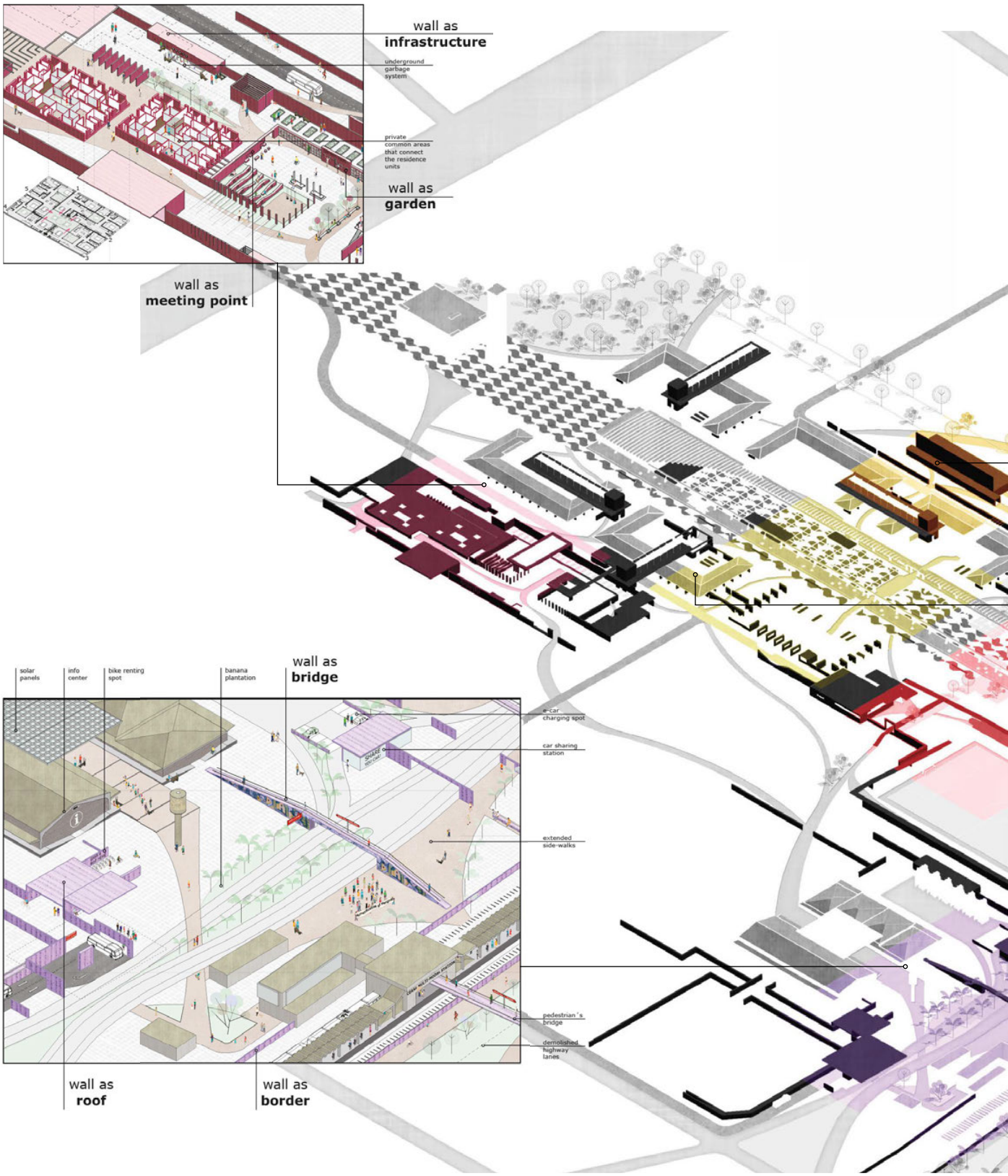
projecting the main axis:

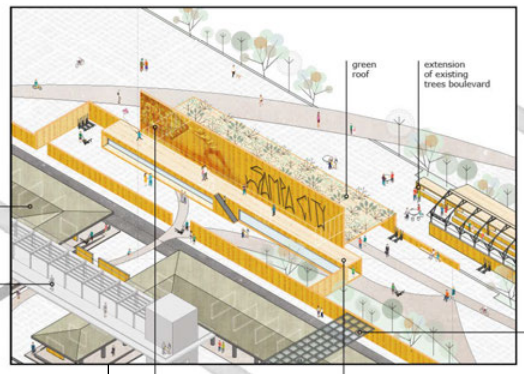
- the void
- grid

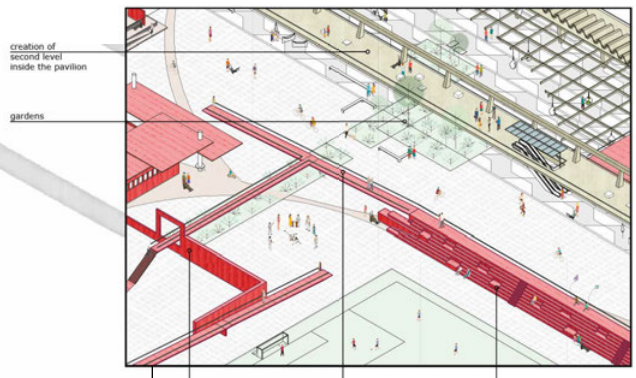


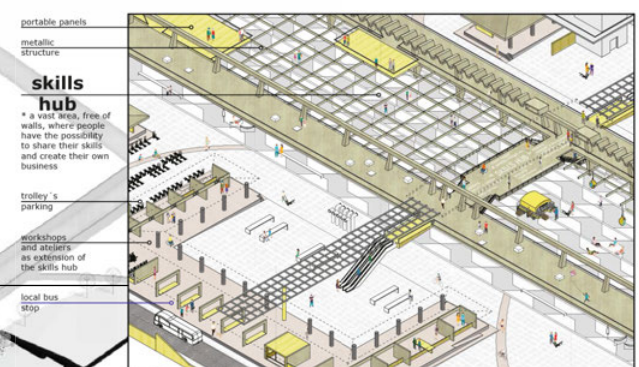
alternatives to the car:

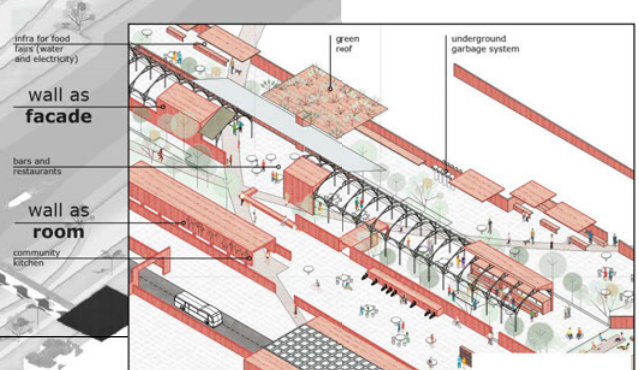
- foreseen bike line
- new bike line
- existing bike line
- existing bus line
- boat station
- existing bus stop
- new bus stop
- new bus station
- e-car charging spot
- car sharing hop-on and off
- vegetation
- existing buildings
- new buildings
- existing train line

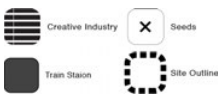

wall as
infrastructure
underground
garbage
system
private
common areas
that connect
the residence
units
wall as
garden
wall as
meeting point
solar
panels
info
center
bike renting
spot
banana
plantation
wall as
bridge
e-car
charging spot
car sharing
station
extended
side-walks
pedestrian´s
bridge
demolished
highway
lanes
wall as
roof
wall as
border

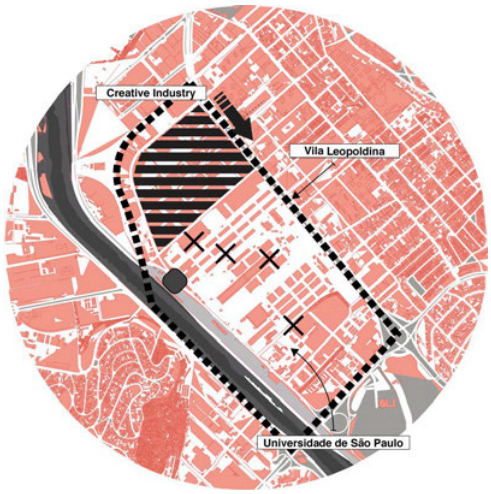

green roof
extension of existing trees boulevard
workshops and ateliers as extension of the skills hub
possible future verticalization
solar panels
wall as **canvas**
wall as **entrance**


creation of second level inside the pavilion
gardens
wall as **gate**
wall as **path**
wall as **urban furniture**


portable panels
metallic structure
skills hub
* a vast area, free of walls, where people have the possibility to share their skills and create their own business
trolley´s parking
workshops and ateliers as extension of the skills hub
local bus stop


infra for food fairs (water and electricity)
green roof
underground garbage system
wall as **facade**
bars and restaurants
wall as **room**
community kitchen





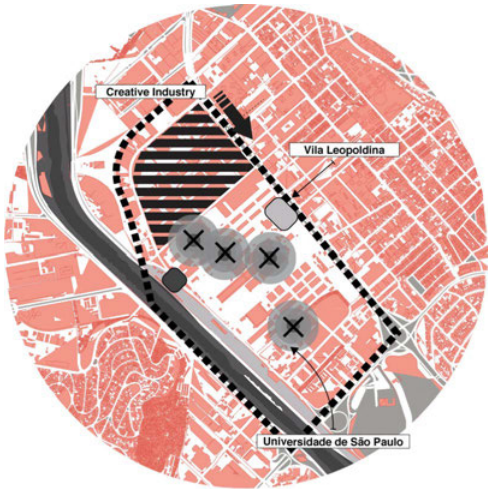
PHASE 01

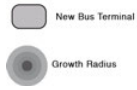
The Seeds consists of four main cores:
1. Trolly Building
2. Warehouses
3. Pavilion
4. Offices structures

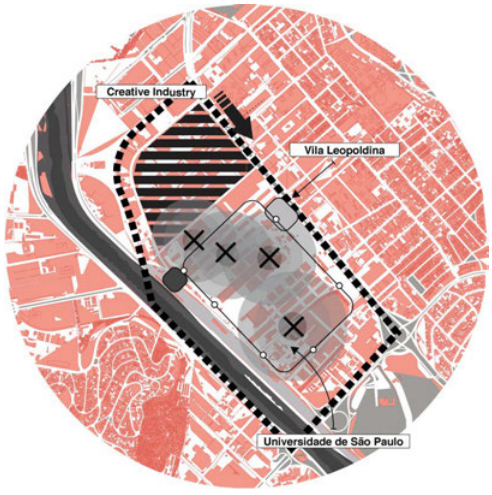
Each core has a distinct category. The Users will influence the usages of the structures that will change according to the user's needs. Moreover, We see the Caesar Train stop to being a major mobility base that can benefit the site and become a supporting element.

PHASE 02

In the second Phase after the seeds were given time to launch and grow, we introduce the new bus terminal that will create a flow of traffic and a supporting connection to the outer parts of the city helping create a new centrality that will contribute to support the new forming locality formed by the seeds.







PHASE 03

In the final Phase, we start to introduce the final mobility element being the tram line which becomes a vital connecting artery that helps individuals on the site to move around. With an added value of its connection with the supplementary mobility anchors of the Ceasa Train Stop and Bus Terminal.

ENTREPRENEURIAL REGENERATION

Collaborative and Engaging Localities for the People of São Paulo

This project proposes a phased plan to support the development of local businesses on the competition site. The departure of the market is positioned as a catalyst for the arrival of a new generation of entrepreneurs. "Seeds" are proposed as the starting points for this change, including the market pavilion building and associated warehouses. In subsequent phases, a new bus terminal and tramline are constructed to support the site's new inhabitants and connect them to the context. The Ceasa train station is reconfigured with improved pedestrian access, while the new bus station is designed as a system-wide hub. Smaller interventions are made to provide space for micro-scale business such as food stalls, and more communal commercial spaces, including co-working areas and community gardens. Analysis of the ecosystems for entrepreneurship and innovation are depicted in diagram.

Jurors noted and appreciated this project's attention to the economic change that the departure of the CEAGESP market will bring, and "strategically empower small business and entrepreneurship." This was seen as a unique approach, "this proposal boldly built on what was already there to improve economic opportunities." Also noted was the quality of the scheme as transforming the site as a "bottom-up and a top-down endeavor." The proposal was debated for its strong focus, seen by some as undertaken at the expense of a more well-rounded project. The representation was praised by many jurors, in particular the attention paid to the economic aspects and micro-scale interventions, along with the drawings, which were lauded as "beautiful."

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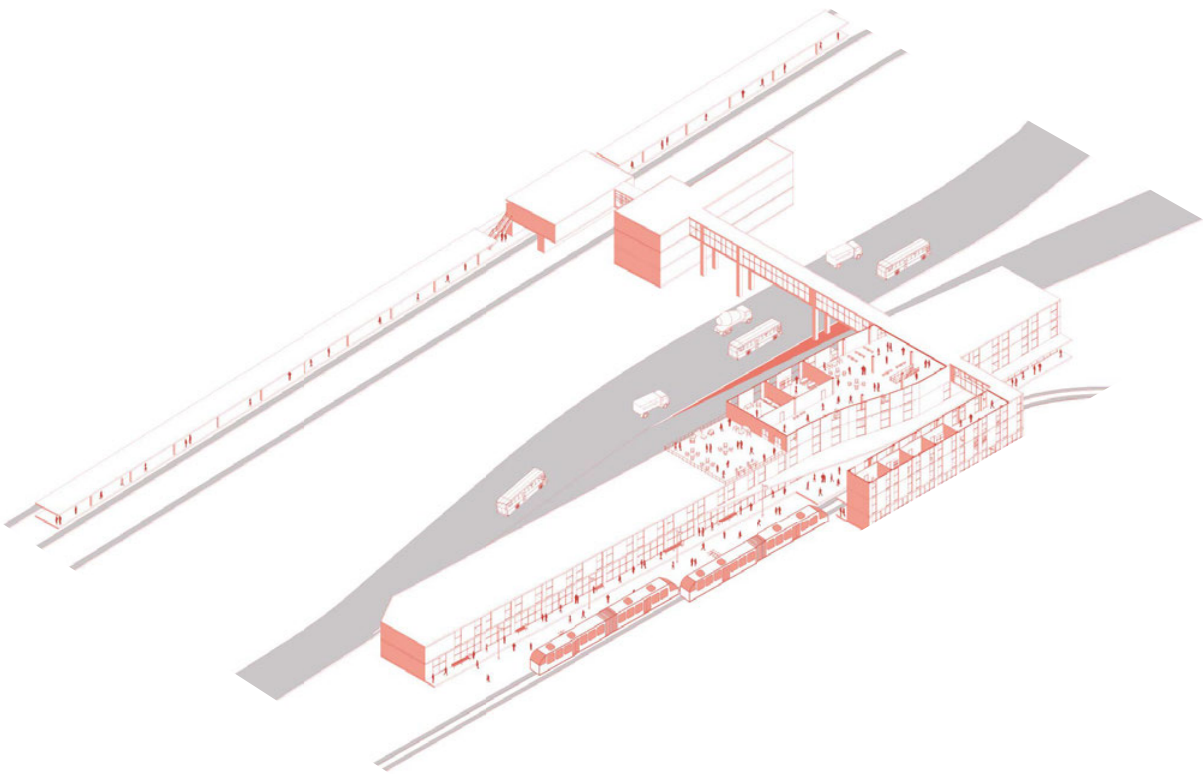
Prize Amount
US$ 5,000

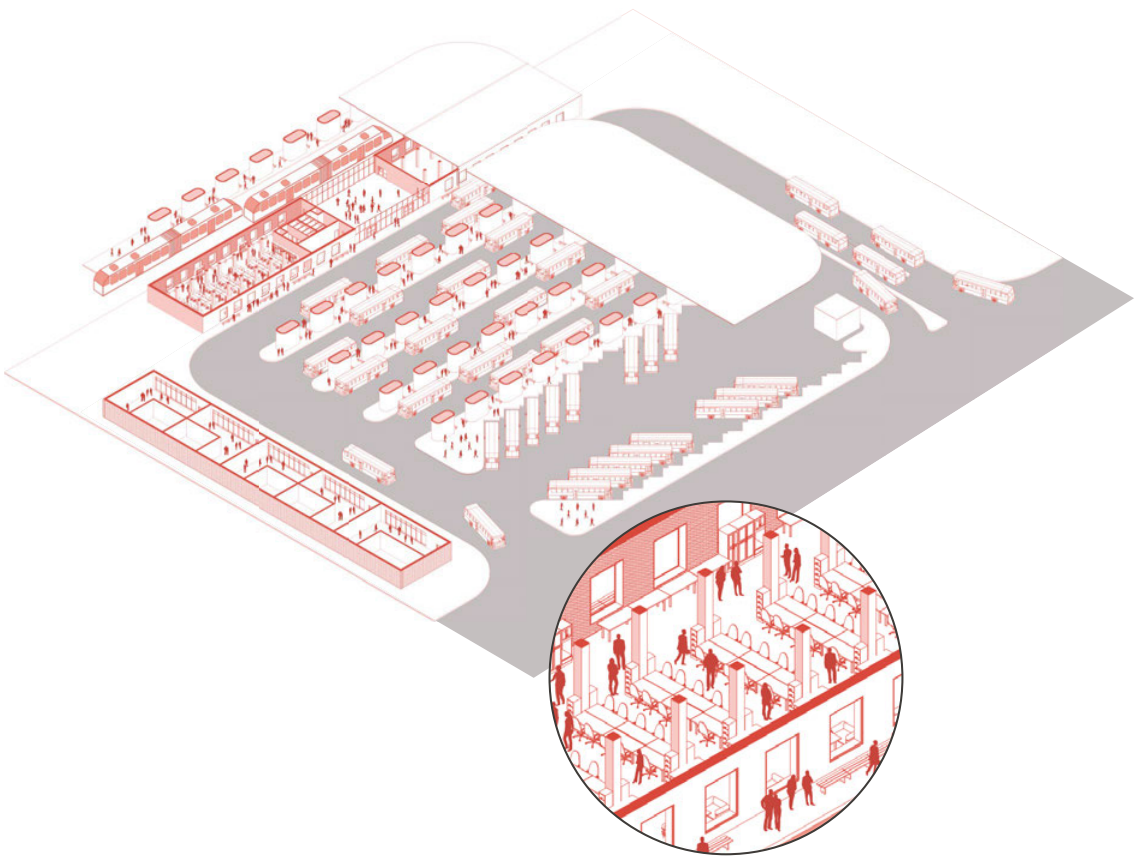
01. CEASA TRAIN STOP

The train stop is designed with the sole purpose of connecting individuals to the site without having the need of crossing the underpass by adding an overhead pedestrian path we create a somewhat seamless movement for pedestrians to reaching the bus terminal located on the opposite side of the site. Moreover, As it is connected to the tram system the individuals who are visiting, living and working on the site will receive a convenient mode of transportation.

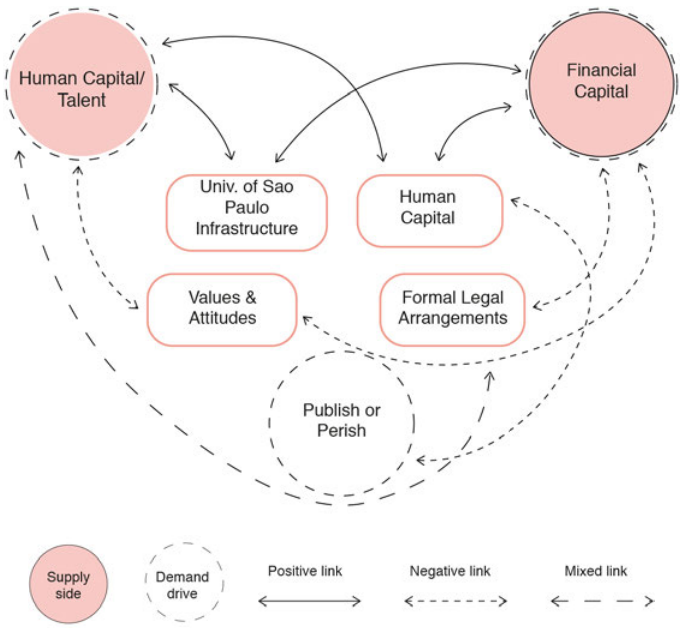


02. BUS TERMINAL

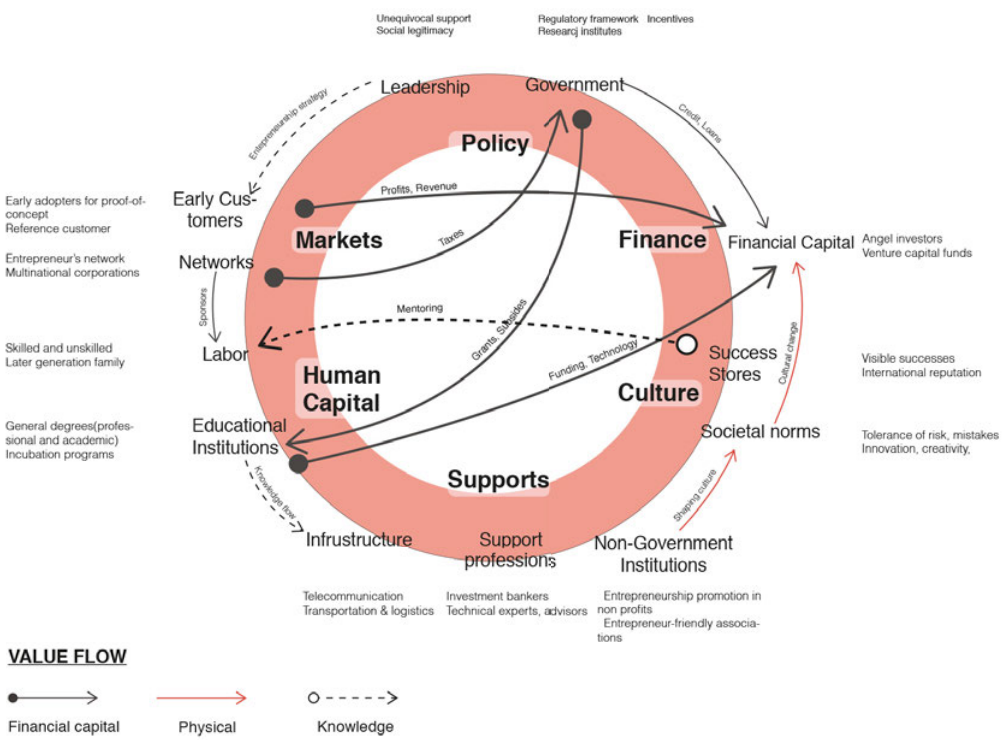
The Bus Terminal Is a major anchor in the design as it is a new major terminal for buses coming in an out of Vila Leopoldina. The Terminal is intended to house a large number of buses that can be maintained and serviced. The Tram is an added value for the terminal as it can be a connecting system to the train stop helping pedestrians reach their desired destination be it on site or the train stop.



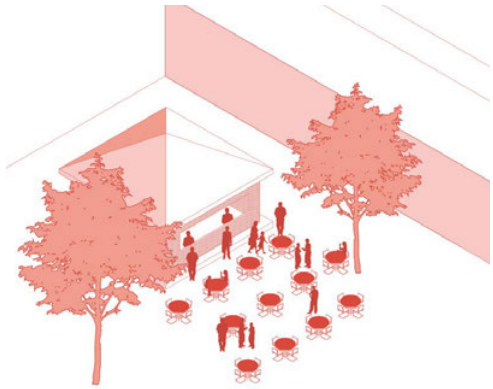
SAO PAULO INNOVATION ECOSYSTEM MAP



DOMAINS OF THE ENTREPRENEURSHIP ECOSYSTEM

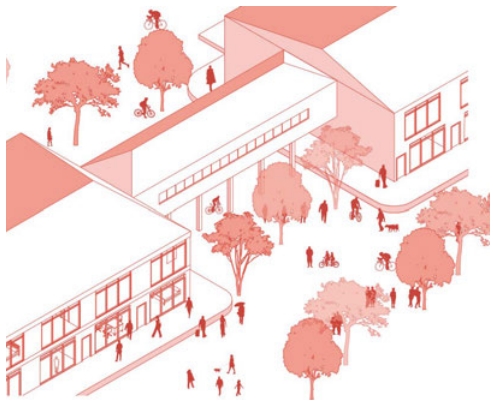


MICRO-ECONOMIC TOOLS

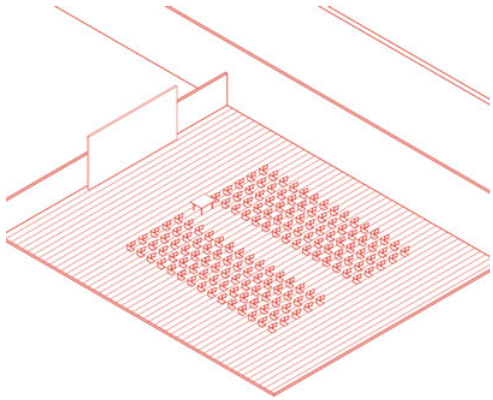


01. FOOD STALLS

02. COMMUNITY GARDENS



03. CONNECTING STRUCTURES



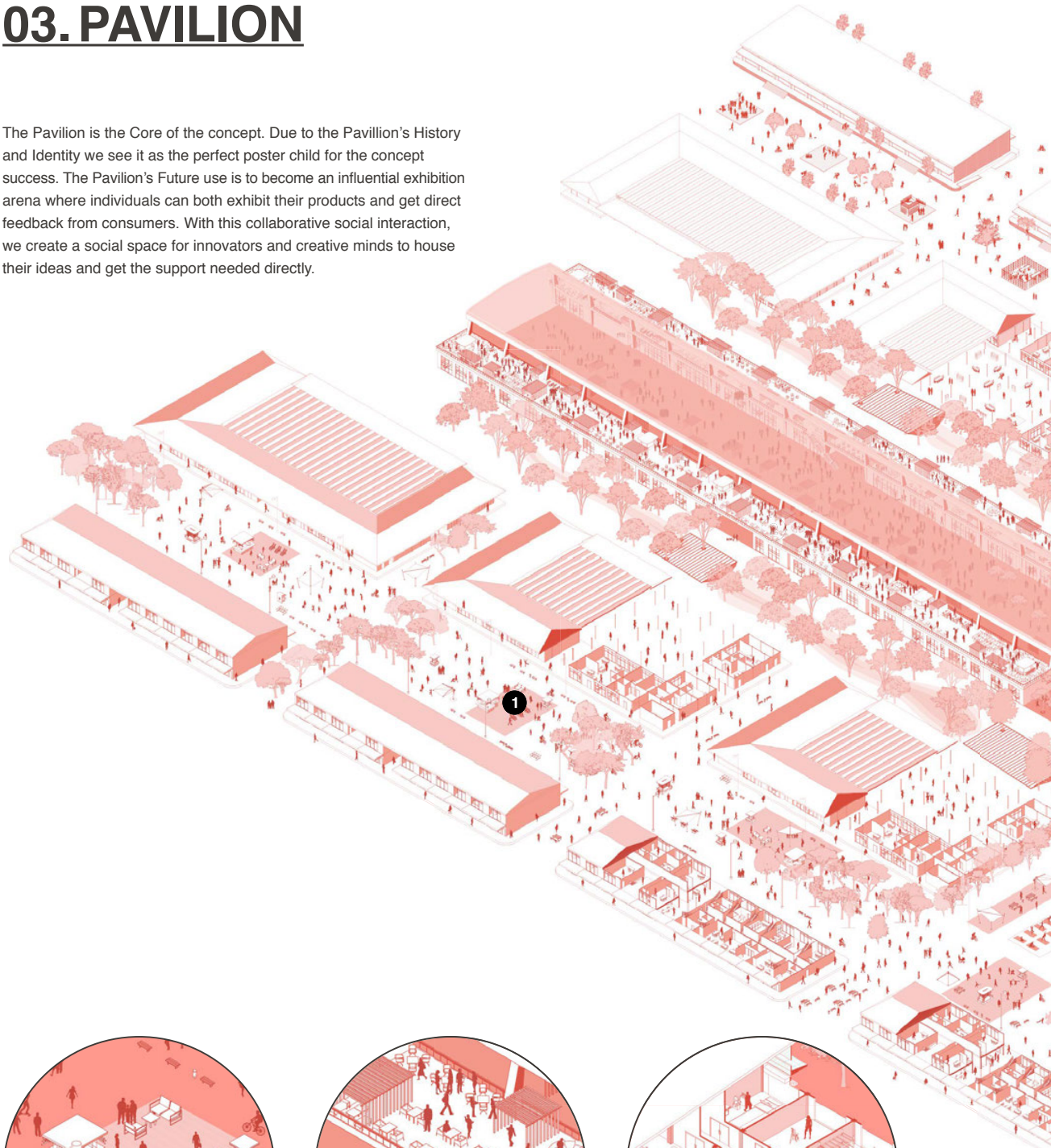
04. SCREENING ZONES

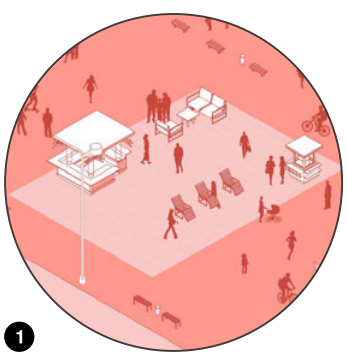
COMMUNAL SPACES

MICRO-SCALE BUSINESSES

03. PAVILION

The Pavilion is the Core of the concept. Due to the Pavillion's History and Identity we see it as the perfect poster child for the concept success. The Pavilion's Future use is to become an influential exhibition arena where individuals can both exhibit their products and get direct feedback from consumers. With this collaborative social interaction, we create a social space for innovators and creative minds to house their ideas and get the support needed directly.

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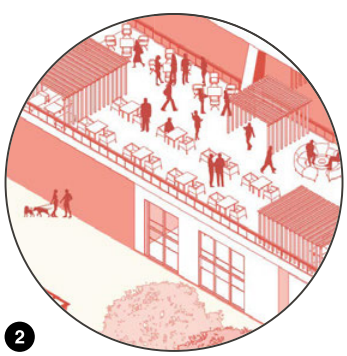
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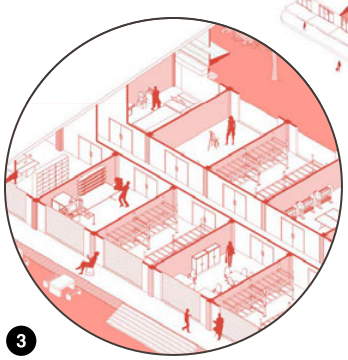
3


3

MARKET CITY

Transformation Through Active Interventions

This scheme questions the departure of the CEAGESP market. It proposes an alternative to the wholesale market leaving the area and reconfigures the site to accommodate its continued function. A set of strategic improvements is outlined to maintain and improve the existing market, seen as a vital source of heritage value and employment in the city. A passageway to connect the site across the Pinheiros River is one of the focus points, along with better traffic regulation and the provision of parking. Increased density, and therefore site population, is suggested as a way to increase life on the streets. This is counterbalanced with a new central public space and "transitional space" to mediate between public and private areas. Enhanced cultural and social activity is also incorporated in the design through a new recreational facility to be established within an existing marketplace structure.

This project attracted the attention of the jury because it kept the wholesale market on the site. "It seems not only credible and appealing but also strategic to a temporal understanding of urban transformation," commented one juror. Many remarked about the choice to revitalize existing site functions and structures, seen as "pragmatic" by some and "provocative" by others. Questions about the treatment of the logistics situation, including the accommodation for truck traffic were raised. The representational views were noted as "particularly convincing: they give shape to a space without rhetoric or romanticism, a real São Paulo space."

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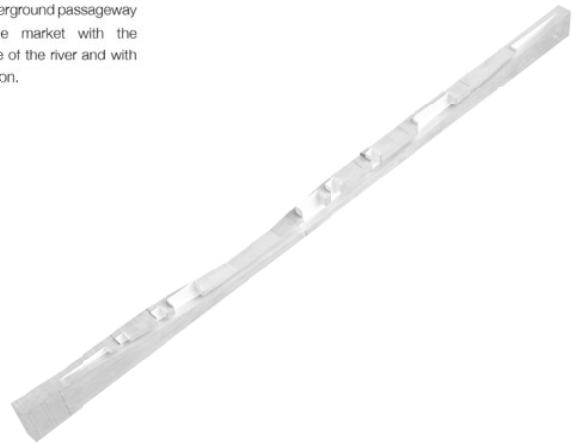
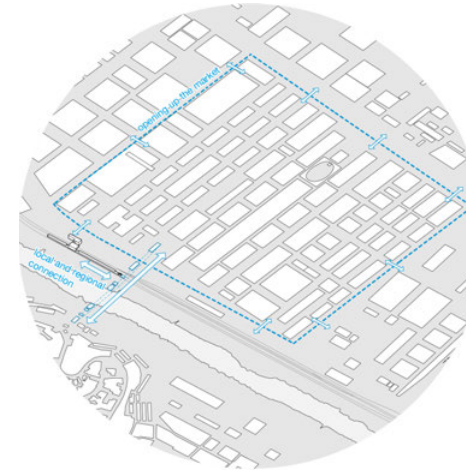
Guillaume Dopchie,
Guillermo Dürig,
Ciro Miguel,
ETH Zurich, Switzerland
Prize Amount
US$ 5,000

the underground passageway *connects the market*

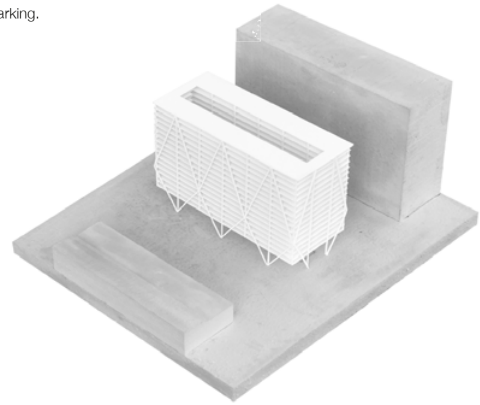
The new underground passageway connects the market with the opposite side of the river and with the train station.

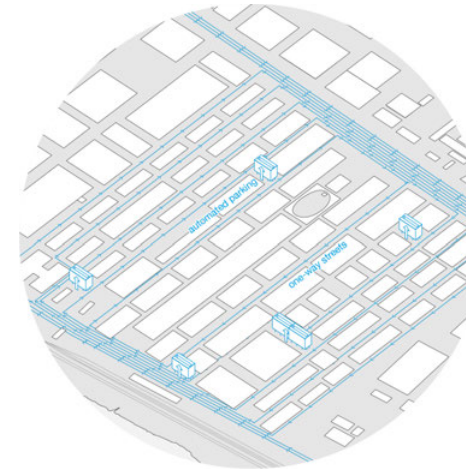


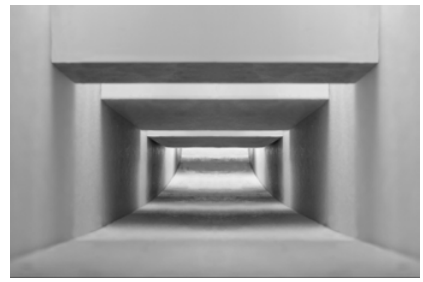


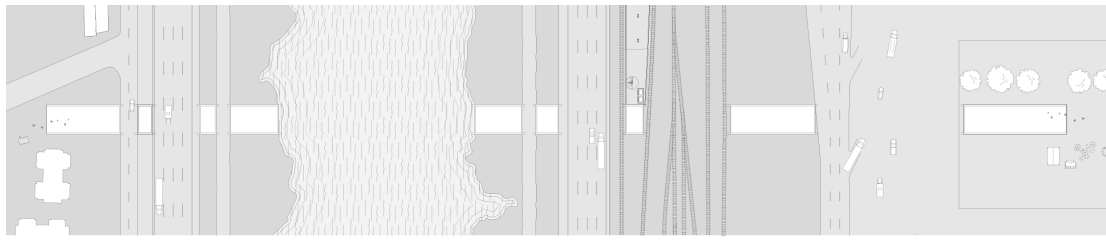
parking buildings *regulate the traffic*

Automated parking garages are positioned at strategic locations along the main streets, to offer quick and efficient parking.

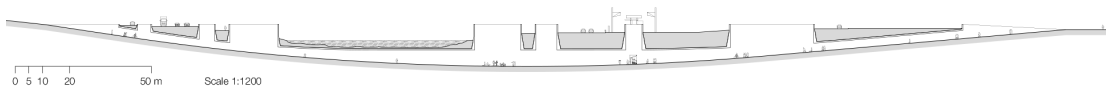




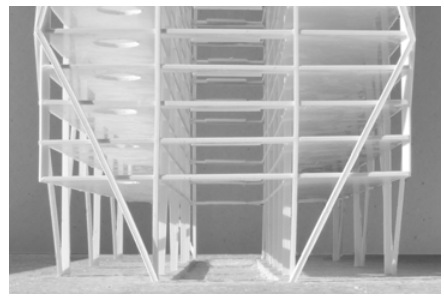


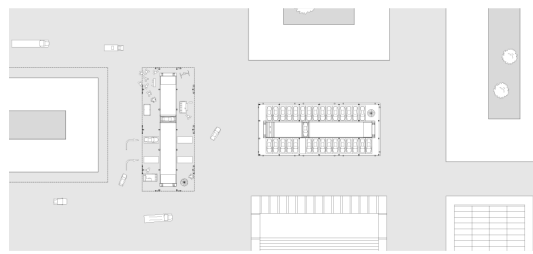


Passageway, Plan

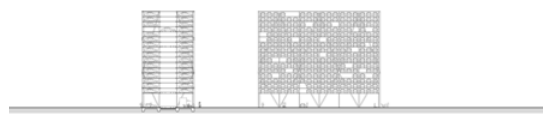


Passageway, longitudinal section





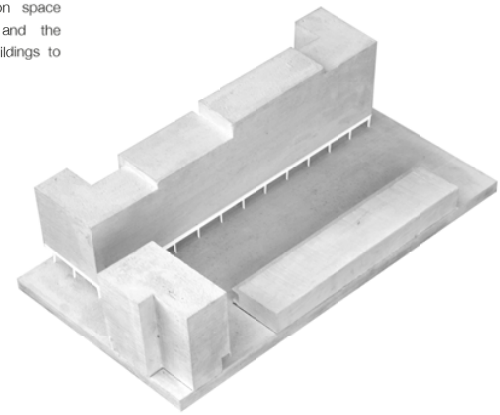
Parking building, ground floor and typical floor plan

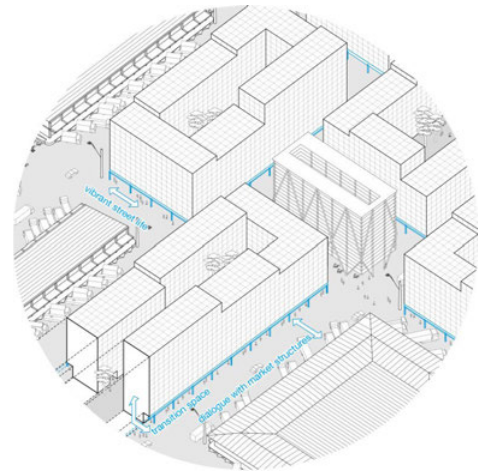


Parking building, section and elevation

transition spaces *vitalize the street*

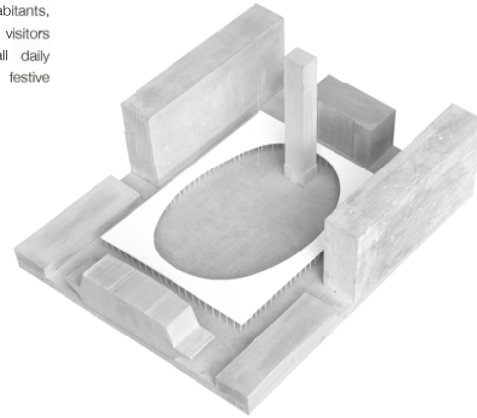
An arcade-like transition space between the streets and the buildings enable the buildings to open up to the street.

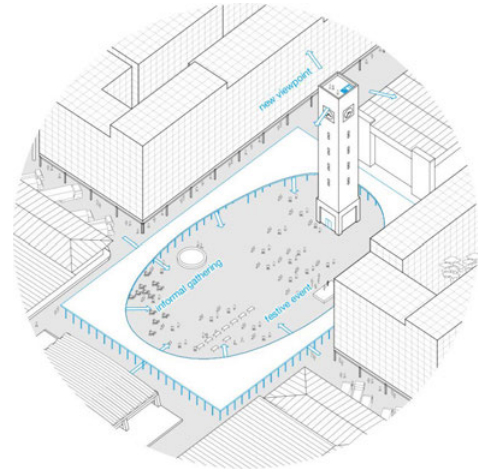




the public square *gathers public life*

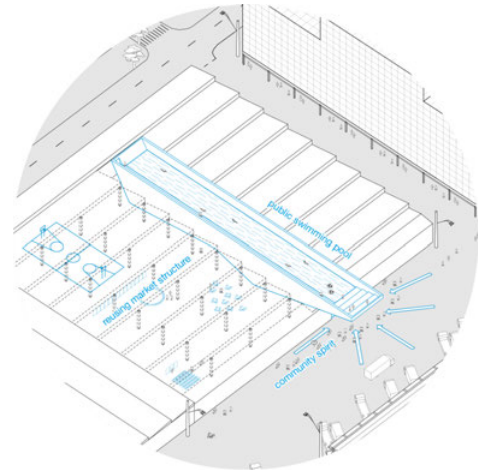
The square is where inhabitants, workers in the market and visitors come together for small daily happenings or bigger festive events.

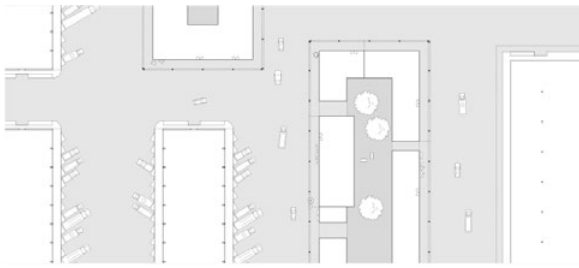




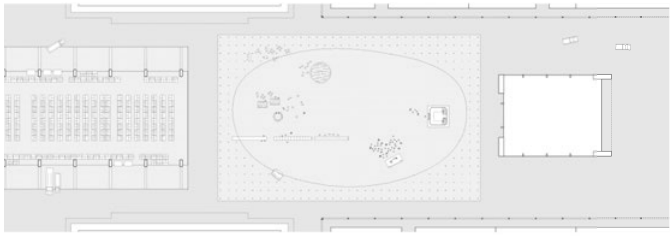
the leisure facility *encourages recreation*

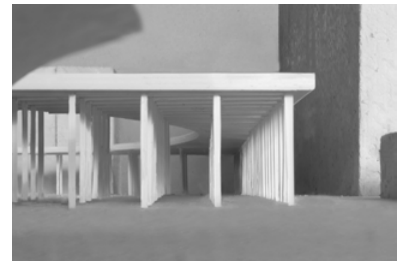
In the new leisure facility recreation, health and community spirit is encouraged, with the aim to become an important social hub.



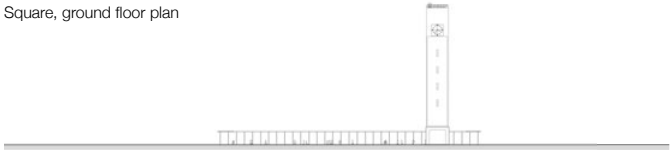


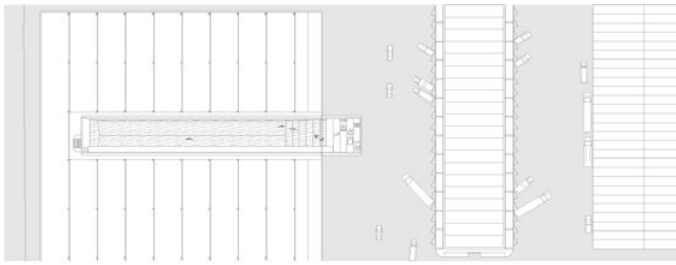
Transition space, ground floor plan

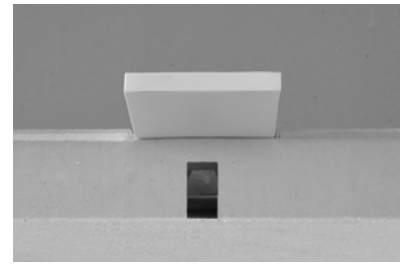




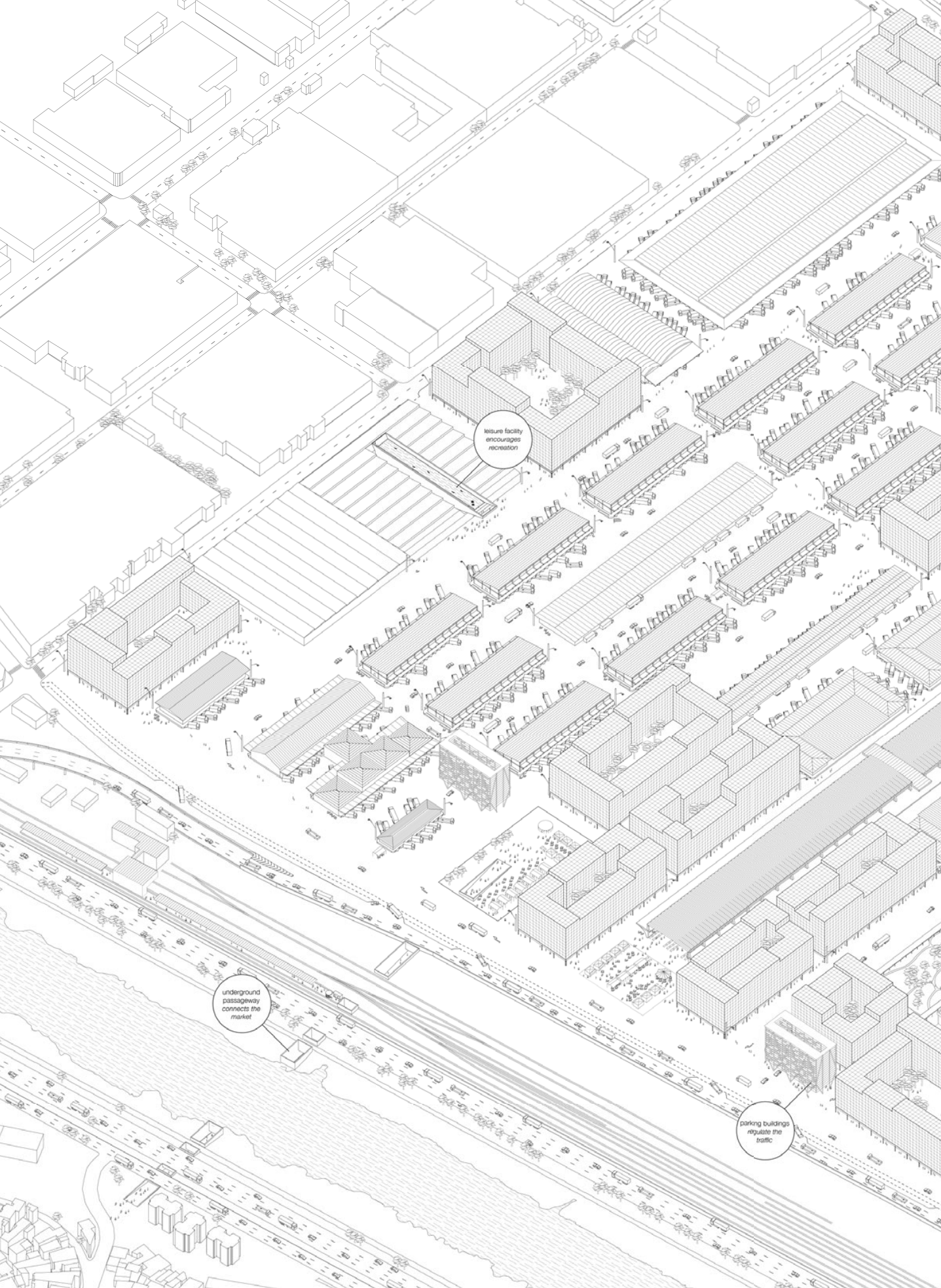
Square, ground floor plan

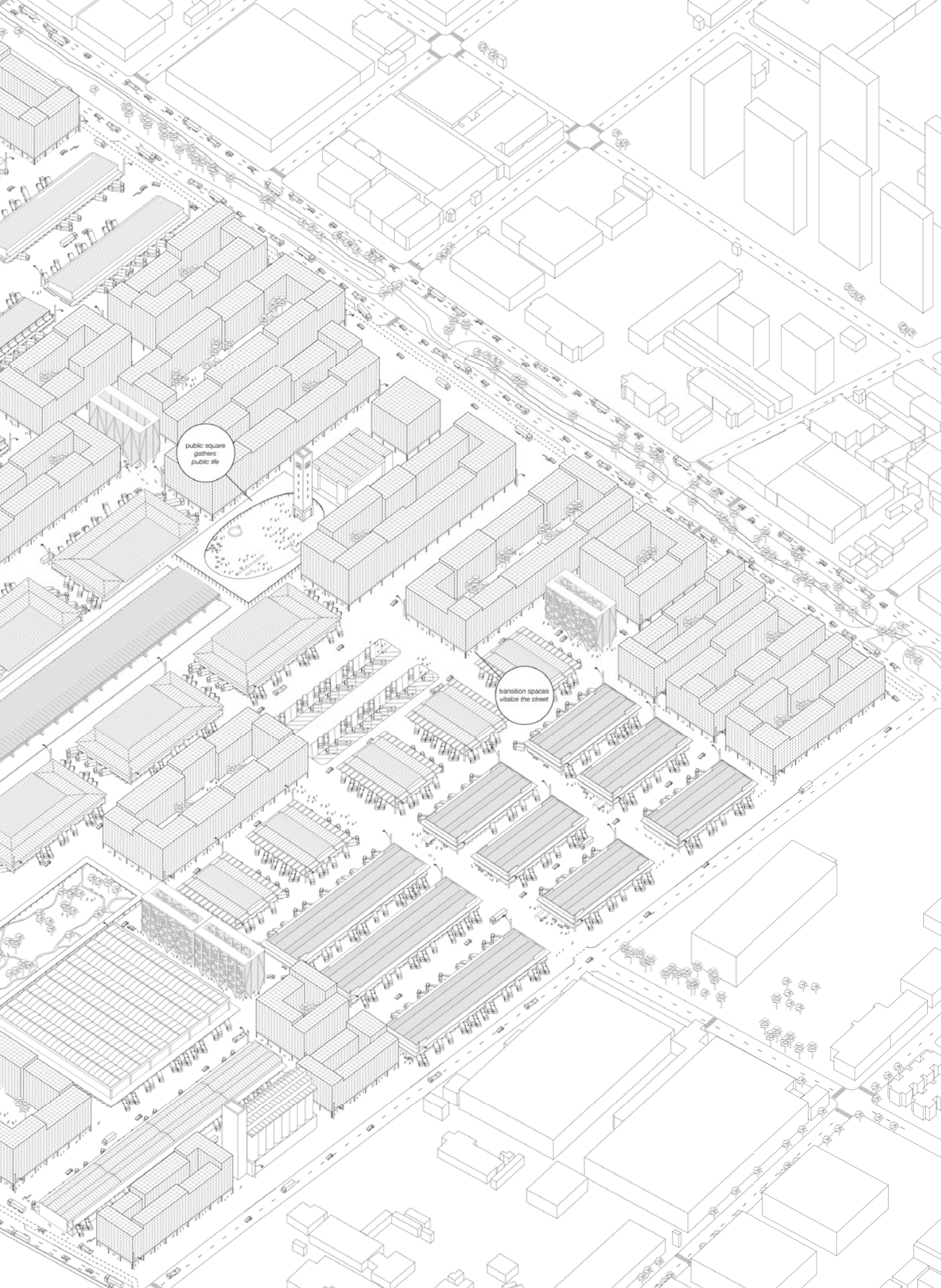


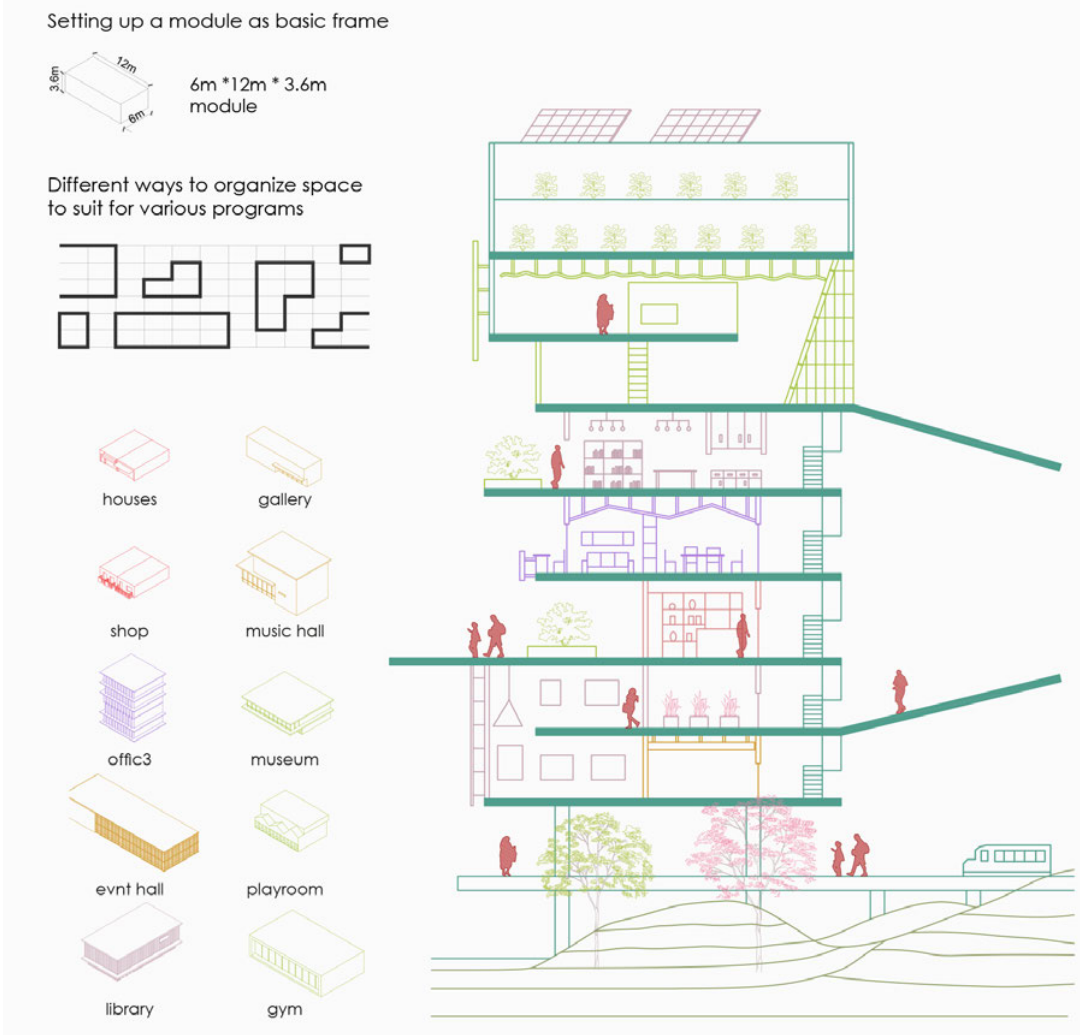




Leisure facility, top view


leisure facility
encourages recreation
underground passageway
connects the market
parking buildings
regulate the traffic


public square
gathers
public life
transition spaces
vitalize the street

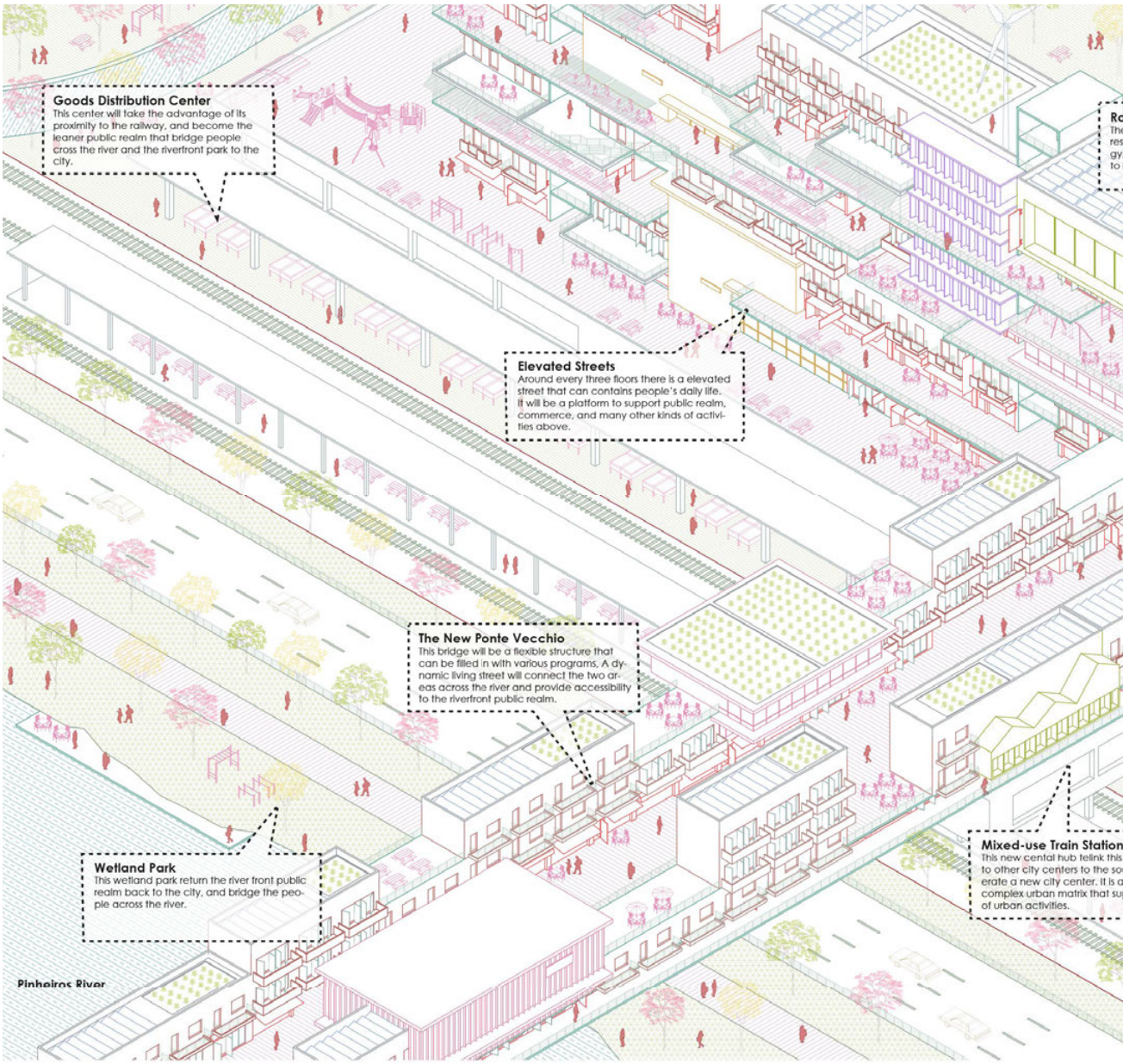

Setting up a module as basic frame
3.6m
12m
6m
6m *12m * 3.6m
module
Different ways to organize space
to suit for various programs
houses
gallery
shop
music hall
offic3
museum
evnt hall
playroom
library
gym

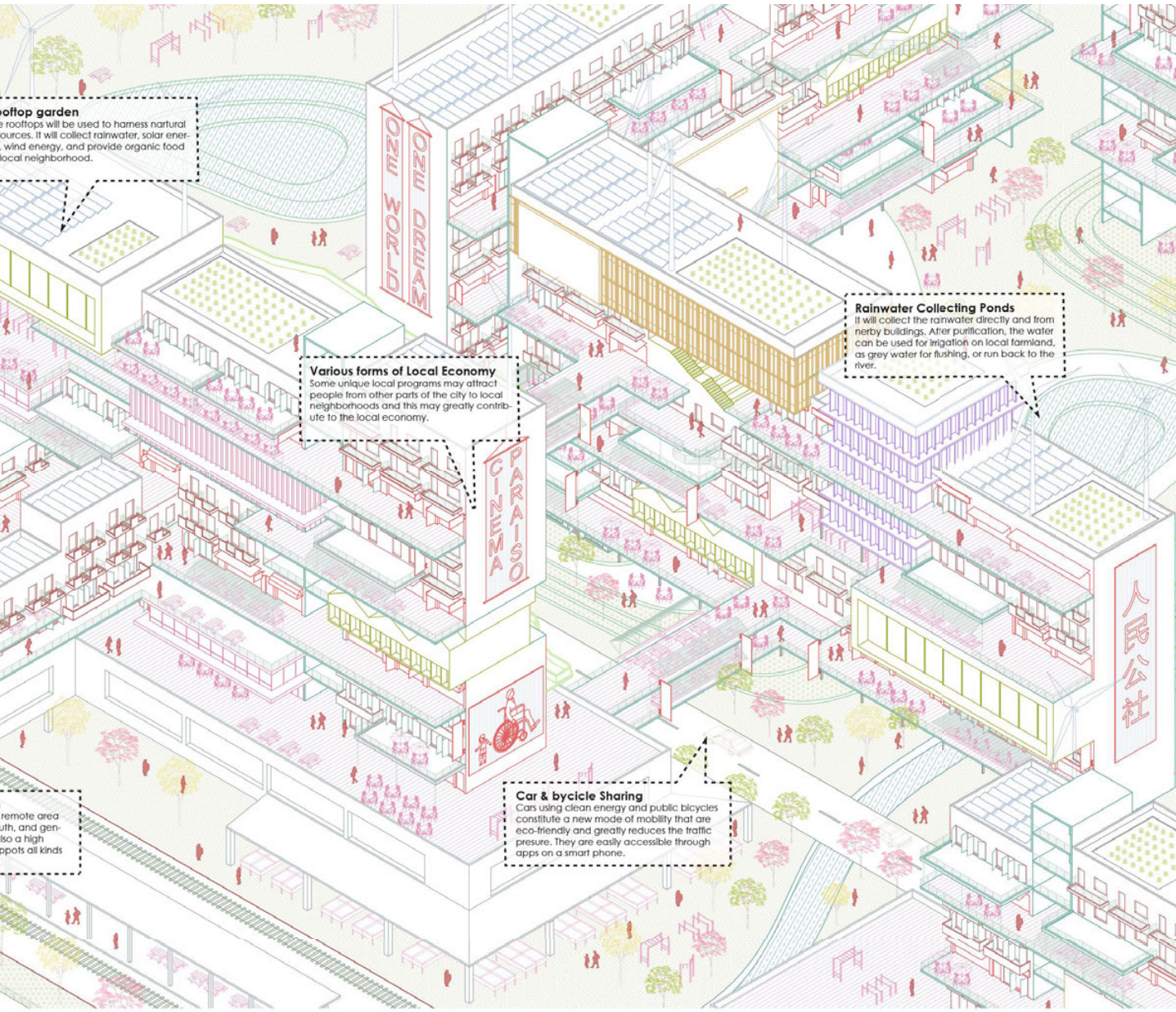
THE POETIC OF SPATIAL AGENCY: A NEW KOWLOON CITY

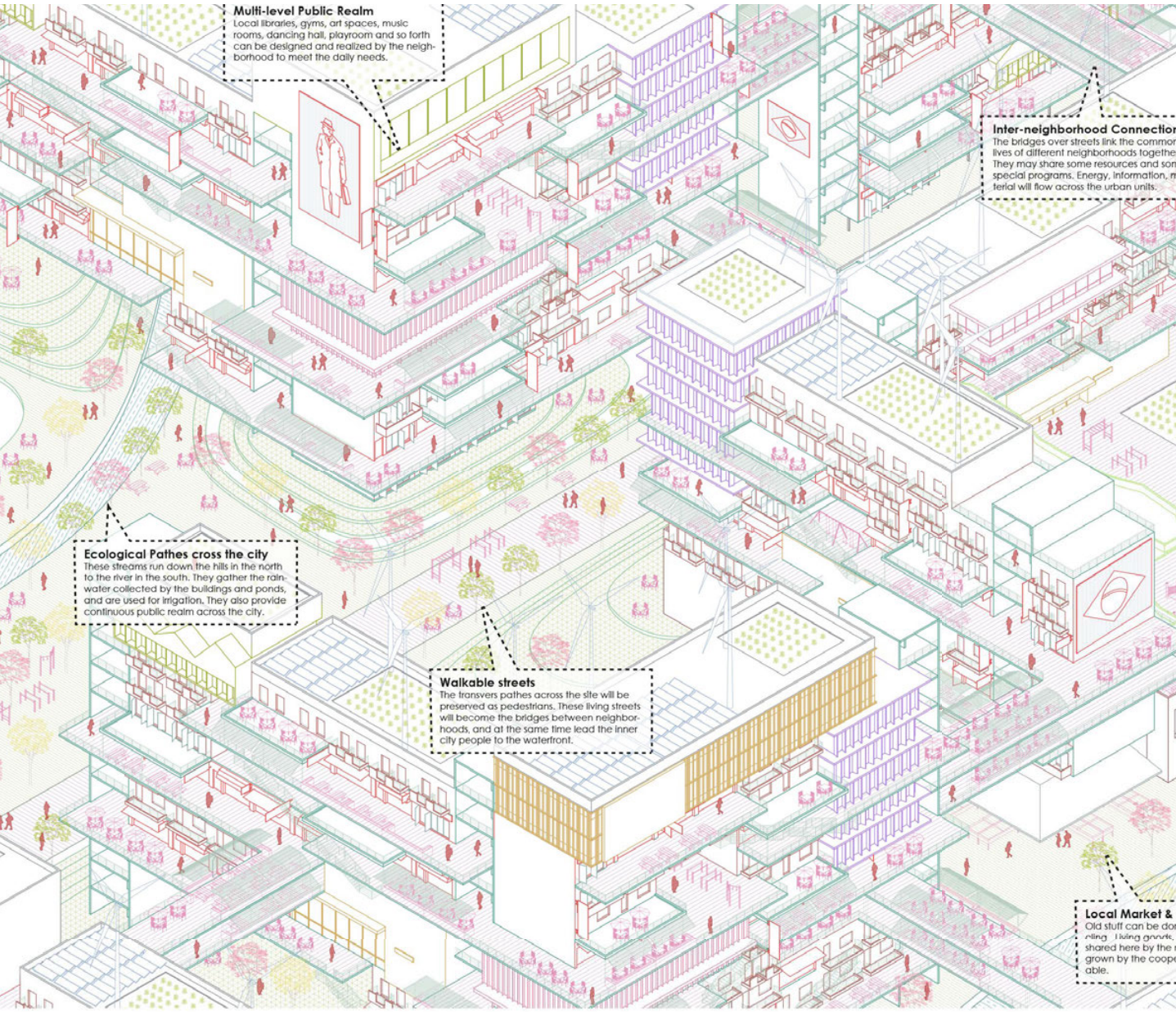
This project begins with the creation of spatial relationships that guarantee a "right to the city" for its inhabitants. The scheme works at multiple scales to create dense mixed-use building units arrayed over the site. Additional urban infrastructure and systems, such as for public transit and storm water collection, are incorporated. The proposal details thematic design-drivers, including a multifaceted public realm, flexible aspects in the built environment, and accessibility improvements. Ecological pathways and walkable streets enmesh the pedestrian circulation with ecological and social concerns. The renovation of existing industrial buildings and provision of new neighborhood networks and local economic opportunity are proposed. Kowloon City, Hong Kong, once among the densest-settled places in the world and now demolished, is referenced throughout the project.

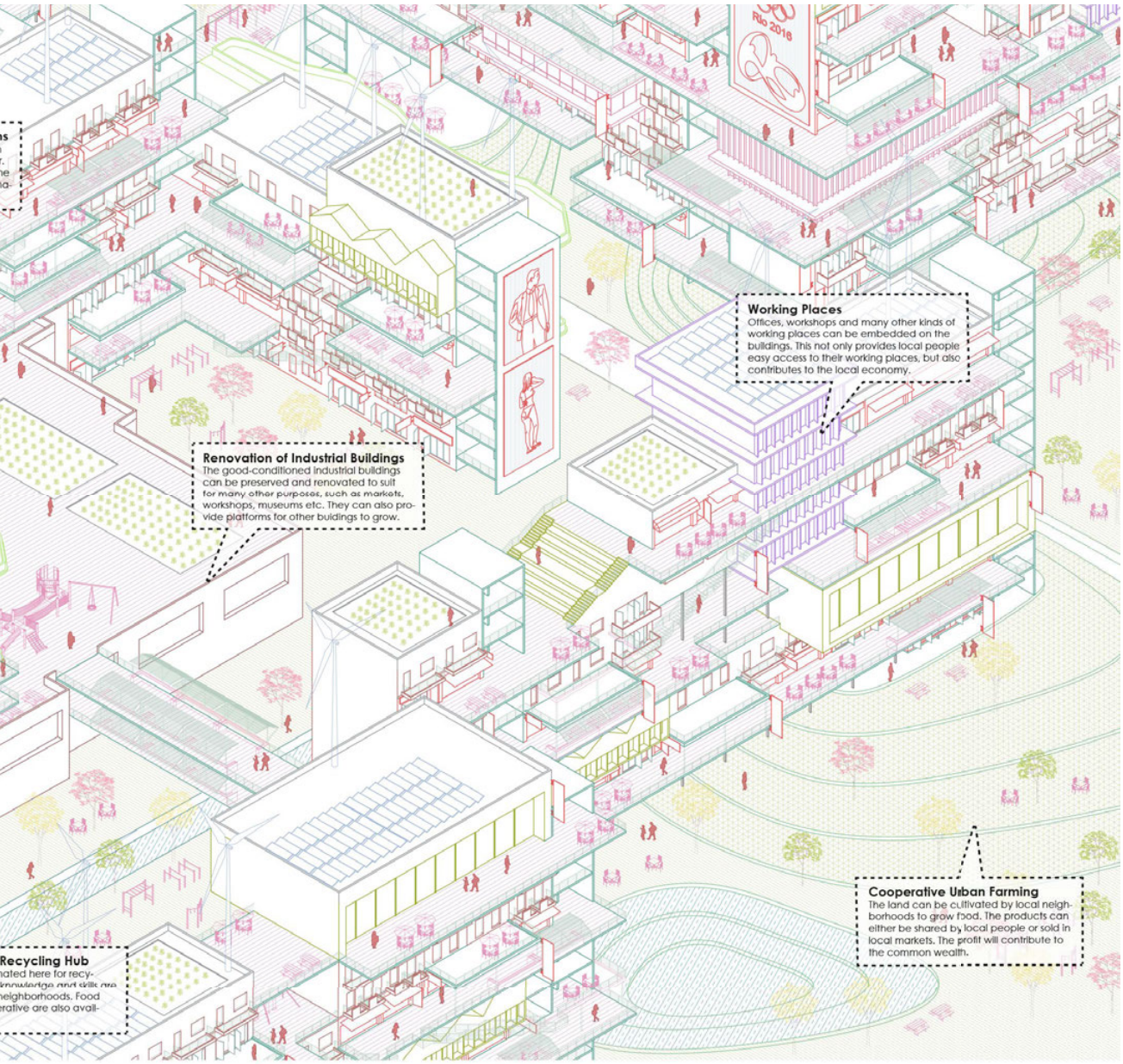
This project stood out for its focus on the desirable aspects of high-density living. It was noted for "empowerment of inhabitants as decision makers and transformative agents for new cultural values." The jury debated the validity of applying a model from Hong Kong in the Brazilian context. The "densities with diversity of uses" was lauded, along with the "original placement of public space in several levels." Some of the spatial decisions attracted praise, as "a model for a complex and layered city" and some felt there was the potential for further development of the project. Programmatic choices interested many jurors, with the key qualities of flexible and cooperative urban uses noted by many.

Travel Grant
Team 986
Student
Fu-Hou Zhang
Academic Supervision
Prof. Robin Dripps,
University of Virginia, USA
Prize Amount
US$ 5,000


Goods Distribution Center
This center will take the advantage of its proximity to the railway, and become the leaner public realm that bridge people cross the river and the riverfront park to the city.
Elevated Streets
Around every three floors there is a elevated street that can contains people's daily life. It will be a platform to support public realm, commerce, and many other kinds of activities above.
The New Ponte Vecchio
This bridge will be a flexible structure that can be filled in with various programs. A dynamic living street will connect the two areas across the river and provide accessibility to the riverfront public realm.
Wetland Park
This wetland park return the river front public realm back to the city, and bridge the people across the river.
Pinheiros River
Mixed-use Train Station
This new cental hub telink this
to other city centers to the so
erate a new city center. It is a
complex urban matrix that su
of urban activities.

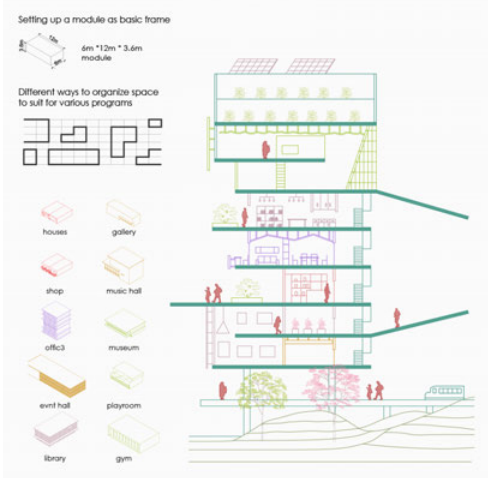

ooftop garden
e rooftops will be used to harness nartural
ources. It will collect rainwater, solar ener-
, wind energy, and provide organic food
local neighborhood.
ONE WORLD
ONE DREAM
Various forms of Local Economy
Some unique local programs may attract people from other parts of the city to local neighborhoods and this may greatly contribute to the local economy.
CINEMA PARAISO
Rainwater Collecting Ponds
It will collect the rainwater directly and from nerby buildings. After purification, the water can be used for irrigation on local farmland, as grey water for flushing, or run back to the river.
人民公社
remote area
uth, and gen-
lso a high
ppots all kinds
Car & bycicle Sharing
Cars using clean energy and public bicycles constitute a new mode of mobility that are eco-friendly and greatly reduces the traffic presure. They are easily accessible through apps on a smart phone.


Multi-level Public Realm
Local libraries, gyms, art spaces, music rooms, dancing hall, playroom and so forth can be designed and realized by the neighborhood to meet the daily needs.
Inter-neighborhood Connection
The bridges over streets link the common
lives of different neighborhoods togethe
They may share some resources and son
special programs. Energy, information, m
terial will flow across the urban units.
Ecological Pathes cross the city
These streams run down the hills in the north to the river in the south. They gather the rainwater collected by the buildings and ponds, and are used for irrigation. They also provide continuous public realm across the city.
Walkable streets
The transvers pathes across the site will be preserved as pedestrians. These living streets will become the bridges between neighborhoods, and at the same time lead the inner city people to the waterfront.
Local Market &
Old stuff can be do
cling. Living goods,
shared here by the
grown by the coope
able.

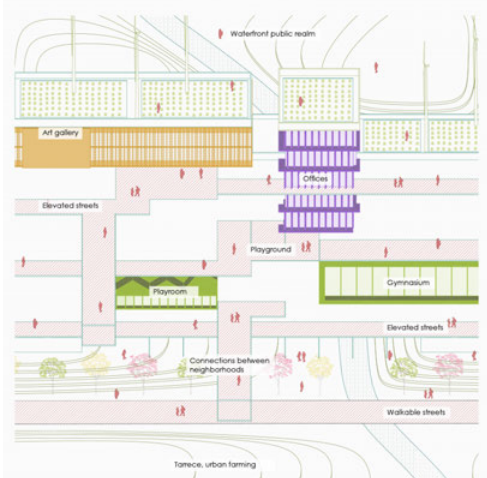

Rio 2016
Working Places
Offices, workshops and many other kinds of working places can be embedded on the buildings. This not only provides local people easy access to their working places, but also contributes to the local economy.
Renovation of Industrial Buildings
The good-conditioned industrial buildings can be preserved and renovated to suit for many other purposes, such as markets, workshops, museums etc. They can also provide platforms for other buildings to grow.
Cooperative Urban Farming
The land can be cultivated by local neighborhoods to grow food. The products can either be shared by local people or sold in local markets. The profit will contribute to the common wealth.
Recycling Hub
nated here for recy-
knowledge and skills are
neighborhoods. Food
erative are also avail-

Self-organized Society & Cooperative City

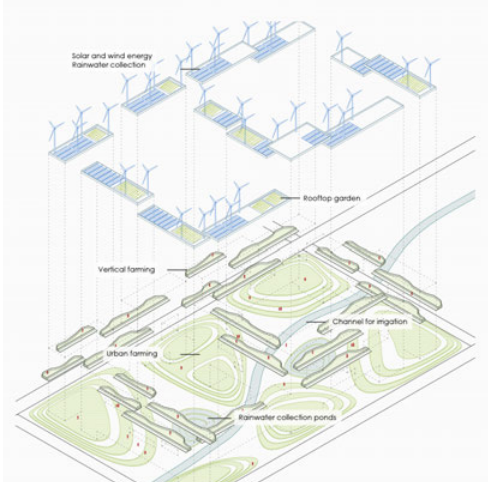
Multi-level Public Realm



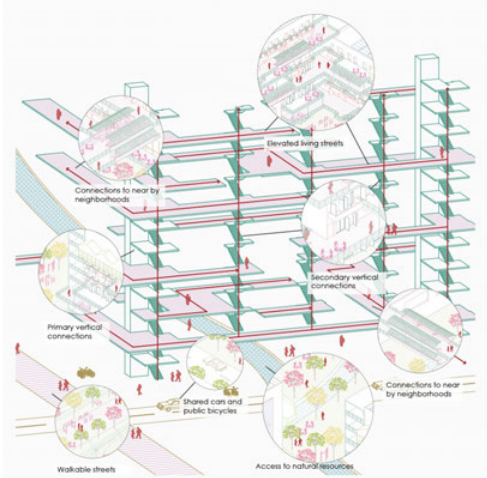
Flexible Structure & Built Uncertainty



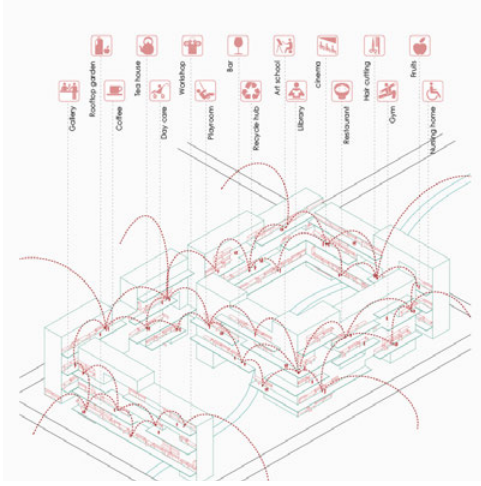
Nutual Resources & Urban Agriculture



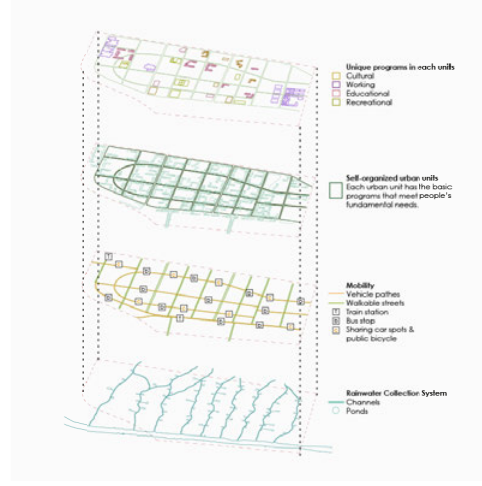
Accessibility & Connections



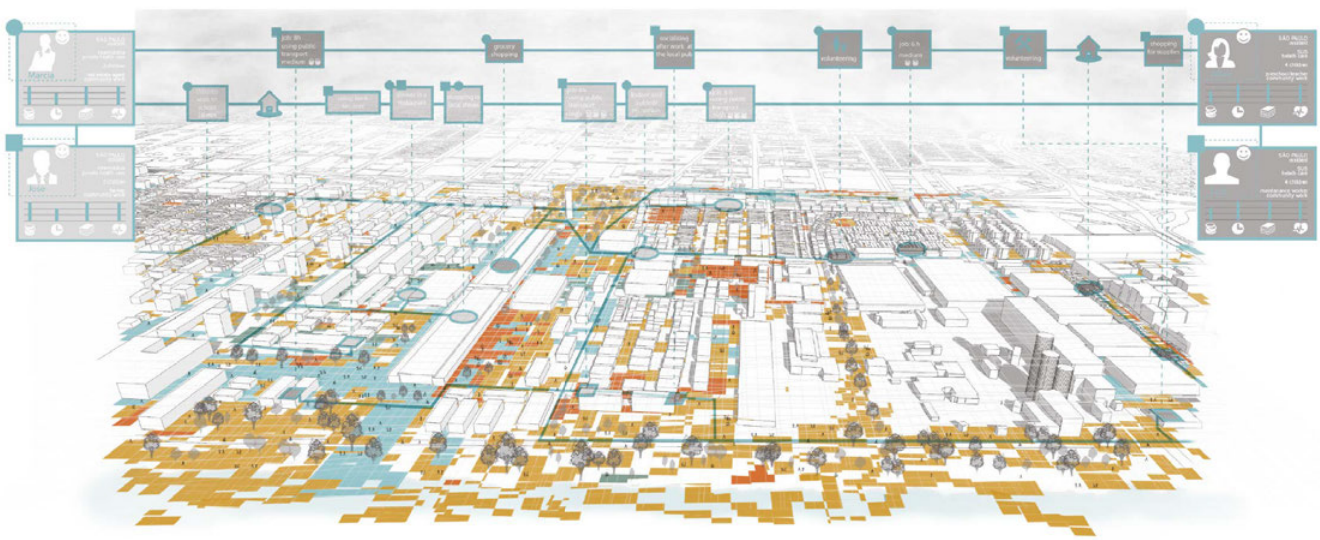
Neighborhood Network & Local Economy



Farming Urban Systems at City Scale



Urban Prototype with Simple Urban Forms



RETHINKING PUBLIC SPACE

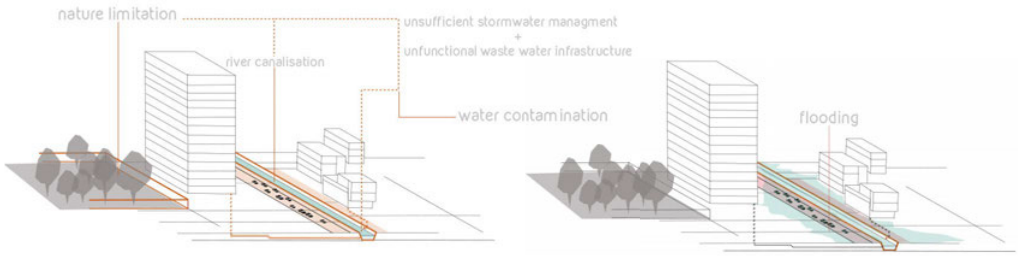
Social and spatial relationships are the focus of "Rethinking Public Space." The project identifies conflicts and points of stress in the urban environment, including those of environmental, mobility and social origin. Their impact on the city is then examined, pinpointing areas and conditions that need amelioration through spatial and social intervention. Social activity and public space functionality are cataloged and brought into responsive relationships with the challenges identified. These are then developed into a matrix, which is overlaid on the entire site. Local and regional connections are mapped and considered. A holistic set of program points includes mobility; social and cultural identity; everyday community interaction; and the reduction of spatial insecurity through communal and shared space. Diagrams, visualizations, and a masterplan are color coded to explain the complex project parameters.

Complex graphics supporting the research, "an interesting taxonomy," and design of this project attracted the attention of the jury. Its interpretation of the values – both inherent and potential – in public space was lauded, "it questions the traditional notion of public and open space, redefining the site through the idea that anything serving the common good is public space." The graphics required time for interpretation, with some questions remaining about their level of clarity. Overall the jury praised the attention to "highly mixed use" approach, and the "interesting conceptual intention" of the public space driven project.

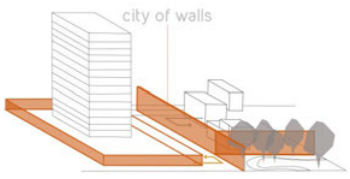
Travel Grant
Team 997
Students
Tadeja Ažman, Lara Bolković, Nejc Greben
Academic Supervision
Ass. Prof. Darja Matjašec, Nejc Florjanc, Tomaž Pipan, University of Ljubljana, Biotechnical Faculty, Department of Landscape Architecture, Slovenia
Prize Amount
US$ 5,000

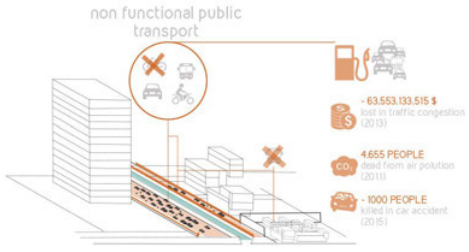
CONFLICTS

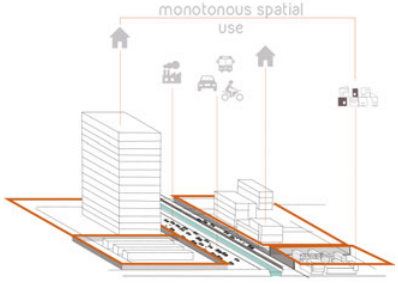
NATURE



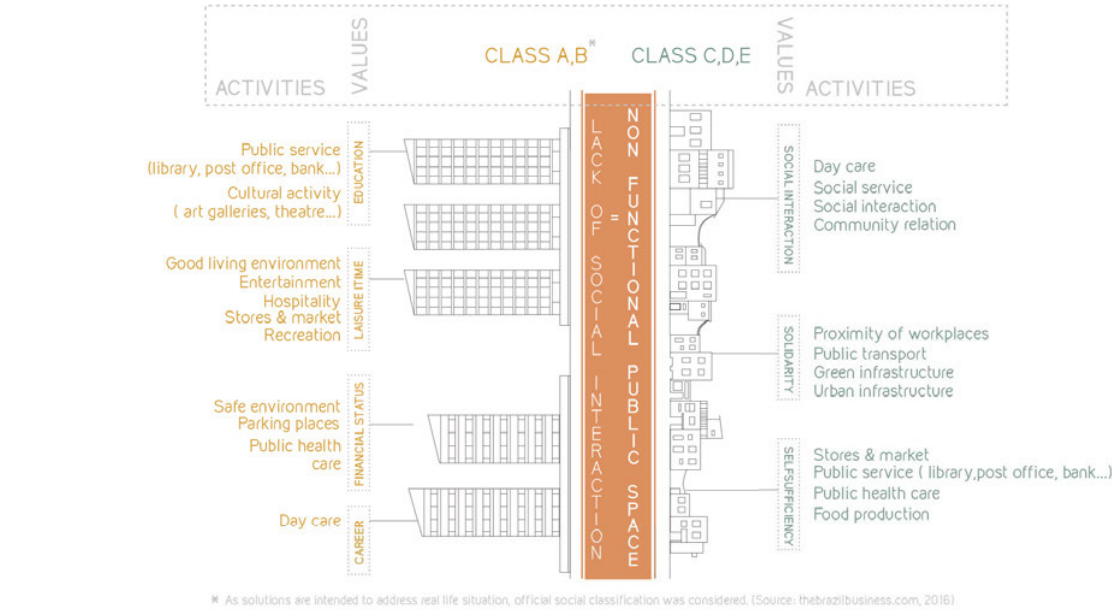
URBAN

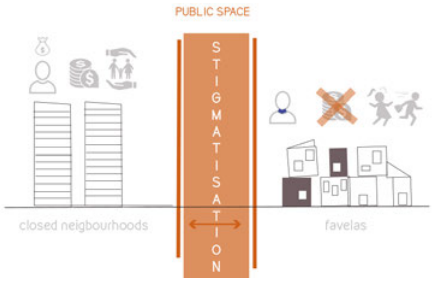


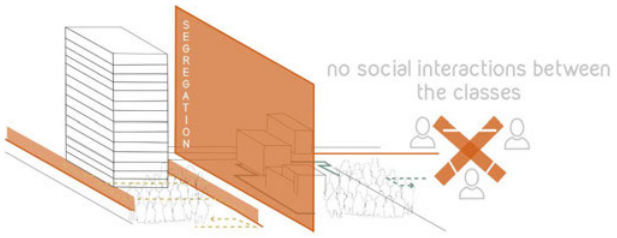




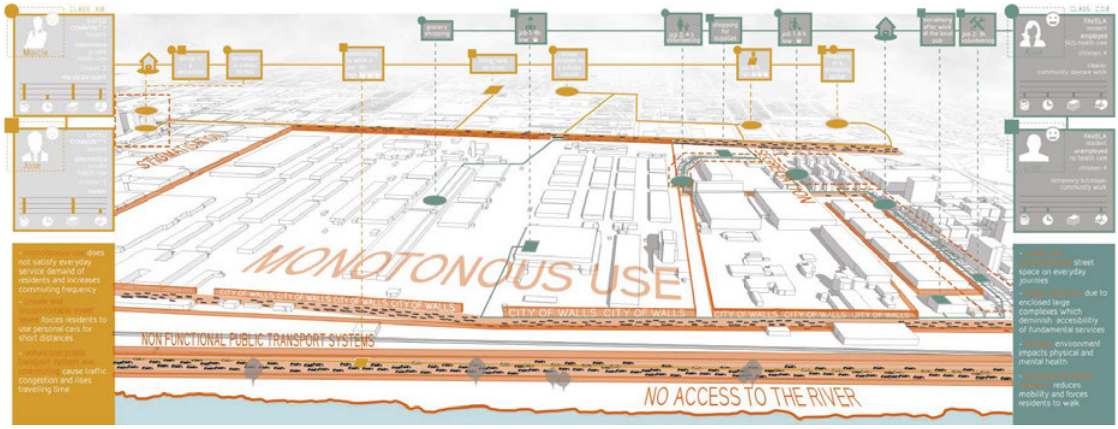
SOCIAL

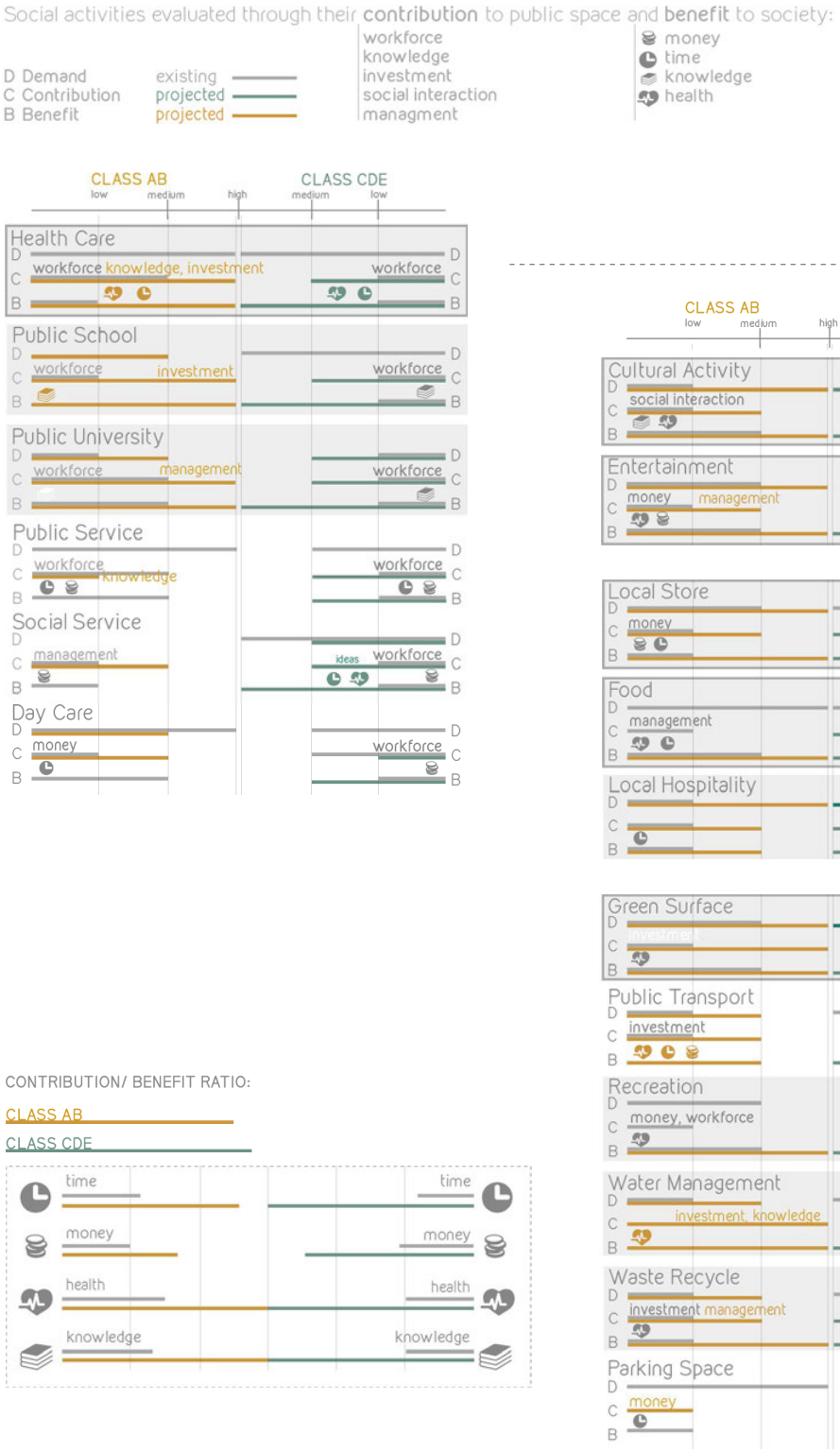




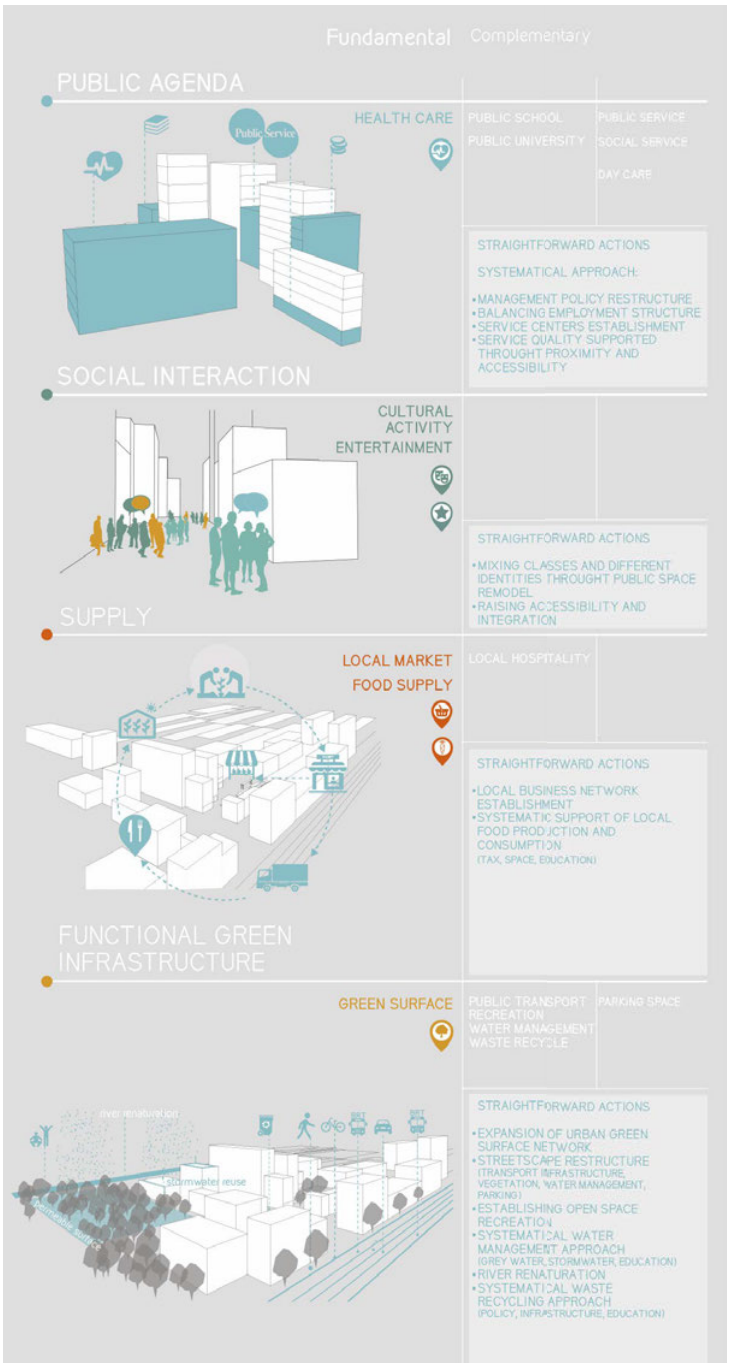


WHAT IT MEANS IN REAL LIFE ?




Social activities evaluated through their contribution to public space and benefit to society:
D Demand
C Contribution
B Benefit
existing
projected
projected
workforce
knowledge
investment
social interaction
managment
money
time
knowledge
health
CLASS AB
low
medium
high
CLASS CDE
medium
low
Health Care
workforce knowledge, investment
workforce
Public School
workforce
investment
workforce
Public University
workforce
management
workforce
Public Service
workforce
knowledge
workforce
Social Service
management
ideas
workforce
Day Care
money
workforce
Cultural Activity
social interaction
social interaction
Entertainment
money
management
management workforce
Local Store
money
products
workforce
Food
management
workforce
Local Hospitality
workforce
Green Surface
investment
workforce
Public Transport
investment
workforce
Recreation
money, workforce
workforce
Water Management
investment, knowledge
workforce
Waste Recycle
investment management
workforce
Parking Space
money
workforce
CONTRIBUTION/ BENEFIT RATIO:
CLASS AB
CLASS CDE
time
money
health
knowledge

FUNCTIONAL PUBLIC SPACE GENERATES SOCIAL VALUES



SHAPING CULTURAL IDENTITY

ECONOMIC VALUE

Jobs

IMPACT ON PHYSICAL & MENTAL HEALTH

NATURE & BIODIVERSITY VALUE

MOBILITY

BENEFITS FOR VULNERABLE SOCIAL GROUPS

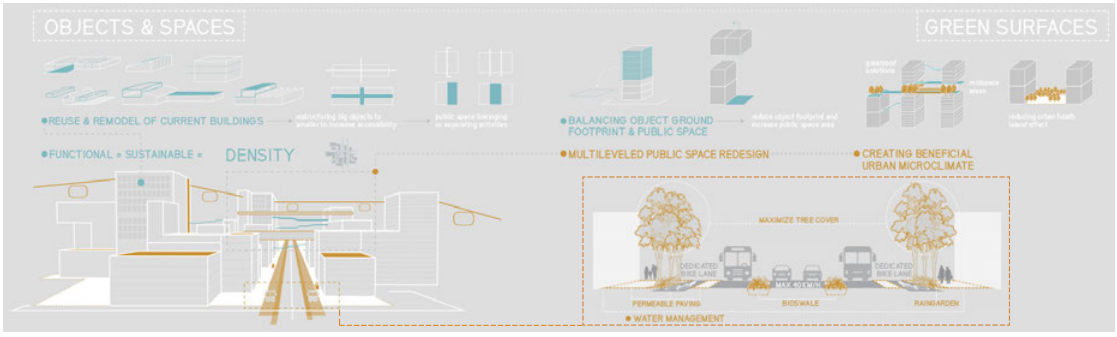
REDUCING CRIMINAL ACTIVITY & SPATIAL INSECURITIES

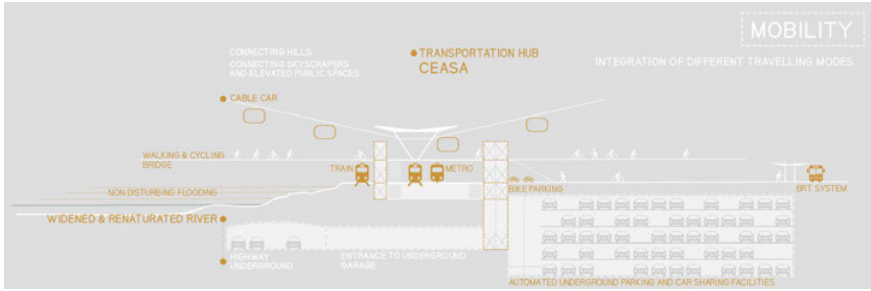
PARTICIPATION

EDUCATION

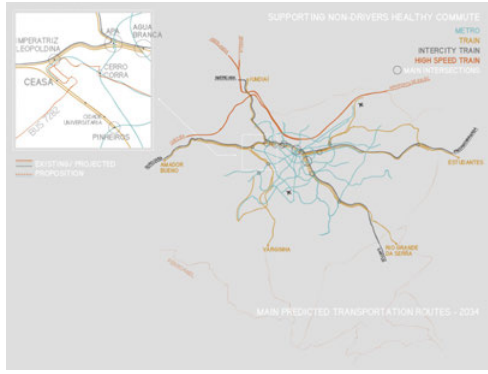
KNOWLEDGE

PUBLIC SPACE REESTABLISHED

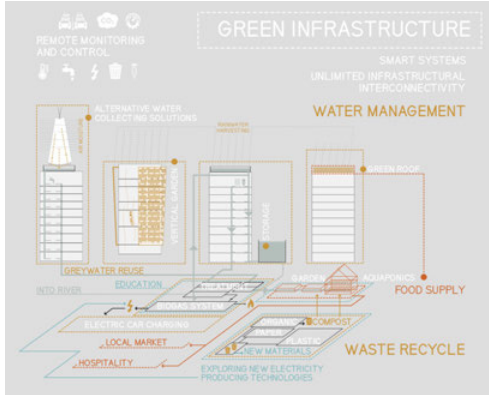


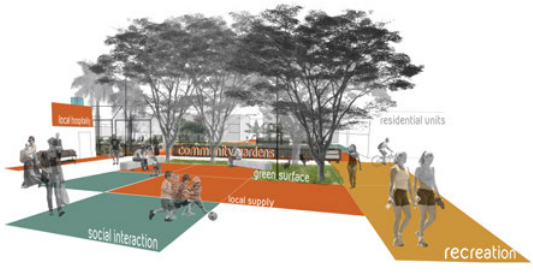


mobility & economic value

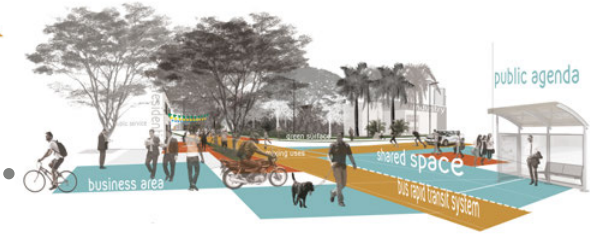


shaping cultural identity & supporting social interaction

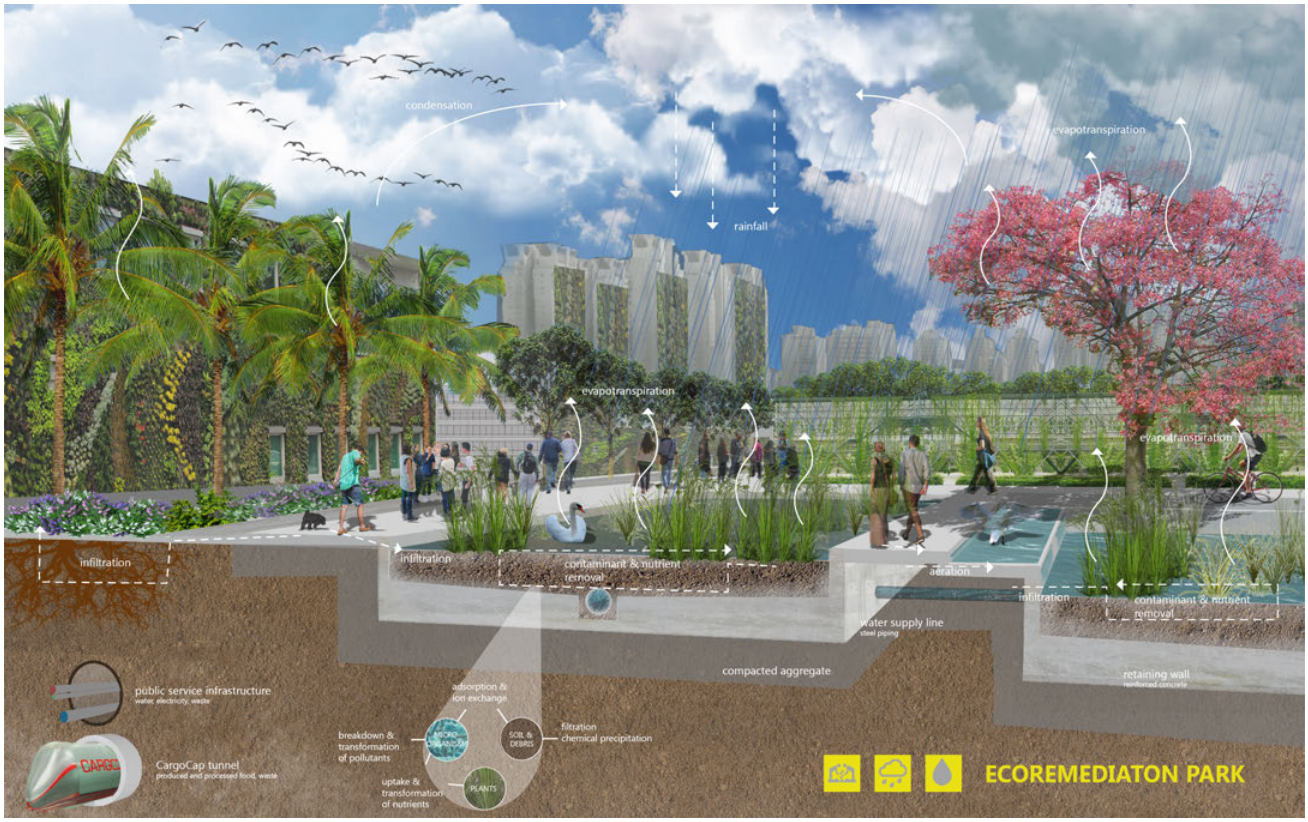




participation & integration of local supply in everday lifestyle



combinating uses & reducing spatial insecurities


condensation
rainfall
evapotranspiration
evapotranspiration
evapotranspiration
infiltration
infiltration
contaminant & nutrient removal
aeration
infiltration
contaminant & nutrient removal
water supply line
steel piping
compacted aggregate
retaining wall
reinforced concrete
public service infrastructure
water, electricity, waste
CARGO
CargoCap tunnel
produced and processed food, waste
absorption & ion exchange
breakdown & transformation of pollutants
MICRO-ORGANISMS
SOIL & DEBRIS
filtration chemical precipitation
uptake & transformation of nutrients
PLANTS
ECOREMEDIATON PARK

URBAN AGRITECTURE

Driver of City Change

The establishment of a sustainable future community on the CEAGESP site is imagined in this proposal. The scheme preserves the exiting building stock and upgrades it to fit a new focus on agricultural production. A mix of industrial, residential and public spaces is positioned to provide long-term solutions in the form of new jobs, transportation options and means of energy production. The design includes a new marketplace, and new methods of producing, processing and selling agricultural products. An eco-remediation park offers new recreational possibilities with an ecologically sensitive treatment of storm water. Complex diagrams are used to convey the many connections and interconnections in the multifaceted design, nesting the new uses and programs in spatial typologies according to user group.

The jury selected this project in recognition of its ecological approach to urban design. The idea of "merging high density, water management, food and energy production" was notable. Some found it a "futuristic approach" needing further development. The overall direction of the project was admired, though the lack of more precise and concrete design elements was questioned. Many jurors remarked upon the project's clear goals of "sustainability and better quality of life." Also notable was the range and combination of urban programs and functions, particularly "new models of sharing spaces, activities, properties."

Travel Grant
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Barbara Kostanjšek,
Petra Pečan
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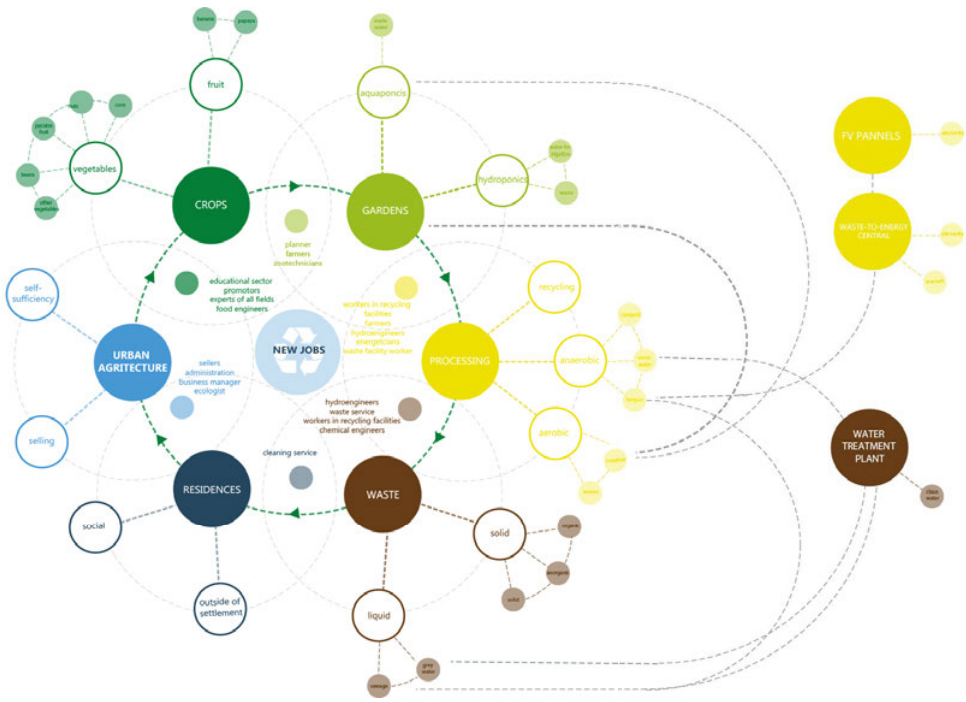
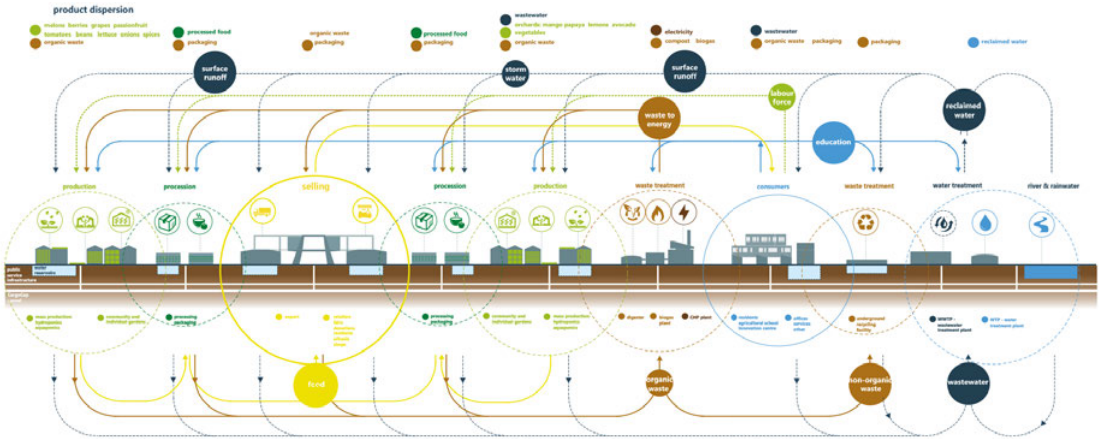
Ass. Prof. Darja Matjašec,
Nejc Florjanc, Tomaž Pipan,
University of Ljubljana,
Biotechnical Faculty,
Department of Landscape
Architecture, Slovenia
Prize Amount
US$ 5,000

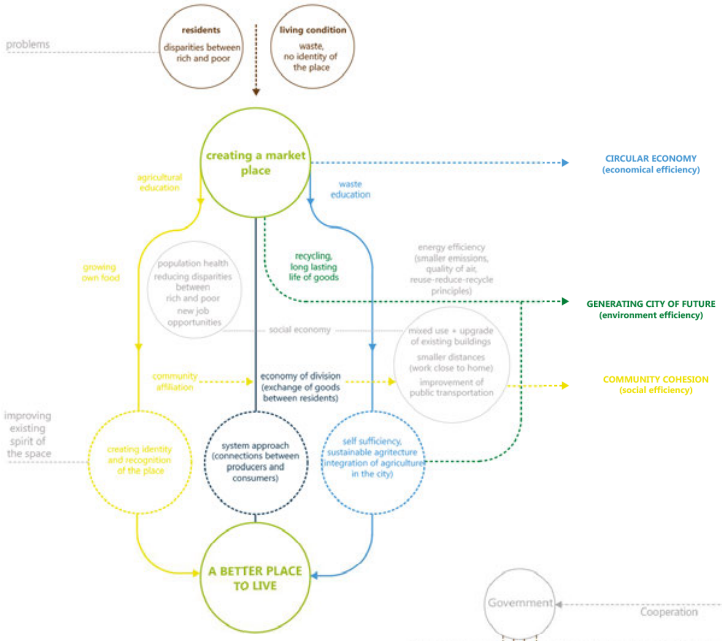
1

valorisation

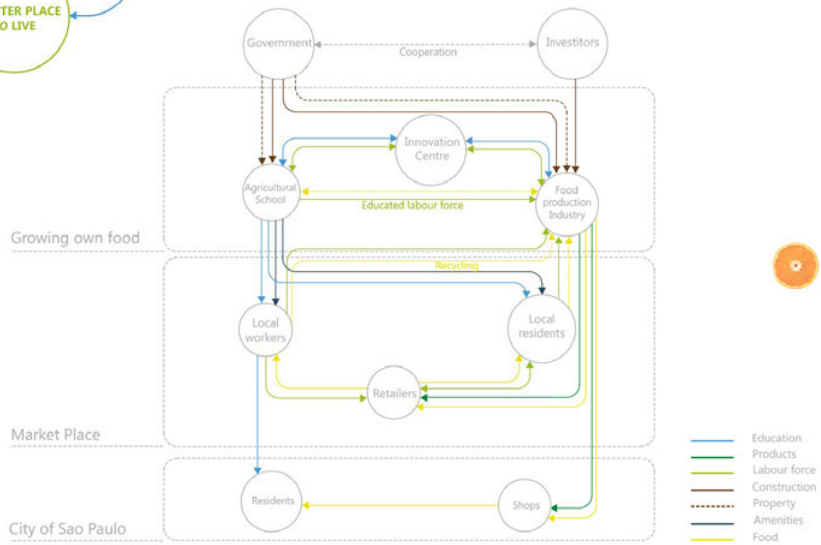
GREEN
THE CITY







NEW MARKET PLACE



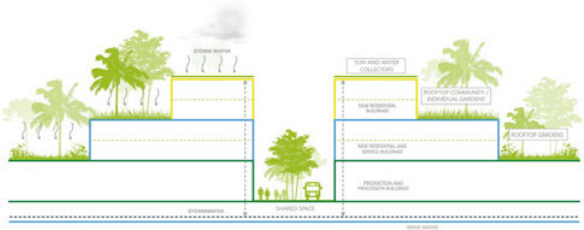
possible solution

2 IMPLEMENTATION 3

4

STARTS
CITY CHANGE

model for new city



PAST INDUSTRIAL AREA vs. NEW OPPORTUNITIES

A PLACE TO LIVE FOR 50.000 PEOPLE

population density of Sao Paulo : favela : Urban agritecture area = 7 : 28: 38 people

1. 800.000 m3 | 12 GWh | 2.800 T | 750.000 m2 | 68 %

PURIFIED AND REUSED RAIN WATER BY USING WTP AND WWTP CLEANING DEVICE

ENERGY FROM 4. 000 TONS OF PROCESSED WASTE

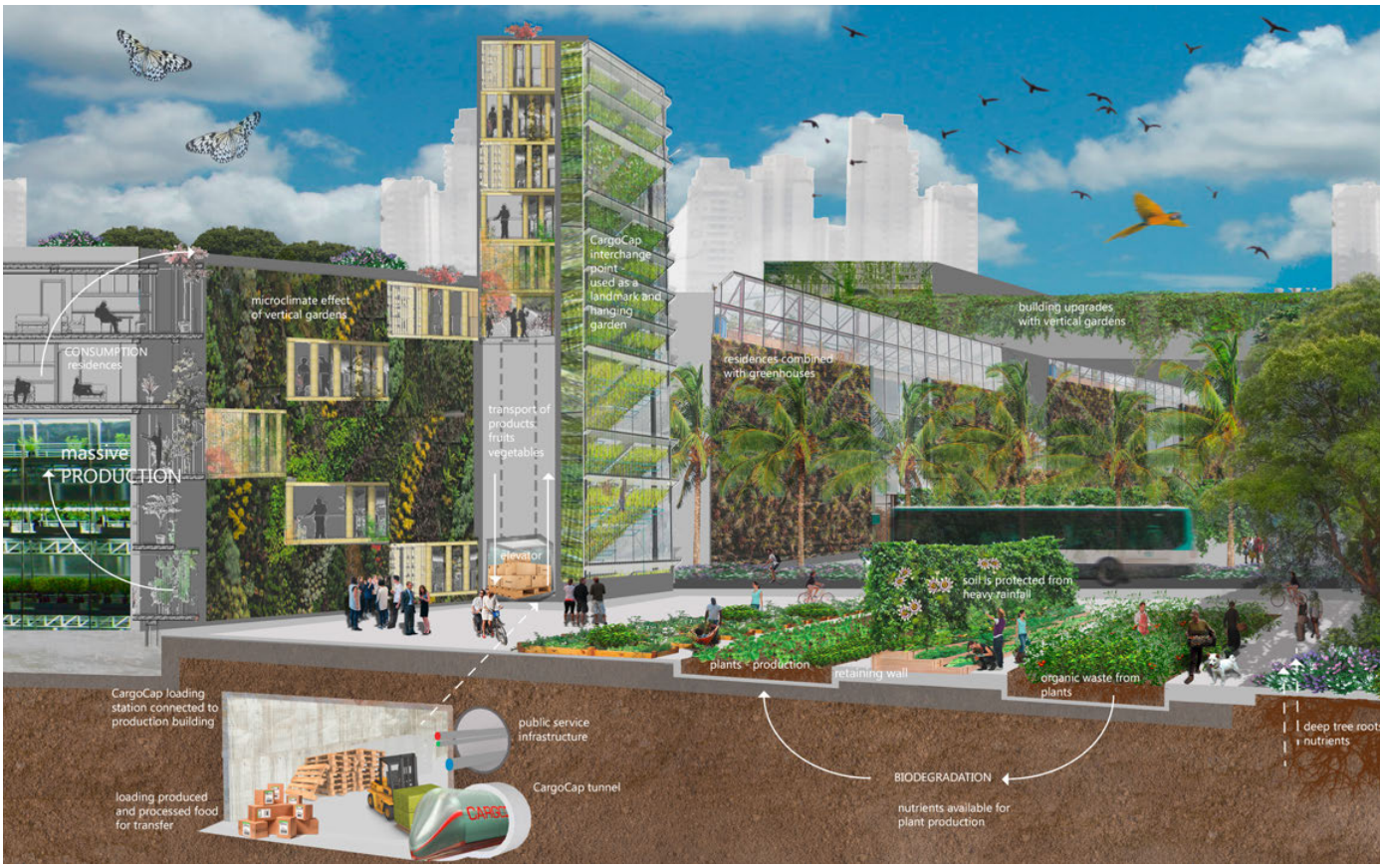
1. 800. 000 m3 of **biogas**

LOCALLY PRODUCED AND PROCESSED FOOD

aquaponics + hydroponics 2.360 T
community gardens 170 T
orchards 298 T

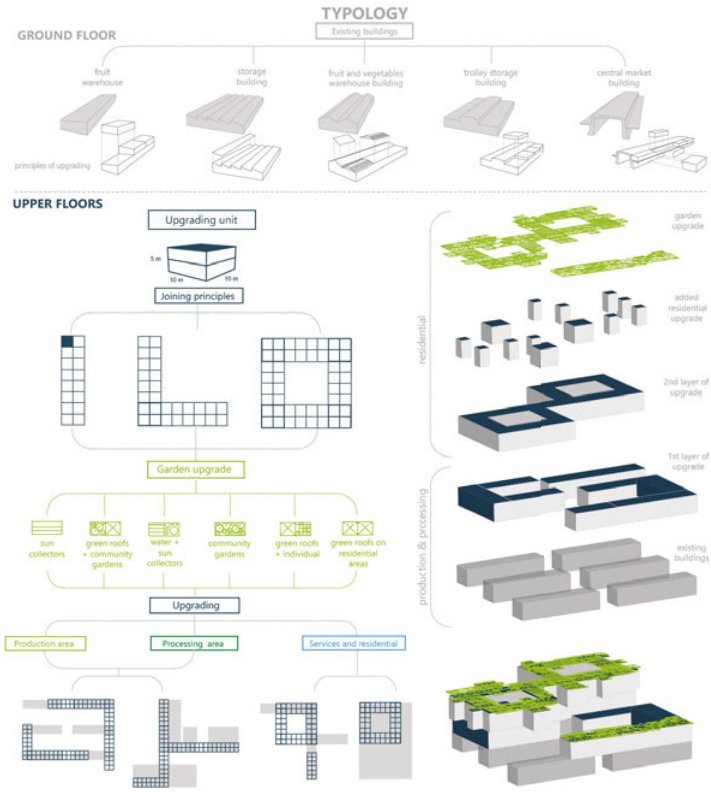
RESIDENTAL BUILDINGS, RENEWED AND UPGRADED, OFFERING HIGH QUALITY OF LIFE

MORE GREEN SURFACES, OFFERING OPPORTUNITY FOR HEALTHY LIFE STYLE



ORGANISATION OF THE AREA

5

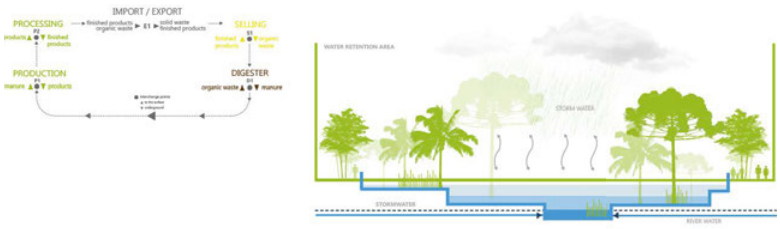


new city

6

7

effects of agriculture in urban areas

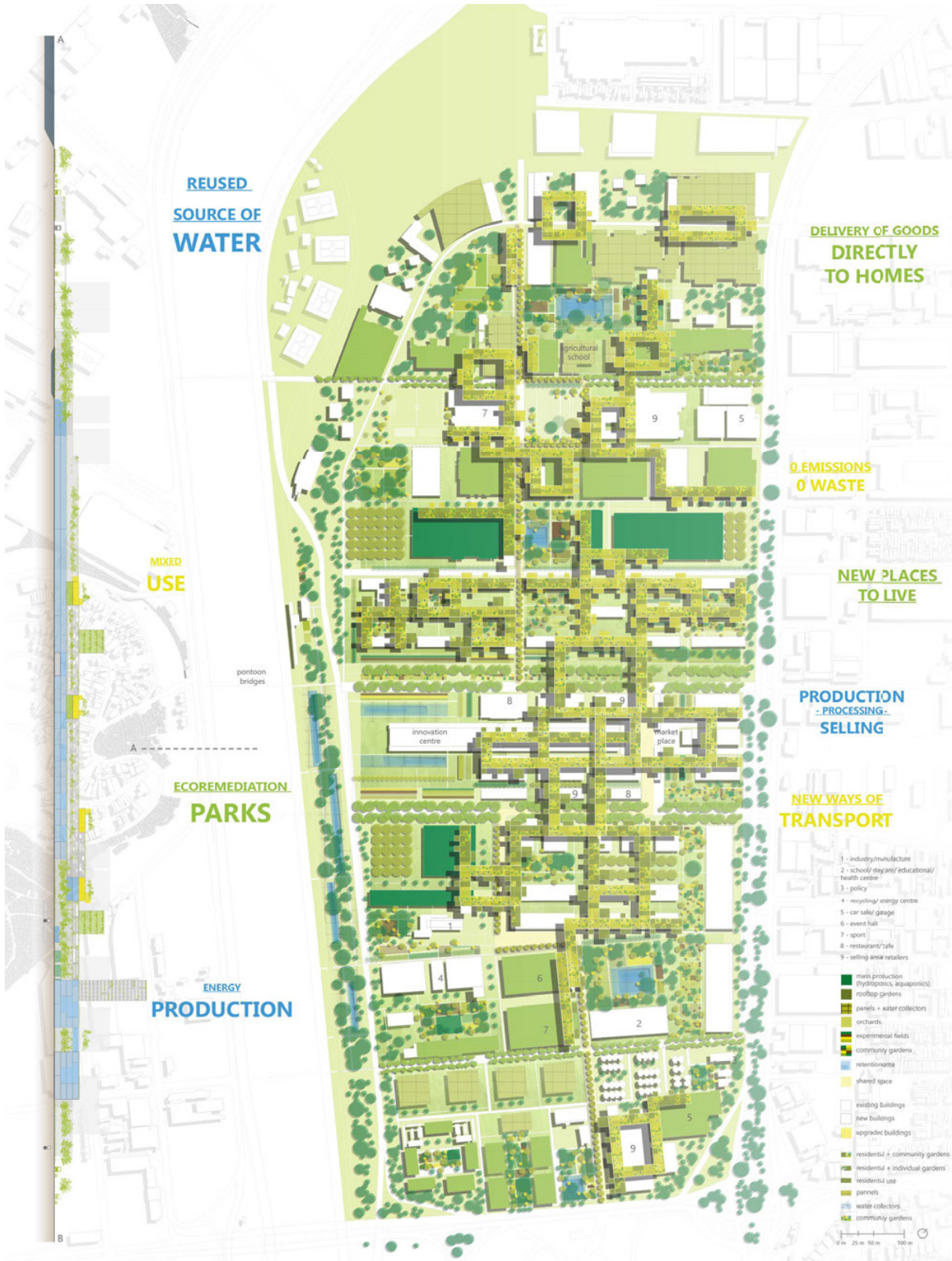


REVIVE

SAO PAULO

COMPONENTS

8


REUSED
SOURCE OF
WATER
DELIVERY OF GOODS
DIRECTLY
TO HOMES
0 EMISSIONS
0 WASTE
NEW PLACES
TO LIVE
MIXED
USE
PRODUCTION
- PROCESSING -
SELLING
ECOREMEDIATION
PARKS
NEW WAYS OF
TRANSPORT
ENERGY
PRODUCTION
pontoon
bridges
innovation
centre
market
place
A
B
1 - industry/manufacture
2 - school/ daycare/ educational/ health centre
3 - policy
4 - recycling/ energy centre
5 - car sale/ garage
6 - event hall
7 - sport
8 - restaurant/ cafe
9 - selling area retailers
mass production (hydroponics, aquaponics)
rooftop gardens
panels + water collectors
orchards
experimental fields
community gardens
retentionarea
shared space
existing buildings
new buildings
upgradec buildings
residential + community gardens
residential + individual gardens
residential use
pannels
water collectors
community gardens
0 m 25 m 50 m 100 m

CODA

AFTERWORD

Neil Runcieman

The vertical dimension defines contemporary cities. Multiple-story buildings enable the density of human life that we associate with urban areas. As buildings become taller and more complex, there is a greater focus on how we move within them – and how these interior circulation patterns connect to the exterior world.

Since the elevator was invented in the 19th century it has enabled buildings to grow in height and complexity. Schindler was founded in 1874 and over the succeeding 143 years has dedicated its considerable expertise and resources to making our contemporary cities possible through enabling – and optimizing – vertical mobility. For Schindler it became a logical and natural stretch to expand our sphere of interest and endeavor into the field of urbanization as a global movement, and Schindler's potential role in enabling future generations of cities, too. The future of our cities lies in greater interconnection of private and public space, and the smoother integration of all city components. This drives our in-house research, and in the case of the Schindler Global Award and other public initiatives, our engagement with the public about urban development. We see it as our responsibility to support sustainable and accessible cities.

The United Nations forecasts that this will be the century of the city, with up to 70 percent of people residing in cities by 2050. This growth will happen in the cities we know well, such as London or Shenzhen, São Paulo or Mumbai. Yet it will also happen in cities that are much smaller, and in cities that have yet to be built. At Schindler we work on every scale of vertical mobility, from single-story escalators, elevators that serve five stories or 50, or even more than 100. Our products are installed in social housing, in mixed-use towers and in luxury super-tall high-rises. In order to do this, we have to know about each facet of the city, how every building relates to the urban fabric – and most importantly, how people will inhabit and use buildings.

The future of vertical mobility is personal

Vertical mobility will evolve along two main vectors: access and interconnection, both powered by efficiency. Yet the future of vertical mobility will be increasingly personal. This evolution will mean that user-centric experiences in buildings will become increasingly sophisticated.

Schindler has a history of innovation when it comes to access in terms of user-focused efficient elevator operations. Our first step into human-enabled efficiency – as differentiated from efficiency derived from purely mechanical means – was the Miconic 10, introduced in the 1990s. This system used lobby-based destination control to route passengers to elevators based upon where they needed to go in a building. This increases handling capacity by up 35 percent in comparison with conventional push-to-call systems. Increases in handling capacity mean that more people can travel faster to their destination. This means elevators function more efficiently – and they can handle more people per shaft, helping in the puzzle of how to build buildings that allow greater numbers of people to circulate within them comfortably.

The Miconic 10 laid the groundwork for what became Schindler ID and now The PORT Technology. This is where things get truly exciting, and go beyond handling capacity and into a more holistic approach to efficiency and, ultimately, access. In the same way that destination control increases vertical transportation capacity and improves comfort for users, The PORT Technology helps us to enable people to do more in buildings – and between them.

Users of PORT Technology enabled buildings can smoothly go from entrance to elevator, at work or home, without pushing buttons – and without significant delay in waiting for building security or in front of an elevator bank. The potential of the system lies in its further integration into more aspects of daily urban life, enabling smooth and unbroken access to everything from public transport to lunch in a sky-lobby – or even crossing from one building to another though a sky-bridge. Entering into elevators that already know where to take you is possible now – and we can only imagine what further innovation will bring in the future.

Interior to exterior

Anyone who has spent significant amounts of time in the world's skyscraper cities, be it New York, Hong Kong or Kuala Lumpur, knows that city life happens both on the ground and in the air. Yet somehow these two dimensions are often thought of independently. Elevators and escalators depend on where these two dimensions meet: where the interior of a structure meets the exterior world. The pulse point of a building is the entrance and elevator lobby. This is where the transition from ground floor to upper stories begins – and where building occupants transition from being in public or semi-public space to being in more restricted, private areas.

How people move and access the city around them will undoubtedly change in the future. The performance demands associated with dense urban populations, who need to access the services of the city along with work and home, present challenges. Vertical mobility can contribute to better functioning cities and quality of life through innovation and creative thinking.

We like to think of the entire journey that a single vertical mobility user might take in a day. This is part of what led us to The PORT Technology, but it is also the kind of holistic thinking that leads us to invest in the future of our cities, and in understanding urban life and dynamics. We're invested in supporting the construction of sustainable cities. This starts with our products, such as the environmental certification of some of our systems over their whole lifecycle. We also innovate in terms of service, saving energy through apps that tell technicians which parts of what elevator need to be serviced – minimizing waste and trips to and from job sites.

This commitment to sustainable and responsible business does not end with our elevators. It can't. We see our role as that of a public service provider, getting people where they need to go in cities. Therefore we are interested in the cities of

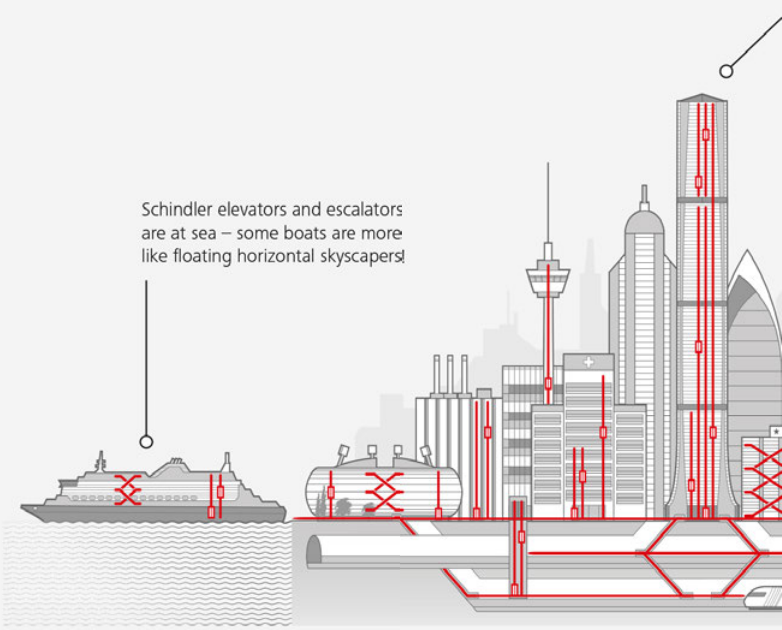
the future, from the changes in well-established world cities to entirely new urban areas that are yet unnamed. It is for this reason that we are committed to the Schindler Global Award.

The holistic thinking required of the student participants in the Schindler Global Award is part of our way of thinking about what we do. We innovate by getting outside the box of the elevator and thinking about how and why people move in the city. By encouraging student participants to take a broad view of urbanization,

Schindler and the City

Over the years we have transformed from an engineering company that manufactures elevators and escalators to a company focused on partnering with the cities of today and tomorrow to help build the urban areas of the future.

In 2014, the world's urban population was 3.9 billion...
this is forcasted to grow to 6.4 billion in 2050.
Our elevators, escalators and moving walkways move over
1 billion people per day.



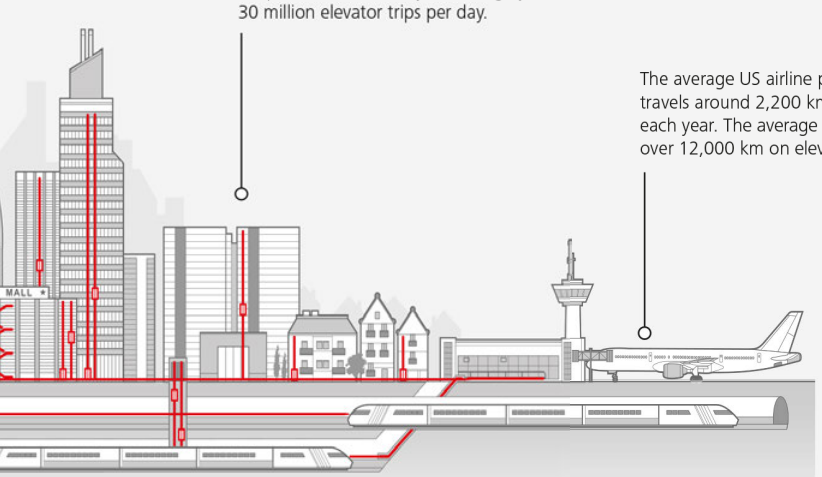
Cities have far more kilometers of elevators than rail and road combined. Our vertical transport goes further than horizontal modes!

to look at all of the inputs that are then used to make a specific urban design, they do a little bit of what we do at Schindler every day. It is only by embracing the complexity of our urban environments, and responding with holistic approaches to the challenge of creating sustainable, high quality places for everyone, that we can begin to create real solutions. Our future cities will be shaped in part by the people being trained today – and this is why we invest in the Schindler Global Award to help build a better tomorrow.

Hong Kong's ICC is one of our iconic acheivements. 15 Schindler elevators travel 484 m (1588 ft.), carrying over 30,000 visitors and employees daily. It takes as little as 60 seconds to get to the 100th floor – climbing the stairs would take nearly an hour.

People in New York City take roughly 30 million elevator trips per day.

The average US airline passenger travels around 2,200 km on airplanes each year. The average person travels over 12,000 km on elevators!



Modern cities are accessible for everyone – our vertical mobility solutions allow better access to urban services, such as subways.

PEOPLE

Marc Angélil is Professor of Architecture and Design at the Department of Architecture of ETH Zurich and founding partner of agps architecture with offices in Zurich and Los Angeles. His research at the Network City and Landscape (NSL) focuses on social and spatial developments of large metropolitan regions worldwide, with a particular focus on the political economy of territory. He is currently co-authoring a book with Cary Siress entitled *Mirroring Effects: Tales of Territorial Production,* due to be published in late 2017.

Ciro Biderman is a professor in the PhD program in public administration at Fundação Getulio Vargas (FGV) and associated research at the Center for the Study of the Politics and Economics of the Public Sector (CEPESP / FGV). He got his post doc in Urban Economics at MIT in 2007 and his PhD in Economics at FGV / EAESP in 2001. His research interests include urban and regional economics focused on public policies at the sub-national level, with particular emphasis on transport economics and land policy. He is currently the coordinator of mobiLab the mobility laboratory for open data and protocols for the city of São Paulo.

Jessica Bridger is an urbanist, consultant and journalist. Her consultancy is focused on projects related to urban development, innovation and the built environment, specialized in project development, communications and strategy. She works as a media consultant for the United Nations, centered on the New Urban Agenda, which will guide the next two decades of urban development. Since 2013 she has been a member of the management committee of the Schindler Global Award. She is the author of *Metropolis Nonformal* (2016), with Christian Werthmann. Her writing, editing and research are published in books and magazines, including Monocle, Metropolis, Topos, Architectural Review, Landscape Architecture Magazine and Volume among others. She is a contributing editor for Monocle Magazine. Bridger received her Master of Landscape Architecture from Harvard's Graduate School of Design.

Kees Christiaanse studied architecture and urban planning at TU Delft, was partner at the Office for Metropolitan Architecture (OMA) and in 1989, he founded his own company KCAP Architects&Planners which now has offices in Rotterdam, Zurich and Shanghai. Since 2003, he is Professor of Architecture and Urban Design at ETH in Zurich; prior to this, he held a professorship for architecture and urban planning at the Technical University of Berlin. He is Program Coordinator at the Future Cities Laboratory (FCL) Singapore, where he has been involved since its start in 2010 and acted as Program Leader until 2015. Within FCL, he is in charge of "The Grand Projet", a research initiative focused on exploring the characteristics and mechanisms of large urban projects in both Europe and Asia. He also acts as co-principal investigator of the Urban-Rural Systems project. Next to his work as an architect, Christiaanse focuses on urban assignments in complex situations and on guiding of urban processes. He is a consultant to several airports and expert in the development of university campuses and in the revitalization of former industrial, railway and harbor areas.

Diane E. Davis is the Charles Dyer Norton Professor of Regional Planning and Urbanism and Chair of the Department of Urban Planning and Design at Harvard's Graduate School of Design. Her research interests include the politics of urban development policy, socio-spatial practice in conflict cities, and the relations between urbanization and national development. With a special interest in Latin America, she has explored topics ranging from historic preservation and informality to urban social movements and urban governance. Her books include and *Cities and Sovereignty: Identity Conflicts in the Urban Realm* (2011), *Discipline and Development: Middle Classes and Prosperity in East Asia and Latin America* (2004), and *Urban Leviathan: Mexico City in the Twentieth Century* (1994). She currently directs *Transforming Urban Transport: The Role of Political Leadership,* a research project funded by the Volvo Research and Educational Foundations, and is co-principal investigator of a study of social housing funded by INFONAVIT, a federal agency in Mexico. Davis leads the Mexico City Initiative at the GSD.

Elisabete França, PhD, founded her thirty-year career on the urban development of the city of São Paulo and shared her experience with other cities and countries. Since April 2015, she has been the Director of the São Paulo State Housing and Urban Development Company, an office engaged in the conception of housing programs to combat urban poverty. Since 2014, she has been a professor at the Fundação Armando Alvares Penteado (FAAP) and at the USP Cidades. From 2005 to 2012, while at the Housing and Urban Development Authority for the city of São Paulo, França headed Latin America's largest slum-upgrading program, which was awarded a UN-HABITAT Scroll of Honor in 2012. França has served as a consultant involved in international affordable housing and urban regeneration projects in South and Central America, Mexico and East Timor.

Fabienne Hoelzel is Professor of Architecture and Urban Design at the Stuttgart State Academy of Fine Arts and the founding-director of FABULOUS URBAN, a design, research and planning practice for less developed regions, after working for one of Latin America's largest slum-upgrading programs as the head of the urban design and planning team at the Housing and Urban Development Authority of São Paulo, Brazil, that was awarded in 2012 the UN Habitat Scroll of Honor for its pioneering work. From 2008 to 2017, Fabienne held a research and teaching position at the Institute of Urban Design at the ETH Zurich, where she was as well the Academic Co-Project Manager of the 2017 Schindler Global Award. She lectures and writes on a regular basis. FABULOUS URBAN is currently involved in a series of community empowering and strategic slum-upgrading solutions in several slum areas in Lagos, in collaboration with the Nigerian Slum / Informal Settlement Federation and JEI.

Andre Inserra has worked for nearly three decades in industries related to the built environment and constructed landscape. From 2012 until 2016 he was CEO of Atlas Schindler, and since 2016 has served as Member of the Schindler Group Executive Committee, Responsible for the Americas. Prior to joining Schindler, he worked with ABB in Brazil, the United States and Switzerland. A native of Brazil, Inserra holds a degree in mechanical engineering from FAAP (Fundação Armando Alvares Penteado) in São Paulo, Brazil and a master's degree in industrial management from Chalmers University of Technology in Gothenburg, Sweden.

Dimitri Kron is an architect, urbanist and researcher. He received his MSc ETH Arch degree from ETH Zurich. Since 2012 he has been a research and teaching assistant at the chair of Professor Kees Christiaanse. He taught various urban design studios and is the Academic Co-Project Manager of the Schindler Global Award, an international student urban design competition. As a freelance architect he works for several offices, with a specialization in web design, IT advice and support specific to architectural practice. Prior to this he worked with Bischof Föhn Architects.

Fernando de Mello Franco was Secretary of Urban Development at the City of São Paulo, Brazil, from 2013 to 2016. He is an architect and holds a PhD degree from the Faculty of Architecture and Urbanism of the University of São Paulo. He has taught at the Architecture and Urbanism program at São Carlos' School of Engineering of the University of São Paulo. He was also a visiting professor at Harvard University. He was a founding partner at MMBB Arquitetos, and curator at the Institute of Urbanism and Studies for the Metropolis (URBEM).

Andrea Murer is a Senior Project Leader at Schindler Group, where she has headed the Schindler Award since 2011. She led the conversion of the former Europe-focused Schindler Award into a global urban design competition open to students from all over the world. Her professional work is based in international relations and communications, with a focus on mobility and technology to raise global awareness of sustainability issues. Murer holds a Masters in Communication from the Lucerne University of Applied Sciences and Arts in Switzerland.

Konrad Rothfuchs studied civil engineering as well as urban planning. Since 1987 he is a partner of ARGUS Urban and Transport Planning, based in Hamburg. In addition to mobility concepts and traffic models, he focuses on the integration of urban traffic infrastructure in sensitive urban settings. He is the Head of the Association of Freelance Road Construction Engineers in Hamburg (VFIS), Vice President of the Federal Association of Road Construction and Traffic Engineers (BSVI) and the Hamburg Chamber of Construction Engineers. He is also a member of the Urban Development Council of the Hamburg Chamber of Architects.

Neil Runcieman heads the Employee and Customer Communication Department of Schindler Group. He has over 30 years experience in the field of communication. His previous roles include Director of Marketing for Jardine Schindler Group, based in Hong Kong, and for seven years he was the CEO of the largest independent digital services agency in Greater China. Runcieman holds a Masters in German from the University of London.

Christian Scheler M.Sc. studied Urban Design at the HafenCity University Hamburg and Istanbul Technical University. He works as a mobility consultant for ARGUS Urban and Transport Planning in Hamburg. While at ARGUS he was involved in the development of a mobility concept for the first inner-city IKEA in Hamburg-Altona, which was awarded by the German Federal Association of Road Construction and Traffic Engineers in 2016. He taught at the chair of Urban Design and at the chair of Urban and Regional Economics at the HafenCity University in Hamburg. Currently he is a research associate for "Integrated traffic planning and new mobility" at the University of Kassel, focusing on flow design and the correlation between digitalization, mobility behavior and urban infrastructure.

Cary Siress is an architect and researcher in urban studies at ETH Zurich. He was formerly a professor at the University of Edinburgh and a senior researcher in territorial organization at the Future Cities Laboratory in Singapore (FCL). His research pertains to global urbanization processes and how human and material realms become entangled under various political-economic agendas. He is currently co-authoring a book with Marc Angélil entitled *Mirroring Effects: Tales of Territorial Production*, due to be published in late 2017.

Georgeen Theodore is an architect, urban designer, and Associate Professor at New Jersey Institute of Technology's College of Architecture and Design, where she is the Director of the Master of Infrastructure Planning program. She received a Bachelor of Architecture from Rice University and a Master of Architecture in Urban Design from Harvard University's Graduate School of Design, where she graduated with distinction. Theodore is a founding partner and principal of Interboro, a New York City-based architecture and planning research office. Since its founding in 2002, Interboro has worked with a variety of public, private, and not-for-profit clients, and has accumulated many awards for its innovative projects, including the Rice Design Alliance Spotlight Award (2013), the Museum of Modern Art PS1's Young Architects Program (2011), the Architectural League's Emerging Voices Award (2011) and Young Architects Award (2005), and the AIA New York Chapter's New Practices Award (2006).

SCHINDLER GLOBAL AWARD 2017

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Kees Christiaanse

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INNOVATION
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INFRASTRUCTURE
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EQUALITY
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TRANSFORMATION
ACCESSIBILITY
PIONEIROS