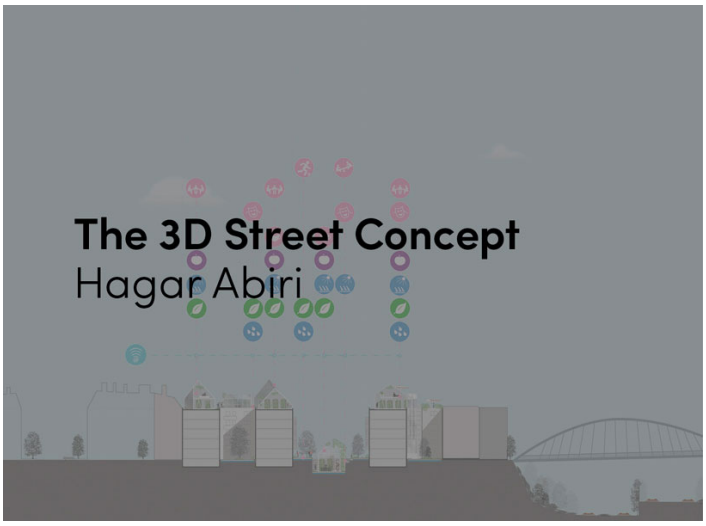

THE 3D STREET CONCEPT

Posted on July 24, 2019 by martabuges

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Alongside renovated buildings with roof tops converted into living spaces, there are many unused attics. In the past, attics were used as a storage/service space. Today, whether polluted with DDT or not, the attic is an unused space with great potential.

The suggested concept emphasizes and demonstrates that potential, bringing business solutions that could turn the conceptual project into a tangible one, where no one is compromising or being compromised. On the contrary, the idea is to upgrade lifestyle and make sure everyone profits – dwellers, street users, the city and the environment.

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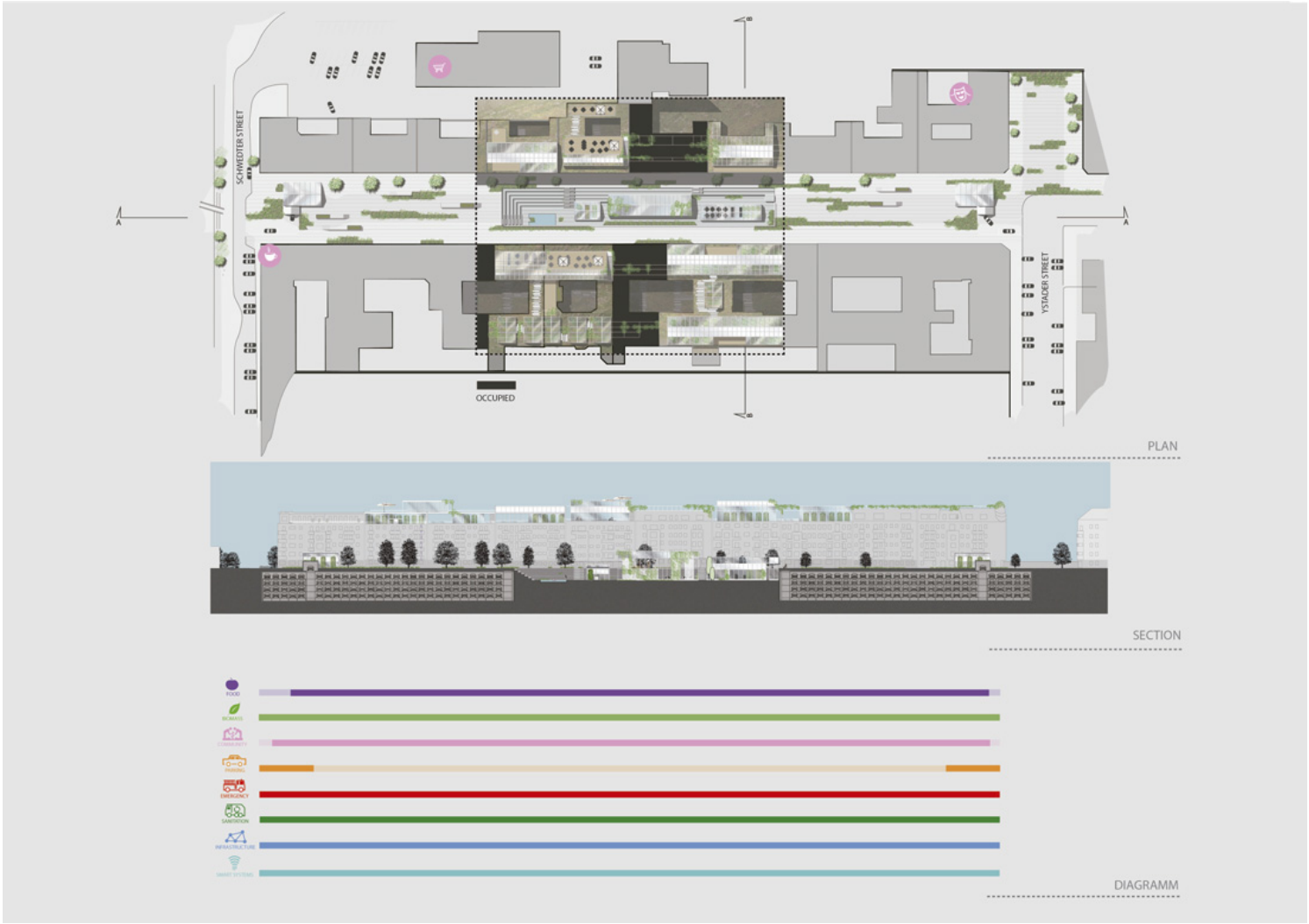

Location

The location for the case study (the western part of Kopenhgener Street 10437) was selected for its small scale, unique situation (next to the Mauer Park) and social texture (high presence of foreigners and young families). Another main parameter, due to the fact we planned to ban cars from entering the street, was to find a dead-end street. The idea is to give the street back to the people without causing discomfort to the car owners or to traffic around it.

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The street continues the Mauer Park's path for pedestrians and cyclists. Cars on the other hand use it as a parking place mostly. Since the street is blocked on one end, it is not used as a vital traffic artery and so car owners who use the street as a parking place will upgrade their parking search experience, parking location and conditions while reducing their need to even use the car – in a positive manner.

Also, keeping the city's interest in mind, we were looking to upgrade the traffic/ parking situation for all street users. The proximity to a sports complex (where concerts and sports competitions are held) looked like an opportunity as it attracts audience that overloads the streets around it with private cars and parking spaces are always at a shortage.

Elements

· Mixed-Use Community

The free attics will be converted to greenhouse-like spaces which will repeat on the ground level in the center of the street. Those spaces will facilitate a variety of commercial functions such social businesses, co-working spaces, urban farming, cafés/restaurants, formal and non-formal educational facilities and programs, from a kindergarten to initiatives where people of all ages, from kids to seniors, take part in the food growth process, or private/community-based initiatives in a designated, semi-public space.

Another type of structure is a sheltered, partly open space for outdoor activities on rainy, dark days. The structures are located at a lower level than street level to allow light and privacy for the ground floor apartments.

· Food

It is an opportunity to place food at the center and be aware of its impact on our bodies and on the environment. The project emphasizes urban gardening methods combined with other activities and purposes, such as education and restaurants in close proximity. A shared kitchen and dining room could offer fresh food for the kids who live on the street coming back mid-day at a subsidy price. The crops can be sold in the local store alongside other products.

· Parking

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Underground robotic parking, using existing technology that stores cars with minimum space uses. No need to look for a parking space, and the car is safely stored. Using this efficient parking mode will double the available space for parking, so it could contain the tenants' cars and could be rented per hour/day for the neighborhood's residents, stadium visitors, etc.

• Infrastructure, Water & Energy

Renovating the street is an opportunity to integrate a smart system to manage, collect and recycle water and energy. Renewable energy could be harvested by replacing the roof tiles with photovoltaic glass (that means turning the attics into energy harvesting greenhouses) combined with white panels to increase light reflection. Rainwater could be collected, and grey water could be recycled. Also, the street could be re-paved using a method that allows the rainwater to seep back into the ground.

• Technology

The smart system will synchronize the various uses, send updates on new community activities, and share information. The system will also provide access to information regarding the amount of energy harvested and consumed, the quality of water and air, and it will coordinate garbage disposal. Also, the smart system could synchronize your route and prepare the car for departure in advance and will be ready to store it back at the time of your arrival.

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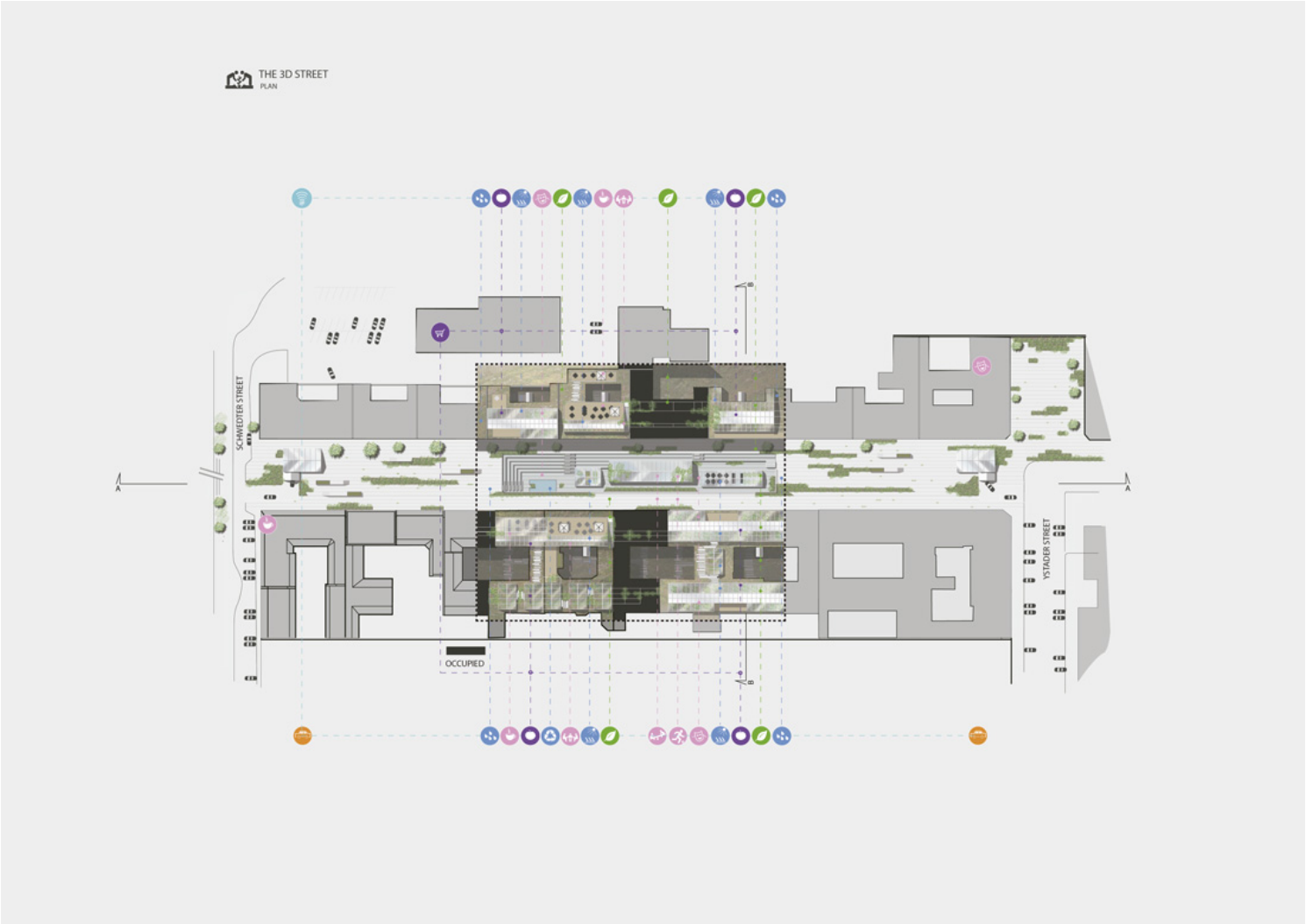

Public Benefits

· Global Perspective

Green architecture, zero energy buildings, and reducing our carbon footprint are not just passing architectural fashionable slogans; they are a basic starting point in planning. Today, we need to find creative ways not only to do no harm but also to try to reverse the damage humanity has been causing since the early 19th century. Therefore, we are looking to add more green space, allow rain water to filter back into the soil, recycle grey water, generate energy from clean sources and

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encourage people to use their cars less by turning their street into a little village where everything they need is within walking distance. It all starts and leads to encouraging a new typology for food consumption, work and leisure.

• Local Perspective

On December 31, 2014, Berlin covered 892 km^2. More than 41% was buildings and associated open spaces, and about 15% was traffic areas. Recreation areas covered 12% and production areas 0.6%. The 3D Street project's aim is to convert some of the built and traffic areas into green areas without eliminating housing units. Converting the street and the roofs into a green, mixed-use space will allow greenery to penetrate deeper into the housing areas and will serve more than the street's tenants. It will serve anyone who will use the 3D street's facilities (offices, restaurants, greenhouses, playgrounds, etc.).

Street Tenants' Benefits

• Light

The sun in Berlin is very rare and very much appreciated. Given the dense typology, you get an obsessive (but justifiable) preoccupation with natural light. The right to natural light is the basis of planning guidelines. Replacing the cladding with transparent, reflecting material will increase light distribution. Light will be intensified by reflective material/color and will penetrate deeper on the lower floors.

• Air

Eliminating cars and replacing the asphalt with greenery and soil will improve the air supply on top of the improved views when looking out of the windows.

• Safety

Today, with minimal space in the inner courtyards, kids must go to a playground in order to find a secure space to play in. If the kids are very young, it should be a premeditated activity as an adult should supervise. There is nothing simpler and more natural than kids running outside of the building and into the street to play under the neighbors' watchful eyes, with no cars to occupy the space and put them at risk.

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Having a people-friendly street will encourage random as well as planned meetings between the neighbors. People will know their neighbors and with more familiar faces, the street becomes safer.

• Nutrition

One of the critical issues of our time is food consumption. People, mostly in the cities but also outside of them, have lost touch with the production process of the food they consume. With rising awareness of health and environmental implications resulting from modern food consumption habits and remote mass production, people are looking to gain this connection back. Today, there are many farmers' markets events over the weekends, scattered throughout the city. The next step is to have the neighborhood store serving as a fresh market, where the local production of the street could be offered.

• Lifestyle

Growing your own food or knowing exactly where it is coming from, expanding your living space into the street and living with a great proximity to leisure activities will not only improve lifestyle but will revolutionize lifestyle. Then, with more common areas, the private space could be downsized (/shared) and with renting the roof space to 'the street' (for the use of urban gardening/office space/ kindergarten, etc.), expenses would be reduced.

Families with young kids could let their kids play just outside the building (almost) care-free under the non-formal supervision of familiar, friendly faces. Also, with the Berliner climate, especially in wintertime a well-lit, sheltered outdoor playground will allow kids stay outside on dark rainy winter days.

In 2010, 54% of about 2 million private households in Berlin were single-person households. According to Eric Klinenberg, nearly 50% of the western population lives alone. Klinenberg claims that the people who live on their own are spending more time outside their homes and generating most of the private-sector economy (cafés, bars, gyms, co-working spaces, etc.) as they spend more time outside than married couples/families. As such, not only families will enjoy the new urban space but single people as well. Moreover, people who live alone are not only spending more money in commercial places, but they also volunteer more and are more active in community life.

Seniors who live alone will also upgrade their lifestyle. They will have a supportive environment to cultivate a community that will allow them to grow old in their own apartments on their own terms. In a more pragmatic manner, installing elevators in some buildings will allow elderly and disabled

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people to go out more easily and therefore more often. When investing in the common good, it allows people to live as best they can, regardless of outdated social norms. Simply put, it makes them happier.

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Economic Benefits

A project at this scale takes time, capital and many risks. However, over time it pays for itself. Turning the existing street into a self-sustaining, 3D street with unique mixed-use elements and content will have the potential of generating a productive hi-tech, commercial and tourism hub. The apartments' value will rise, and it will be a selling point when offering the new rooftop greenhouse-like spaces for rent as offices, restaurants/cafés, sports centers, etc.

The building's owners could sell the rooftop or rent it out or even become active partners, thereby

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gaining more control over the project's narrative. Renovation on this scale (strengthening the roof, adding elevators, inserting smart energy saving/ generation systems, water collecting and recycling systems) will not only add value to the property but will also buy it more years of existence.

The energy production which could feed into the city grid, water efficiency and rain collection could save costs to street tenants and beyond. The parking robot could pay for itself by renting out about 150 extra parking places (relevant to the specific location of the project). Elements such as urban gardening and educational programs alongside commercial activities (businesses that provide work opportunities) could supply voluntary/employment opportunities for the elderly and young people. This intergenerational meeting point has a communal and educational value that translates into a public economic value. Opportunity for after-school youth activities, combined with volunteerism, may be of long-term value in reducing the crime and delinquency index.

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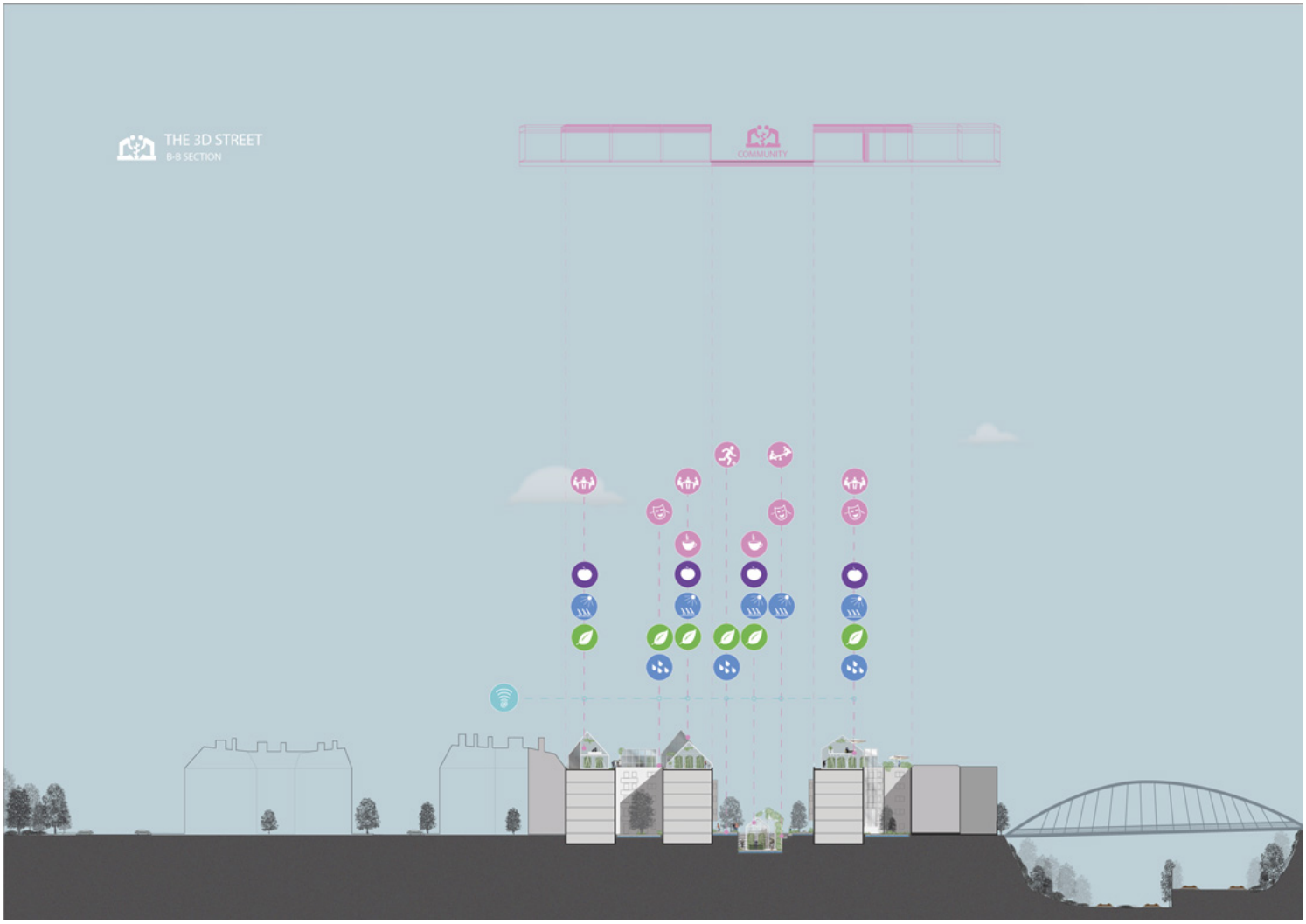

Concluding Remarks

To support the effort of generating a healthy society, it is crucial to have a built environment that allows for the evolution of social habits. It is important that our most robust urban landscape be adapted to new social and technological trends. With infrastructure and structures over 30 and 100 years old and the difficulties with predicting the future, it is not an easy task nor one that has guidelines in the government planning office's rulebooks. However, there are many empty structures and unused spaces (outdated office buildings, hangars, old military facilities, a variety of

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rooftops, etc.) that have been overlooked for economic reasons or poor location, where a potential is to be found. With the right concept and an attractive business solution to finalize it, these places could thrive.

Moreover, we can challenge our environment and generate a social trend through architectural measures: from spatial planning to urban planning to interiors, it should all relate, support and generate the social evolution by locating a potential and promoting a concept alongside a financial plan.

In Berlin in 2019, housing plays a big role in the political discourse. Social Berlin is torn between the past, its social essence, and the desire to develop and play the role of a leading city in the world. Turning the city's roofs into exclusive residential apartments, spearheaded by entrepreneurs and private capitalists, is a legitimate process that contributes to densification of the city and provides an opportunity for urban renewal as a result of the investment. However, the alternative we present in this proposal is to make the remaining roofs, which are the most desirable part of the building, a semi-public area that everyone can enjoy and benefit from.

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