Luca Fontana

HAVEN

The public interlace for social inclusivity
in post-renewal Copenhagen

Research Book

Public Building Graduation Studio
2019-2020

Mentors
Prof. ir. Nathalie de Vries
Ir. Paul Kuitenbrouwer
Ir. Gilbert Koskamp

Seminar Tutors
Dr. Sang Lee
Dr. Nicola Marzot

Haven is the ambition to change a social condition through architectural form and its contingency. It showed the limitation of architectural dimensions to affect urban phenomena and, therefore, it needed a premise: a vision on the future of public spaces.

Haven is a journey through a multitude of theories, ideas and data which enriched every design choice.

This Research Book is the essential counterpart to the architectural project.

Public Building Graduation Studio
Public Condenser, The Hague – Copenhagen
AR3AP131

TU Delft
2019 - 2020

CONTENTS

Research

Public Intensified Network

8 City / Connections / People

16 Essay: *How will we encounter?*

32 Public Condensers

47 Manifesto

Design

Haven

56 Site

58 Urban and Local

60 Unbuilt Area

62 Morphology

66 Bike Capacity

74 Program of social mix

Plants Abacus

Public Intensified Network

Research

CITY

LIMIT TO DENSIFICATION

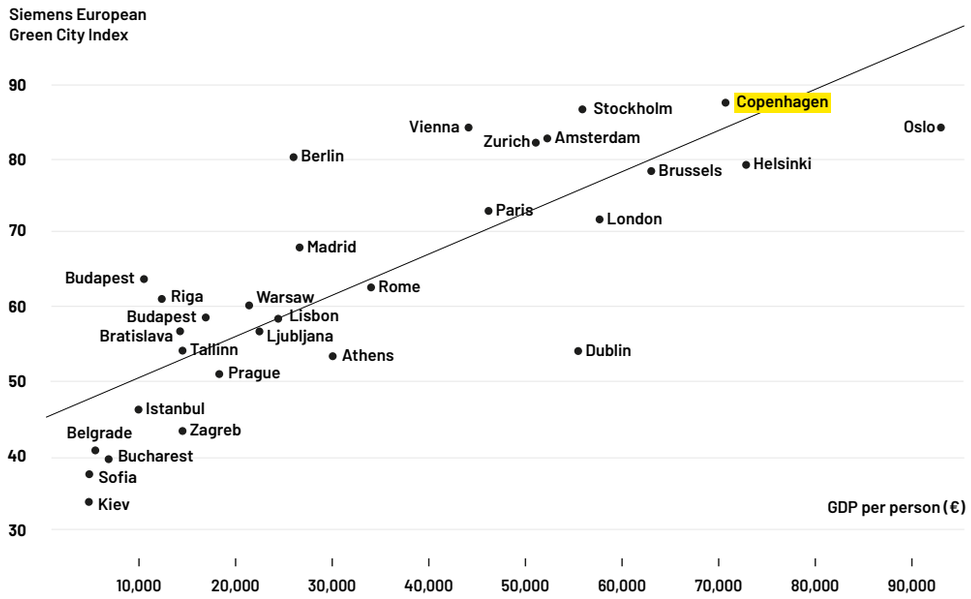
The urban renewal demonstrates the importance of recovering unbuilt areas in the urban fabric for public recreational purposes. Around Skydebanehaven, the municipality demolished a significant number of buildings and the projects of the last 20 years focused on outdoor spaces: courtyard, playground or pocket parks.
Copenhagen entered a process of deurbanization and expansion to the suburbs since the 1990s.

Map of Demolitions around Skydebanhaven between 1991-2005.

Old Kongevej from Codanhus, 1981

UNAFFORDABLE LIVABILITY

The livability of the city, based on the variety of public spaces, services, accessibility and welfare is counterbalanced by the gentrification. The price of the houses increased of 40-50% in the last two decades. Despite the quality of the public life, not every social class can afford to live in Vesterbro.



BARRIERS, THRESHOLDS

'The large presence of fences and walls in the Vesterbro illustrates a friction in the transition between public and private space. This friction appears to be even stronger when the facilities in these spaces is considered; either side of the fence typically contains the same furniture. Skydebanehaven is a patchwork of different urban spaces. The project site is almost completely located inside a building block. Like many of the blocks in Vesterbro, it has varying levels of privacy: a gradual transition with hard edges. All the different zones are divided by fences and walls.'

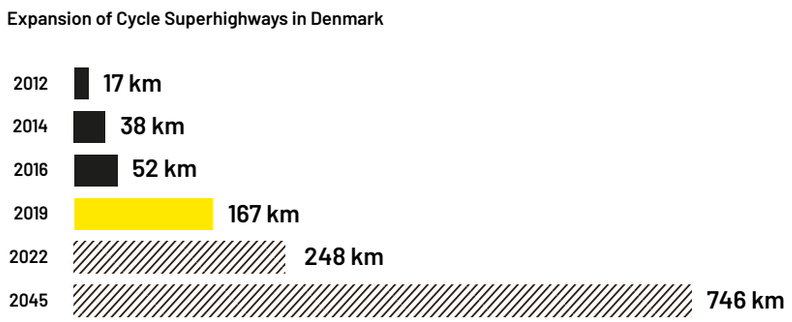
Aerial view of Nørrebro during the music event Distortion in 2006.

CONNECTIONS

CYCLE SUPER HIGHWAYS

'In 2025 there will be a PLUSnet for cyclists in Copenhagen, consisting of chosen Green Routes, Bicycle Superhighways and the most congested bicycle routes. The PLUSnet ensures a high level of quality for space, intersections and maintenance so that many cyclists can travel securely and comfortably at the tempo that suits each individual.' (eltis, 2011)

The network of cycle superhighways is crucial for the Capital Region of Denmark to become the leading cycle region in the world.



COPENHAGEN CONNECTING

'Copenhagen Connecting is an initiative bringing together citizens, businesses, government and research organizations in building data-collecting infrastructure and aggregating it on an open platform for the benefit of the city. This data-network infrastructure will connect parking systems, traffic lights, municipal buildings, smart metering systems and charging stations for electronic vehicles so that the city can direct traffic in real time, help citizens find parking spaces without idling and optimize energy usage in municipal buildings and street-lighting systems according to weather conditions, traffic movement and fuel prices.'

(Copenhagen: A Smart City is a Better City, Western Digital, 2011)

Camilla Siggaard Andersen 's Article on Gehl Blog

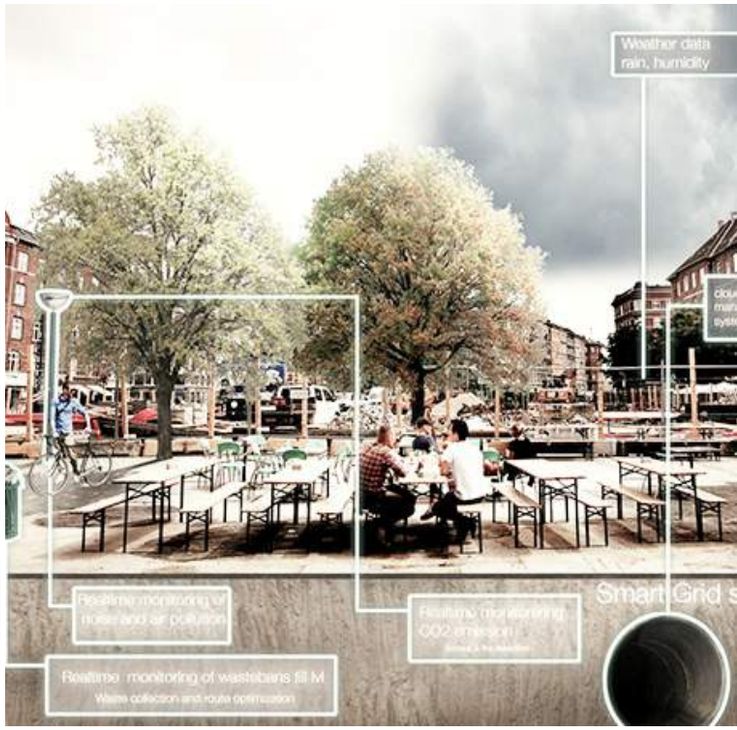
SMART COPENHAGEN – WHAT'S IN IT FOR ME?

For years, Copenhagen has exported its Hans Christian Andersen fairy tale-like quaintness with an added spice of a generous welfare system and a profound respect for recreational time. For the 21st century, Copenhagen will not just be exporting world-class 'livability'; it will also brand itself on being a 'smart city'.

PLUSnet map for cycle lanes improvements (eltis,2011)

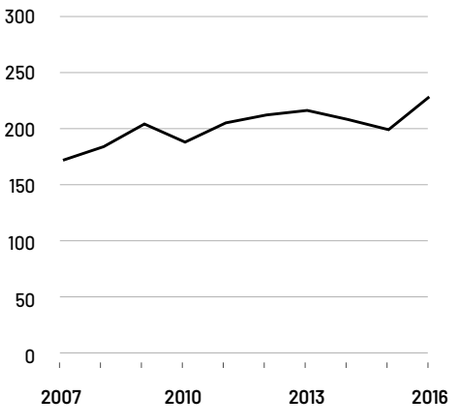
New cycle superhighways in Denmark completed by 2021. (supercykelstier.dk)

'The bicycle traffic is monitored and displayed all over the city, so even on a snowy, cold day, you can see you are no. 2937 to cycle along. The city collects this data and uses it to motivate more bicycling.'

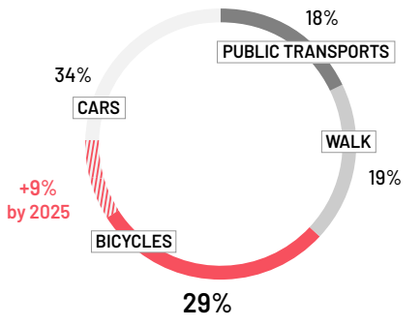


This image created by Copenhagen Solutions Lab, depicts the city as a living organism wired into an electronic data system that collects and compares data in real-time. The picture shows people at a picnic table – but how does the smart city change their experience of having lunch in a public plaza?

Millions of cycle journey



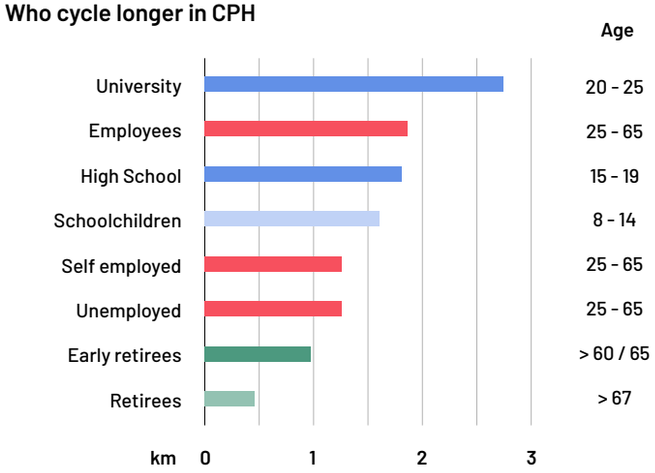
All trips in CPH
2016



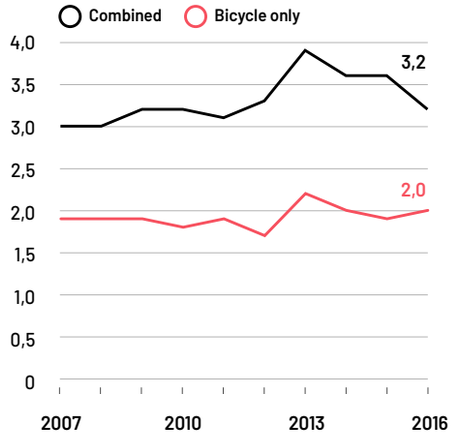
The Bicycle Account 2018 : Copenhagen City of Cyclists, TMF. (www.kk.dk/cityofcyclists)

The Bicycle Account 2018 : Copenhagen City of Cyclists, TMF. (www.kk.dk/cityofcyclists)

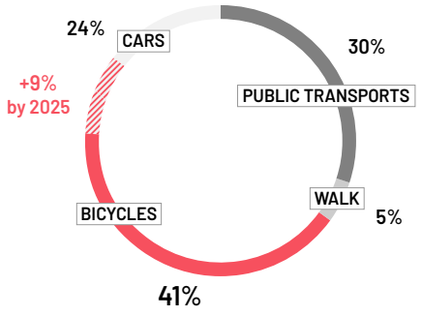
Who cycle longer in CPH



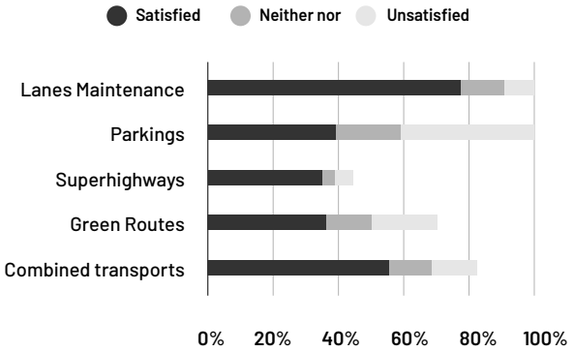
Average lenght of cycle journey
(km)



Journeys to work or study in CPH
2016

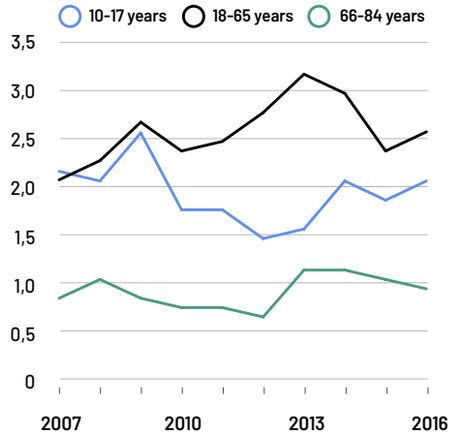


Cyclist Satisfaction in CPH

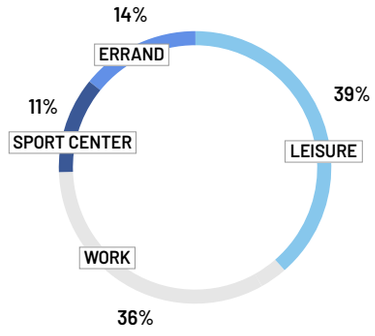


Over 60% of non-locals might be reaching the project site by bicycle, and more in the future.
That suggests the need of newly designed bicycle parking close to main public facilities.

Daily distance cycled by age group
(km)



Where CPH cyclists go
2017



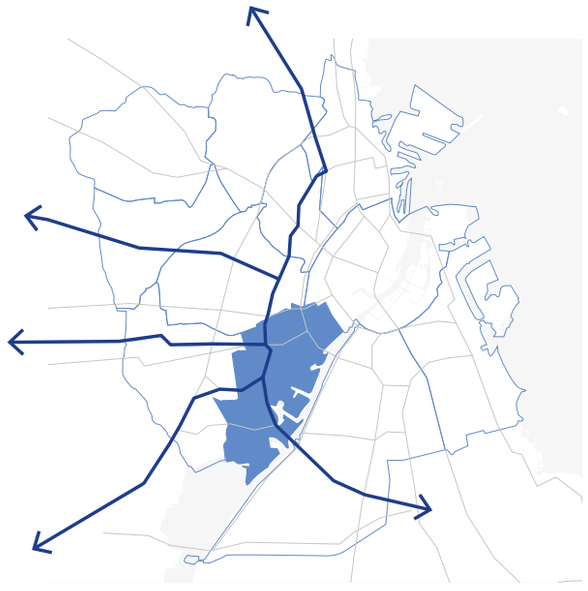
PEOPLE

'Copenhagen's urban redevelopment policies in recent decades have focused more on the 'renewal of deprived neighborhoods than on promoting housing affordability'. Public Intervention aimed at renewing deprived neighborhoods, Vesterbro included.This led to a population change in which entire neighborhood once populated by working class, were during the time replaced by a middle class, much less demanding for services and grants offered by the generous Danish welfare system.'

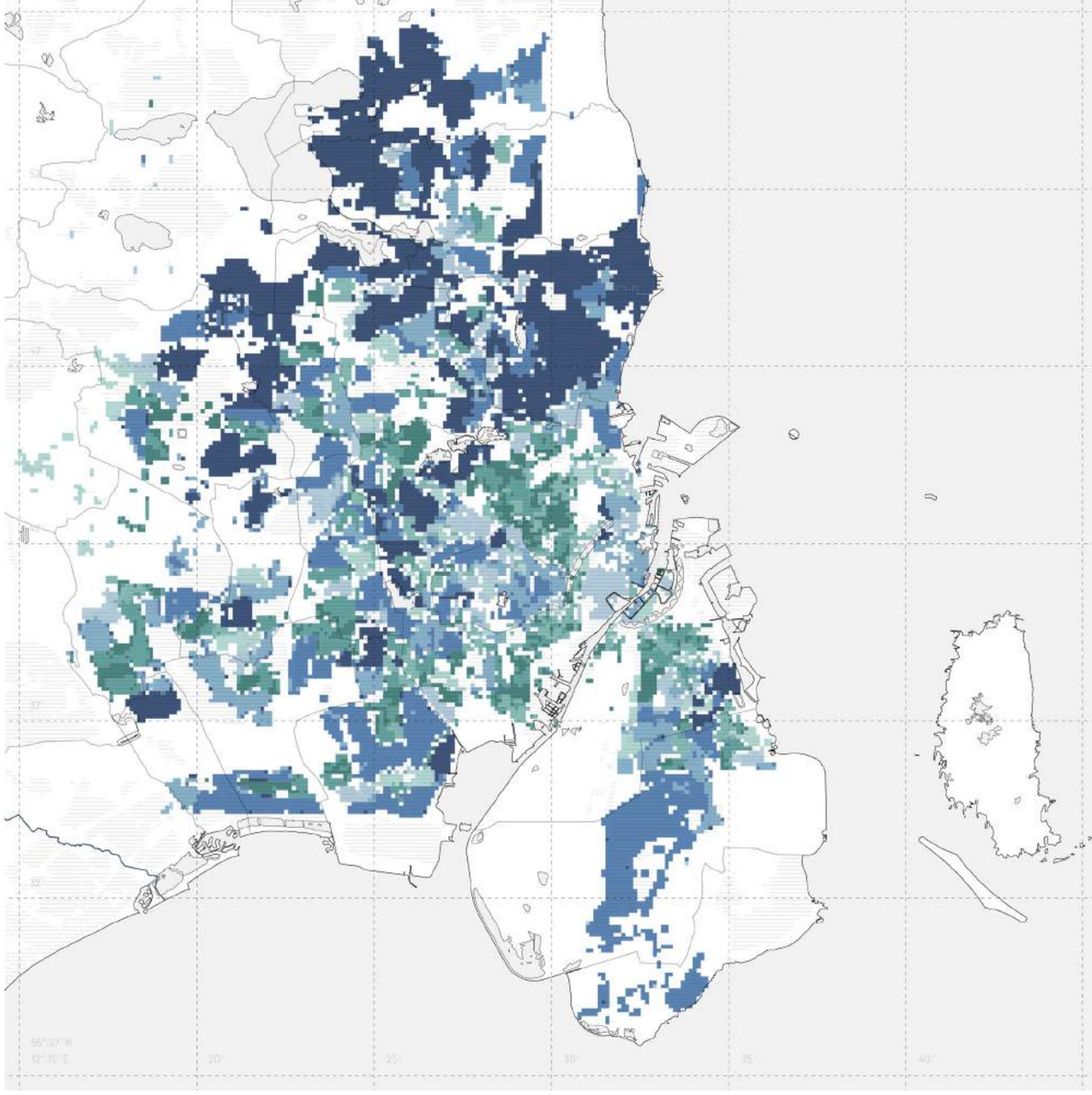
Deane Simpson, *Ecogentrification and livability-gentrification.* 2018.

CONSEQUENCES OF GENTRIFICATION

Gentrification in Vesterbro is inevitable consequence of improved living condition in an expanded market offering cheaper houses far from the center. Rather than constrasting gentrification the public condenser will increase the market value of the neighborhood. Given the cycle infrastuctures, the condenser can respond to social inequealities attracting diverse social classes. Accepting economic processes for an higher welfare and taking advantage of efficient mobility, extra-district people can generate temporary density.

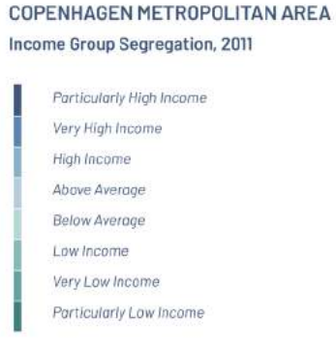


Copenhagen districts and main cycle lanes from Inner Vesterbro

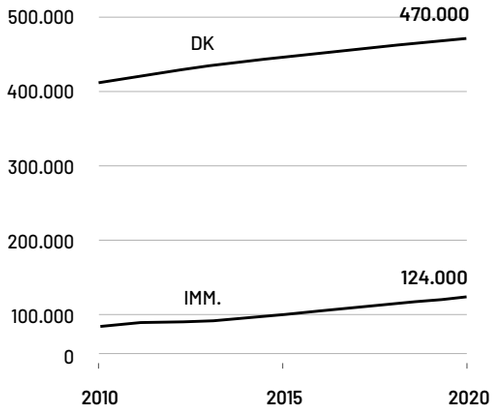


SOCIOSPATIAL SEGREGATION

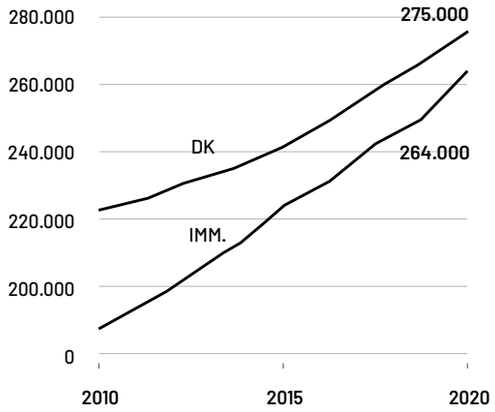
The inflow of high-income residents and outflow of the low-middle-income residents at the beginning of the century resulted in sociospatial segregation. With the urban renewal strategies oriented to sustanability, the number of affrodable rental accomodations in Copenhagen decreased and the prices of remaining housing stock became 40-50% higher by 2010.



Danish and Immigrants growth

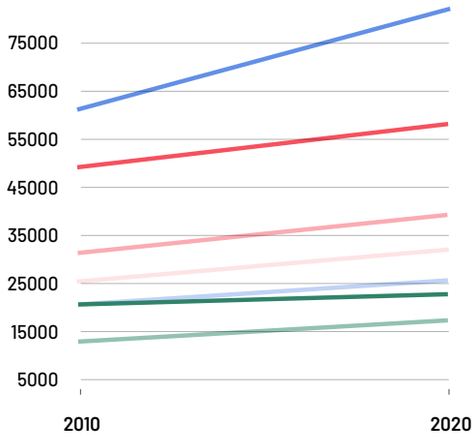


Average Income Danish and Immigrants

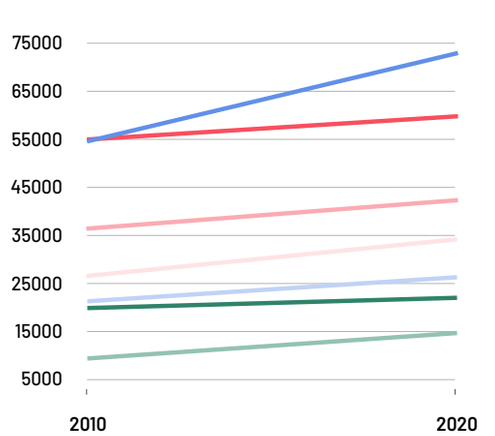


Statistics Denmark, 2020 (www.dst.dk)

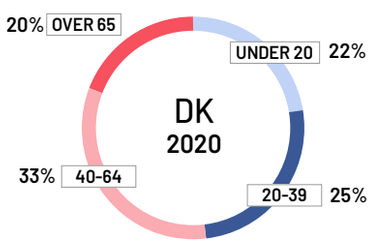
Women pop. growth by age group

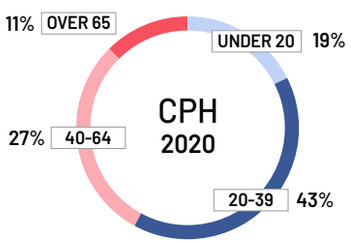


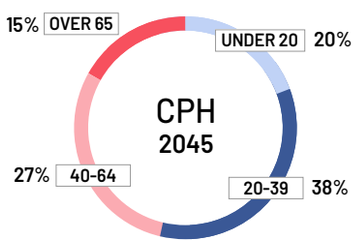
Men pop. growth by age group



Age groups proportions and projection.

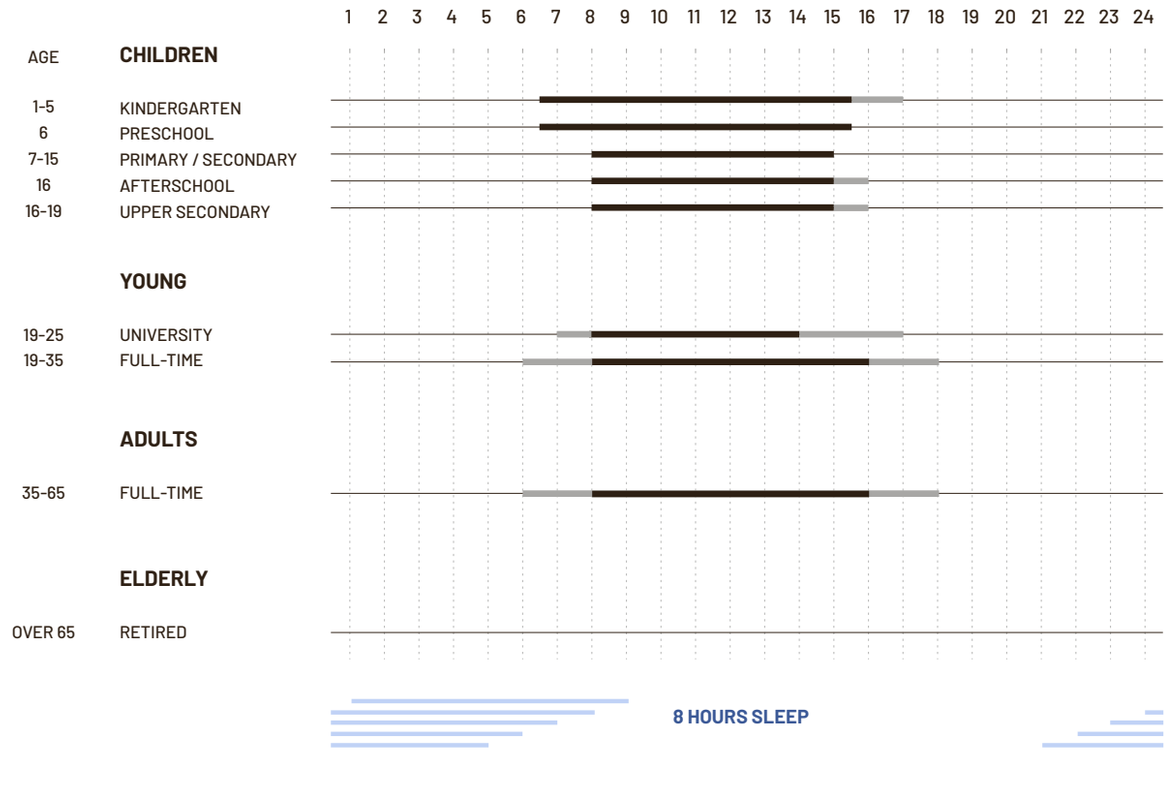






Young adults in Copenhagen are more numerous than older groups and this is not expected to change much in the next two decades.

How much time people would have for public life?



data source:City of Copenhagen (international.kk.dk)

The limitated window of time, that people dedicates to their recreation activities, falls in the afternoon for the majority of age groups in Copenhagen.

Luca Fontana

HOW WILL WE ENCOUNTER?

DIGITAL CONNECTIVITY AND THE FUTURE OF SPATIAL SEGREGATION IN COPENHAGEN

Abstract

This paper confronts the effects of spatial segregation in Copenhagen on society and urban development with the current condition of public spaces whose definition and uses are changing under new mediated sociality and productivity driven by communication technologies.

The socio-economic and ethnic segregation characterizing the danish capital since the nineties is often linked to gentrification, anti-immigrant policies and uneven distribution of labour and amenities. With the rise of communication technologies, the role of public spaces, as urban spaces of encounter, amusement and debate, has become worth discussing. What is the potential of digital communication on social divisions in the capital? Will it demolish or reinforce the barriers between social classes and ethnicities?

The spatial segregation in Copenhagen emerged way before social media forced by uneven urban conditions. After thirty years, shall we see in communication technologies and in production of public spaces, ways to contrast segregation? How will we encounter?

Keywords: Segregation, Inequeality, Copenhagen, Social media, Public space

Relevance of spatial segregation

The high positions of Copenhagen in the international rankings of most liveable cities over the last decade have been demonstrated imprecise since the quality of life is a subjective perception which can broadly differ from citizen to citizen. Still recently, many commentators reflected upon the double appearance of the city: very liveable, as depicted by rankings, but unaffordable for most social classes.[1] Indeed, since the early 1990s, Copenhagen experienced significant growth and improvement, a 'resurgence' whose downside concerned the society directly.[2] Social and economic disparities increased, resulting in an unequal distribution of residents based on their income, occupation, education and ethnicity. This spatial segregation has been regarded as one of the most critical issues undermining the future development of the city on many fronts. Although this process is not confined to Denmark but is occurring in many other western European countries[3], in Copenhagen, the social divide was caused and fueled by particular urban conditions.

I will summarise those conditions according to the existing literature. Then, I will focus on the alarming implications of the segregation on society and economy to demonstrate the relevance of this phenomenon for the design of public spaces.

As mentioned, one main factor of spatial segregation is income inequality.[4] In 2014, the Municipality published a map showing the concentration of different social classes in the city (Ministeriet fo By, Bolig og Landdistrikter). The gap between rich and poor has been widening in Copenhagen as well as in the rest of Denmark which, in the last twenty years, became more 'unequal' than Sweden, Belgium and Netherlands (Eurostat, 2019). This was the consequence of the new housing regime and neo-liberal approach adopted by the Danish government in the 1990s to reactivate the capital's economy with modern infrastructures and neighbourhoods renewal.[5] Before that time, generally, the European countries with strong welfare were characterized by a less socio-spatial polarization compared, for example, to US cities.[6] However, by 2004, the Municipality sold more than three-fourth of its housing stock to privates and cooperatives, financed services, new industries and creative companies. Once largely privatized, the housing market became more competitive. It resulted in a more segmented scenario, made of highly-priced dwellings in the most attractive areas and rental housing in the peripheries. The successful middle-class ends spatially divided from low-income groups, immigrants, students and singles which were marginalized in the only affordable areas of social housing.[7] The segmented housing market led to other forms of segregation based on occupation and education. As H. K. Hansen and L. Winther (2008) wrote, 'different economic activities tended to concentrate in different parts of Copenhagen'.[8] New innovative economic sectors attracted professionals enhancing the gentrification of some areas despite other suburban doomed to impoverishment. Also the distribution of public facilities contributed to the spatial segregation. For example, as explained by H. T. Andersen (2010), the rapid polarisation of schools into either 'private' or 'public' led Danish pupils to be separated by ones with a non-Danish background. This gave rise to another dramatic segregating factor: ethnicity.[9]

Between 1980 and 2019, in the greater Copenhagen, the share of immigrants and their descendants rose from 6.3 to 22,9 per cent of the population (Statistics Denmark, 2019). Many immigrants constitute low-income groups initially marginalized by the housing segmentation and then also discriminated in the labour market. The ethnic segregation is a complex process which has been largely investigated in many previous studies. To the purpose of this work, it is essential to make a clear distinction between two types of ethnic segregations. On one side, the spatial separation is induced by the external forces: urban polarisation (uneven distribution of houses, facilities and occupation) and municipal policies. The 2018 anti-

immigration Laws in Denmark, only slightly changed by the 2019 government, is one example of 'induced' segregation. Instead of promoting the integration of foreign citizens, the Legislation classified twenty-five ghettos in which crimes are doubly punished, and immigrants' education is differently ruled.[10]

While similar political choices are fueling the tension between Danes and immigrants, on the other side, the segregation is not always a negative or forced condition. In some cases, segregation is a 'social construct'; it is something that citizens can choose to do.[i] Surveys conducted on Copenhagen revealed that over one-third of Danes prefers to live in ethnically homogeneous areas (ESS, 2019). It is difficult to say whether immigrants are self-segregated because, as seen, they often are limited by their economic resources. Nonetheless, some authors believe that concentration of immigrants can facilitate their integration: among people with a similar background, newcomers may be less isolated and easily find occupation in the ethnic business. [11] Furthermore, homogeneous community might enforce sense of local identity, solidarity and cultural capital. So, when the spatial segregation represent an actual 'problem' for the future development of Copenhagen?

To problematize the segregation, it is necessary to consider its detrimental effects on the economy and society. The 2016 Report by Copenhagen Economist explains that a segregated city limits economic growth and occupational opportunities. Instead, when the high- and low-income groups live close to each other, the high-skilled workers generate jobs for people with a lower education level. At the same time, the professionals will be more focused on their specialization, hence, more productive. In economics, the benefits of this interplay were researched and empirically demonstrated.[12]

In terms of society, spatial segregation hinders social mobility. The CE Report illustrates that children from low-income families can have a better education and achieve high occupations in mixed urban areas more than homogeneous ones.
With these arguments, contrasting the spatial segregation and its consequences became a primary objective on the Copenhagen political agenda[13]. From an architectural and urbanistic point of view, public spaces, as well as public facilities, should be conceived to facilitate that social mix denied by the housing and labour market segmentation.

[i] The american entrepreneur Dave Troy in a TED Conference entitled “Social maps that reveal a city's intersections and separations” expains the spontaneous social segregation in some US cities. 2014. www.ted.com

Specifications on Public Space

One possible definition of public space today is given in the introduction of *Public space? Lost and Found* (2017): 'a space for collective amusement, productive debate and exhibition beyond commercial exchange and necessary labour'. [14] However, our interpretation and uses of public space are transforming under some 'interrelated conditions shaping the present'. [15] One of those conditions is the rise of so-called 'social media' which, since around 2005, are enabling new forms of sociality and productivity. It seems impossible neglecting the existence of digital, ubiquitous connectivity in the production of public space whose ultimate purpose is, in fact, connecting people. Before elaborating what might be the implications of communication technologies on public space and spatial segregation in Copenhagen, the definition of public space itself needs a further specification.

In the volume mentioned above, Adrian Blackwell claims that public space may be defined in light of the historical change occurred with the neoliberalism since the 1980s. With the free-market capitalism, the public space became, in Blackwell's words, a constructed artefacts between the surveillance of state and the governance of the private economy.[16] Therefore, public space may be defined as third space which is neither entirely regulated by law nor for commercial activities. According to Blackwell, it is a physical version of the 'public sphere' coined by Jürgen Habermas, namely wherever 'private people come together as a public'. [17] In 1989, Habermas identified places for social deliberation such as coffee houses, street and social club. Today, Blackwell suggests, the definition of public space is less fixed and rational space. Independently from the owner - government, private or a combination of the two - it is 'public' as people appropriate it to 'connecting interests and articulating critiques'. [18] This political definition of public space, in-between economic and state powers, is also valid for Copenhagen. Indeed, after the financial crisis of 2008, the urban region moved towards radical neoliberalism: welfare state retreated, and the private market started to influence urban development even more than Municipality.[ii] Yet Municipality and state still control citizens' rights, for example, through anti-immigration laws and welfare services conditionally given to only 'deserving' social groups.[19]

If acts of encounter, exchanging ideas and debate define public spaces, then, today's media represents an immaterial space, at time of Habermas' theory limited to journals and newspaper, influencing not only architecture. Given the impact of communication technologies I do question whether they will retain or exacerbate the consequences of Copenhagen's spatial segregation: first, the limit to economic growth and occupational opportunities; second, the social exclusion and isolation.

[ii] The case of 'Coherent City' is the emblem of the limited power of Municipality of Copenhagen on the neoliberal economy. The plan, proposed in 2014 to increase the social mix in the city region, consisted of creating new affordable houses and lower the price of some in the most gentrified areas. The Municipality could not afford new houses from private and the state also banned the proposal as illegally competitive in the housing market. (See Simpson, D., 2018. 46-47.)

Social media and productivity

According to Lev Manovich, since the mid-2000s the free access to user-generated contents online marked a transformation in how people interact and work today. [20] The global spread of communication technologies has been possible thanks to cheapness and mobility of tools that enabled anyone to communicate, produce and share digital contents. This forms of human interaction have produced worth discussing changes in the labour market. Firstly, laptops, smartphone and other mobile devices transformed people in 'mobile' workers. This means that some workers are potentially productive independently from their location, as long as they have access to internet. Paradoxically, freed from their workplaces, people may end segregated at home, as Beatriz Colomina wrote in 'Privacy and Publicity in the Age of Social Media' (2017). Colomina questioned where people uses most social media to show architectural implications of communication technologies. She found that, according to data published on the Wall Street Journal in 2012, '80 per cent of the young New York City professionals regularly work from bed.'. [21] People may become voluntarily reclused at home taking advantage of a new mediated productivity, while office buildings are doomed to disappear. Therefore, in the case of Copenhagen, while workers could escape the occupational segregation, they could instead physically isolate themselves even more.

Among their innumerable uses, digital connections multiplied the chances to find the desired occupation. In 2019, thirty-seven per cent of Denmark's population used the internet to look for a job. The same percentage rises to fifty-four for the citizens in their twenties. The accessibility to new job opportunities has also increased for those social groups with a low education level, demonstrated more vulnerable to spatial segregation (Denmark Statistics, 2019). Nonetheless, it is hard to say if this innovation contrasted segregation patterns in Copenhagen. Especially for immigrants, factors like ethnic discrimination and linguistic barrier still limit social mobility.[22]

A third transformation led by communication technologies regards new types of occupation. On one side, internet platforms enabled digital market, a source of profit for over one-third of the danish population selling goods or services in Denmark last year (Denmark Statistics, 2019). On the other, online communications generated, as Manovich states, 'new economics of media' in which companies earn from having as many users paying attention as possible so that they can sell data, advertisements and services.[23] This has been described by the American theorist Jodi Dean as Communicative Capitalism: 'a form of late capitalism whose productivity derives from expropriation and exploitation of communicative processes'.[24] The discourse on the communicative capitalism may be expanded with arguments on democracy, inequality and ethics.[iii] In the context of this work, it is sufficient to frame it with respect to spatial segregation: Are occupations in communicative capitalism a shortcut for the economic growth limited by the labour segmentation? According to Dean, information technologies generated additional economics but did not replace, for example, manufacturing. Networked computing, Dean says, although enhancing a variety of industries, did not contribute to the productivity outside the media circuit itself. If this is true, the labour market will not be less segmented thank to communicative capitalism, yet it may be more productive. Furthermore, the high-skilled groups, most likely to make a profit from social media, are not

[iii] In "Reflexivity and Resistance in Communicative Capitalism", Jodi Dean quoted Albert Làszlò Barabàsi, to say that communicative capitalism massively increased inequalities redistributing the economic and mediatic power. It has established new hierarchies and led a few 'network presences generate unprecedented fortunes', to borrow Jaron Lanier's words. (See also Lanier, Jaron. *Who owns the future*. New York: Simon & Schuster, 2013. 15.)

those at risks of exclusion from the labour market as seen in the first chapter.

Social media and sociality

Other advances brought by communication technologies regards societal patterns: how people communicate, aggregate and move in the city are commonly supported by technologies.[iv]

The most tangible change is in the amount of time available for recreational activities in a day. As psychologist Adam Alter studied, commonly the time spent on necessary activities remained constant over the years: 7-8 hours of sleep, 8-9 hours of work and commuting, about 3 hours of regular duties a day.[25] The remaining time is left for other personal activities which could occur in public space. Since 2005, Alter continues, the time spent on social media gradually reduced that 'personal' timeframe. A similar reasoning has been used by Thomas Sick Nielsen to explain that the average commuting time of Danes did not change in the last fifty years.[26] Nielsen discovered that commuters in Denmark have never been willing to travel from home to work more than 21-22 minutes on average because that would take too much time from personal activities. Arguably, if people are paying more attention to social media than recreational activities in urban context, public space are required to be more attractive or complement the innovation.[v]

Communication technologies also enabled diverse modes of conversation and exchange compared to face-to-face relations. According to Manovich, the conversation through social media is generally intensified. It is distributed in space and time: 'people can respond regardless their location and in theory forever'.[27] Plus, conversations can be around a piece of media: not only between people but between individuals and media. The art historian Ina Blom wrote, 'new media are not just contents providers [and] communication platforms, but technologies that track, coordinate and propagate sensibilities at a molecular level'.[28] In other words, social media allow a type of psychological attachment that, however, may also be extremely volatile. Many authors are sceptic in considering the mediated sociality as antidote to social exclusion and isolation resulted from spatial segregation. Jodi Dean, quoted earlier, stressed a clear difference between the physical and digital communication. She states that 'public', in Habermas' definition, indicates communicative and discursive space, based on inclusivity and participation. Conversely, participation in media, Dean wrote, is 'personal media': media attached to and produced by an individual. Participation in media is profoundly different from the 'public sphere'.[29] A similar opinion has been expressed by the anthropologist Nèstor Garcia Calclini in 'The Public Sphere is our Abyss', who sees in the communication technologies a very destabilizing innovation of the present. Since the sixties, Canclini wrote, at the base of coexistence in community there were standards such as 'God, family, nation and metropolis'.[30] With the technological and economic globalization of the twenty-first century, state-nations became less influential than some international companies; people lost their communal values and communities became more fragmented.

In addition to alternative modes of interaction, technologies facilitated temporary aggregation, performance actions or mass manifestations. Beyond political demonstrations, media massively increase the number of participants taking over urban space for various purposes. For instance, in Copenhagen, every year since 2007, over 125,000 citizens are gathered in the streets for music

[iv] In 2018, over eighty per cent of the Denmark population (4,87 million) uses a smartphone. Sixty per cent of them to visit social media in everyday life. (See *Forecast of Smartphone users in Denmark* by H. Tankovska, Statista 2019; and *Digital Repor: Denmark* by Simon Kemp, datareportal.com, 2019.)

[v] Think of examples of interactive architecture, Yoon's *White Noise/White Light* or Ratti's *Digital Water Pavillion*. If this solution would be sufficient evolution of public space towards a less passive environment is in doubt. Lev Manovich in 'The Poetics of Augmented Space' (2006) criticized this type of architecture, asserting that architects have integrated electronic media in a limited way: only as screens.

festivals, not without discontent of residents.[31] These manifestations questioned the practical importance of public space both as a political and recreational occupation.

The last advance on the societal patterns concerns individual mobility in the city. Smartphone on hand, citizens are informed on a broad mix of mobility options that they can freely combine to reach a destination. Carlo Ratti and Daniele Belleri described the urban effect of this multi-modal system provided by information network: 'seamless multi-modal mobility increases flexibility and opens up a paradigm shift in how we think of centrality in an urban context'.[32] This not so futuristic scenario has been pioneered in 'smart city' projects like 'Sidewalk Toronto'.[33] Already in 2014, it was presented for the danish capital' Copenhagen Connecting' a project consisting of urban furniture around the city, able to gather information on traffic and help to regulate mobility. As far as spatial segregation is concerned, the question is if these technologies will redistribute the services more equally in favour of areas with fewer resources, as Ratti and Belleri suggested, or will increase the accessibility and attractivity of already gentrified neighbourhoods.

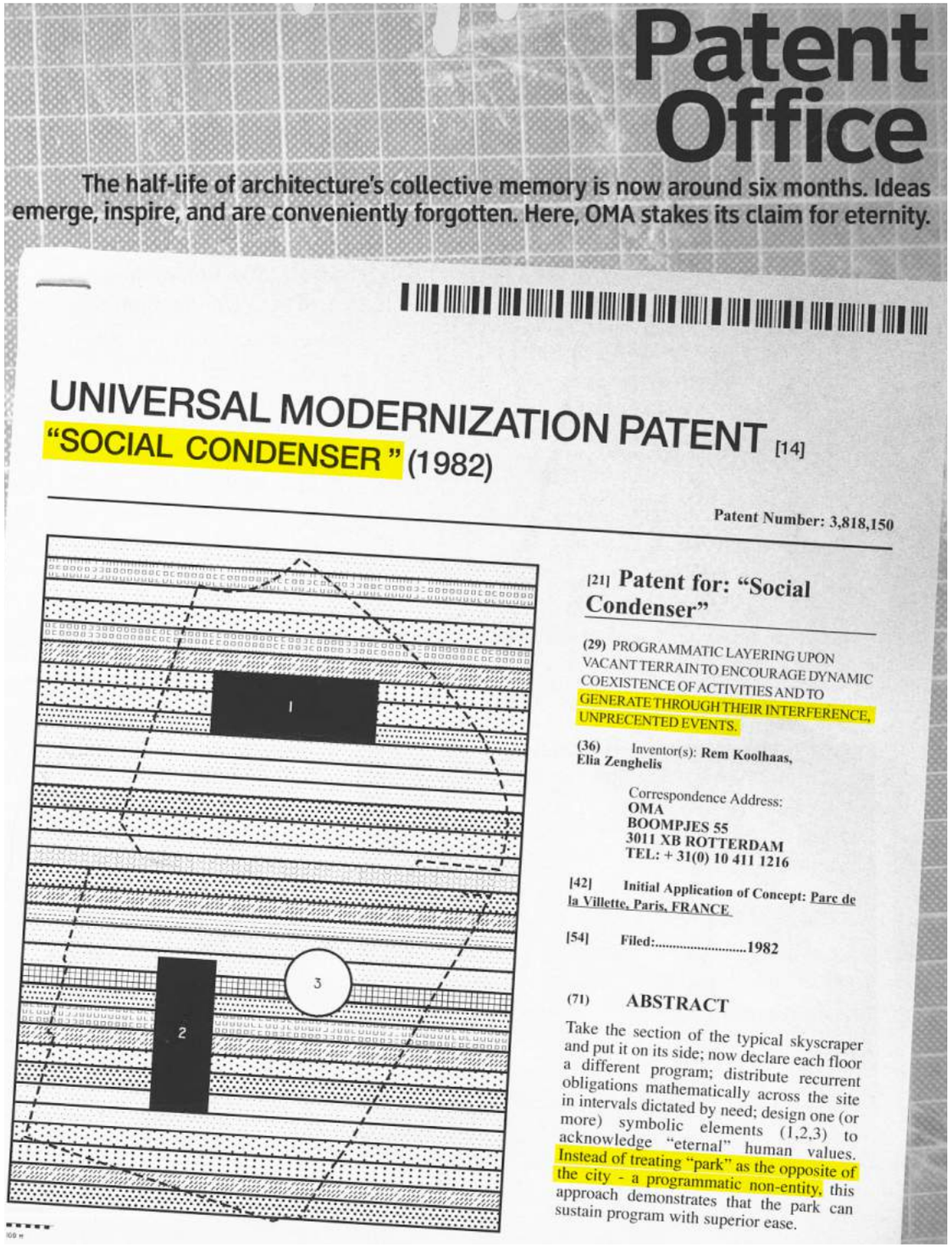
Conclusion

This essay has emphasized the distinction between self-segregation and spatial segregation forced by the urban condition of Copenhagen. It has pinpointed the effects: economic standstill, precariat and social exclusion and isolation. Addressing the current conditions of public space, meant for exchange and deliberation, it has attested that neoliberalism enhanced the importance of 'public' in the cities, Copenhagen included. Finally, communications technologies revealed advances that can trace opposite directions in the future of spatial segregation. Some could lead to the extreme isolation of workers; others could expand labour networks. Some could reduce the value of human relations; others could organize unprecedented crowds. How will we encounter?

NOTES

[1] **Simpson, Deane.** "Copenhagen under the Metric Regimes of the Competitive and Attractive City". *Atlas of the Copenhagens*. Berlin: Ruby Press, 2018. 10-18
[2] **Andersen, Hans Thor, and Lars Winther**. 2010. "Crisis in the Resurgent City? The Rise of Copenhagen." International Journal of Urban and Regional Research 34 (3): 693–700. https://doi.org/10.1111/j.1468-2427.2010.00984.x.
[3] European Commission, "How can cities become more inclusive?". *The future of cities : opportunities, challenges and the way forward*. Luxembourg: Publications Office of the European Union, 2019.
[4] **Cucca, Roberta, and Costanzo Ranci**. *Unequal cities : the challenge of post-industrial transition in times of austerity*. London: Routledge, Taylor and Francis Group, 2017.
[5] Andersen, H. T., Lars Winther. 2010. 694-695.
[6] **Cucca, Roberta**. 2011. "Stigmatized, Peripheral and Residual: Patterns of Spatial Segregation among Recent Immigrants in Copenhagen, Toronto and Milan." Unpublished. https://doi.org/10.13140/2.1.1965.0240. 1-7.
[7] Andersen, H. T., Lars Winther. 2010. 697.
[8] **Hansen, H.K. and L. Winther**, 2010. The spatial division of talent in city regions: location dynamics of business services in Copenhagen. *Tijdschrift voor Economische en Sociale Geografie* 101.1, 55–72.
[9] Andersen, H. T., Lars Winther. 2010. 699.
[10] **Barry, Ellen and Martin Selsoe Sorensen**, "In Denmark, Harsh New Laws for Immigrant Ghettos". The New York Times, published 1 July 2018. See also Andersen, John, and John Pløger. 2007. "The Dualism of Urban Governance in Denmark." European Planning Studies 15 (10): 1349–67. https://doi.org/10.1080/09654310701550827. 32.
[11] Cucca, R., 2011. 3.
[12] **Copenhagen Economics**, 2016. Billige boliger i storbyerne – bidrag ti ækst og velstand (Affordale Housing in the large cities – contributes to growth and prosperity).
[13] Simpson, D., 2018. 42-43.
[14] **Urbonas, Gediminas, Ann Lui and Luca Freeman**. Lost and Found, by Gediminas Urbonas et al., SA P Press, MIT School of Architecture Planning, 2017. 9.
[15] Ibid. 10.
[16] **Blackwell, Adrian**. "Tar and Clay: Public Space Is the Demonstration of a Paradox in the Physical World." Public Space?: Lost and Found, by Gediminas Urbonas et al., SA P Press, MIT School of Architecture Planning, 2017. 19-26.
[17] **Habermas, Jürgen**. The structural transformation of the public sphere : an inquiry into a category of bourgeois society. Cambridge, Mass: MIT Press, 1989. 30-31.
[18] Blackwell, A., 2017. 21.
[19] **Trenz, Hans-Jörg, and Maria Grasso**. 2018. "Toward a New Conditionality of Welfare? Reconsidering Solidarity in the Danish Welfare State." In Solidarity in Europe, 19–41. Springer International Publishing. https://doi.org/10.1007/978-3-319-73335-7_2.
[20] **Manovich, Lev**. 2009. "The Practice of Everyday (Media) Life: From Mass Consumption to Mass Cultural Production?" Critical Inquiry 35 (2): 319–31. https://doi.org/10.1086/596645.
[21] **Colomina, Beatriz**. "Privacy and Publicity In the Age of Social Media". Public Space?: Lost and Found, by Gediminas Urbonas et al., SA P Press, MIT School of Architecture Planning, 2017. 253-260.
[22] **Stonawski, Marcin Jan, Adrian F. Rogne**, Henrik Bang, Henning Christensen, and Torkild Hovde Lyngstad. 2019. "Ethnic Segregation and Native Out-Migration in Copenhagen." Center for Open Science. https://doi.org/10.31235/osf.io/tx7b6.
[23] Manovich, L. 2009. 320.
[24] **Dean, Jodi**. *Democracy and other neoliberal fantasies : communicative capitalism and left politics*. Durham: Duke University Press, 2009. See also Dean, Jodi, with Gediminas Urbonas. "Reflexivity and Resistance in Communicative Capitalism". Public Space?: Lost and Found, by Gediminas Urbonas et al., SA P Press, MIT School of Architecture Planning, 2017. 253-260.
[25] **Adam Alter**, *Why our screens make us less happy,* April 2017, TED Video, 9:30. https://www.ted.com/talks/adam_alter_why_our_screens_make_us_less_happy?language=en
[26] **Nielsen, Thomas Sick**. "Commuting and Urban Development in the Copenhagens". *Atlas of the Copenhagens*. Berlin: Ruby Press, 2018. 75-77
[27] Manovich, L. 2009. 323.
[28] **Blom, Ina**. "Video Public, Video Sociality". Public Space?: Lost and Found, by Gediminas Urbonas et al., SA P Press, MIT School of Architecture Planning, 2017. 253-260.
[29] Dean, J., 2009. 23.
[30] **Canclini, Nestor Garcia**. "The Public Sphere is Our Abyss". Public Space?: Lost and Found, by Gediminas Urbonas et al., SA P Press, MIT School of Architecture Planning, 2017. 39-45.
[31] See 'Distortion Copenhagen'. https://www.cphdistortion.dk
[32] **Ratti, Carlo and Daniele Belleri**. "Digital Destinations" *Shaping cities in an urban age*. London New York: Phaidon Press Inc, 2018. 245-250
[33] See 'Master Innovation and Development Plan' by Sidewalk. 2019. https://www.sidewalktoronto.ca/midp/

PUBLIC /
SOCIAL CONDENSER



Patent Office

The half-life of architecture's collective memory is now around six months. Ideas emerge, inspire, and are conveniently forgotten. Here, OMA stakes its claim for eternity.

UNIVERSAL MODERNIZATION PATENT [14]
"SOCIAL CONDENSER" (1982)

Patent Number: 3,818,150

[21] Patent for: "Social Condenser"

(29) PROGRAMMATIC LAYERING UPON VACANT TERRAIN TO ENCOURAGE DYNAMIC COEXISTENCE OF ACTIVITIES AND TO GENERATE THROUGH THEIR INTERFERENCE, UNPRECENTED EVENTS.

(36) Inventor(s): Rem Koolhaas, Elia Zenghelis

Correspondence Address:
OMA
BOOMPJES 55
3011 XB ROTTERDAM
TEL.: + 31(0) 10 411 1216

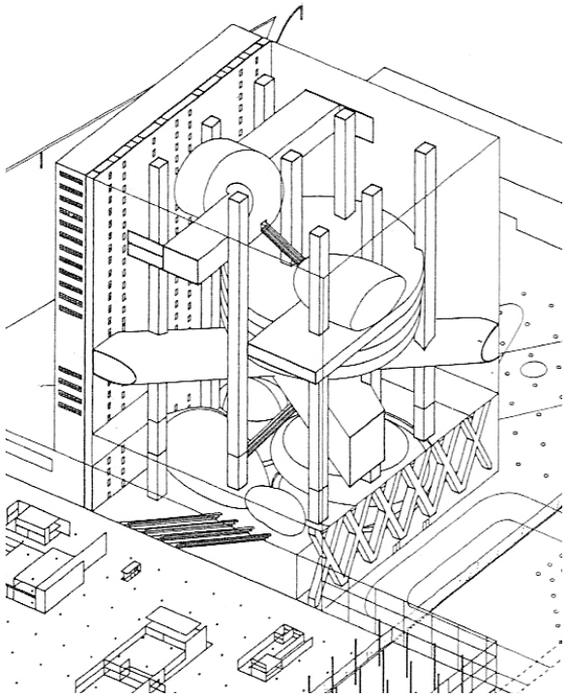
[42] Initial Application of Concept: Parc de la Villette, Paris, FRANCE

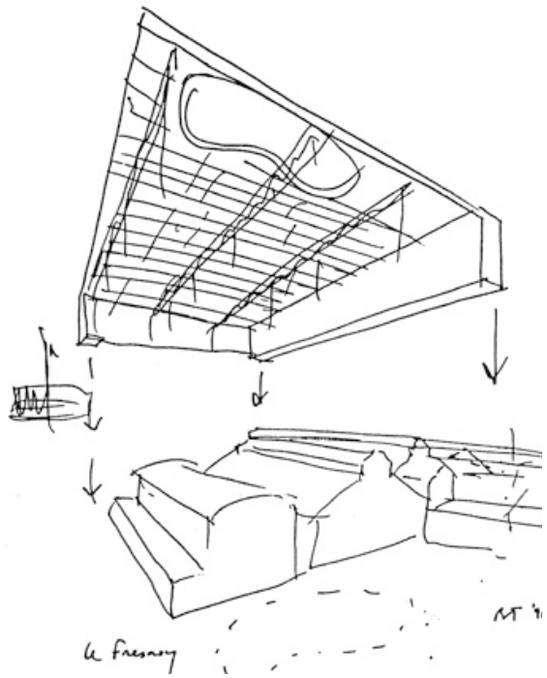
[54] Filed:.....1982

(71) ABSTRACT

Take the section of the typical skyscraper and put it on its side; now declare each floor a different program; distribute recurrent obligations mathematically across the site in intervals dictated by need; design one (or more) symbolic elements (1,2,3) to acknowledge "eternal" human values. Instead of treating "park" as the opposite of the city - a programmatic non-entity, this approach demonstrates that the park can sustain program with superior ease.

R. Koolhaas (OMA), Content, 2004, p. 73





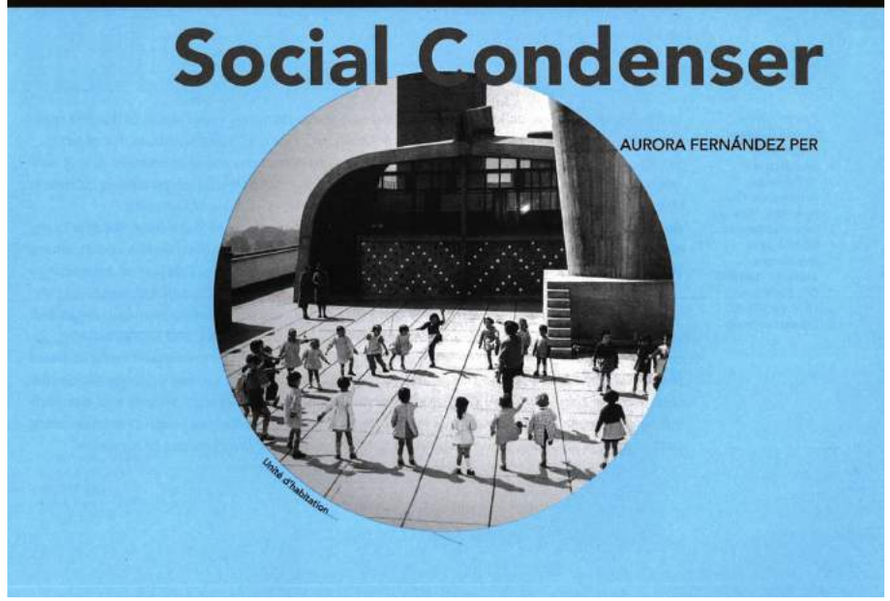
R. Koolhaas (OMA), Trés Grande Biblioteque, Paris, France, 1989;
B. Tschumi. Le Fresnoy Art Center , Tourcoing, France, 1997.

STRATEGICAL CROSS-PROGRAMMING

Since in the Soviet Constructivism theories, the social condenser was meant to reduce, if not erase, perceived social hierarchies.
Strategies to design social condenser were elaborated by Rem Koolhaas and Bernard Tschumi in the 1980s.
As E. Dunham-Jones wrote in *The generation of '60 -Today* : both the architects aimed to de-emphasize fixed and enduring architectural form in favor of the transient event. (...) Tschumi has elaborated strategies of disprogramming, transprogramming, and crossprogramming as means of subverting the controlled aspect of the program."
Parc de la Villete (1982, both Koolhaas' and Tschumi's projects), Tres Grande Biblioteque (1989, OMA) and Le Fresnoy Art Center (1997, Bernard Tschumi) feature voids, 'absence of building', as the public space for sociality. Therefore, social condenser is not exclusively an indoor space.

SOCIAL / HYBRID

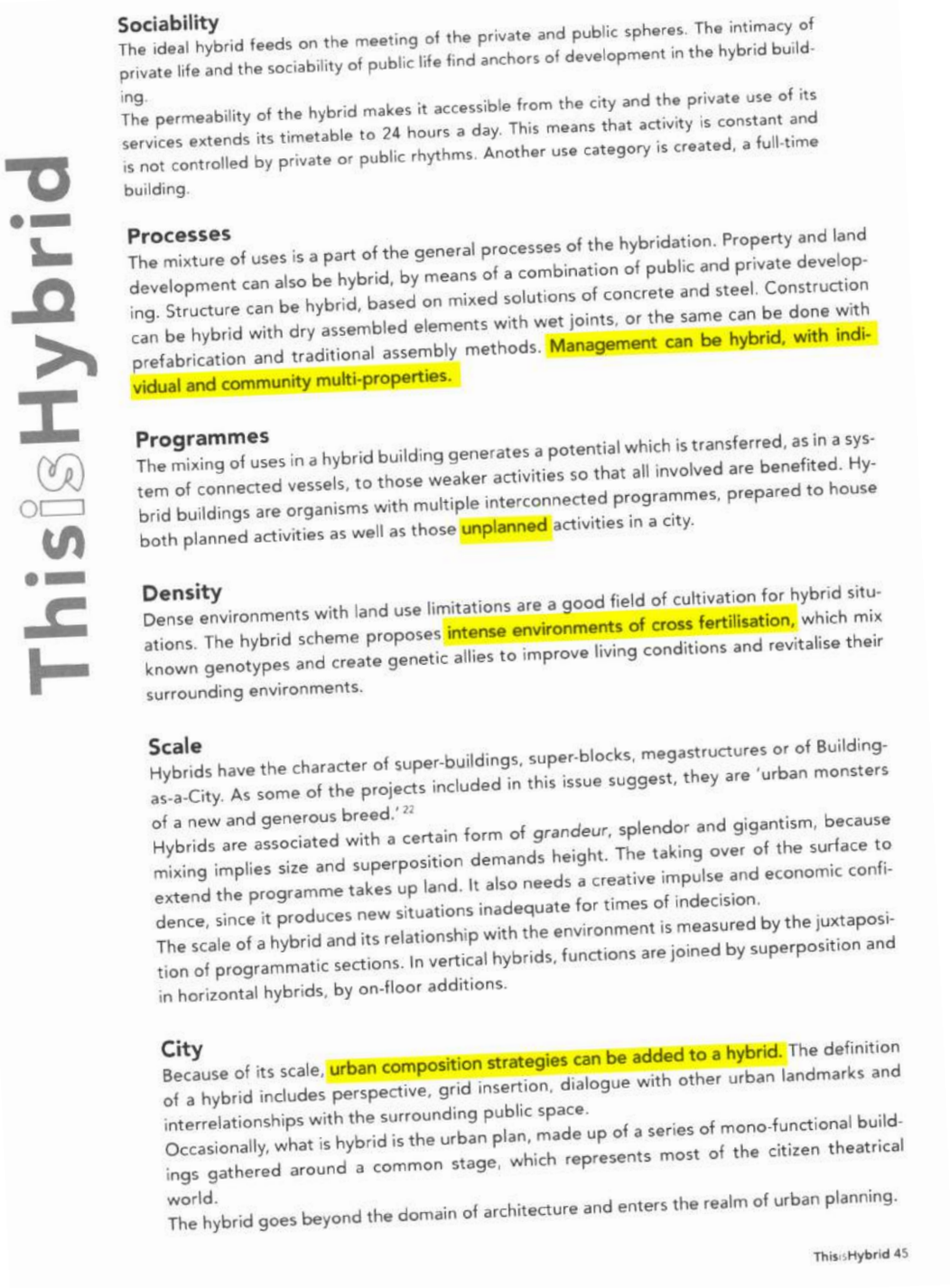
In the search for models capable of economising resources, Hybrid Buildings, especially those with residential uses, are chance samples that include the gene of mixed-use development in its code. This gene is necessary in order to adapt to the signs of the times. Nevertheless, this mixed condition makes them mistakenly similar to another avant-garde model, a model that at first sight seems to be its predecessor when in fact it is the complete opposite. We are referring to the Social Condenser.



A. Per, J. Mozas, and J. Arpa. This is Hybrid: an analysis of mixed-use buildings by a+t. Vitoria-Gasteiz, Spain: A+t architecture Publishers, 2011. p. 47

CONTRASTING DEFINITIONS

In *This is Hybrid*, the social condenser is described as model where 'a series of functions of private life were segregated and converted into public functions'. According to Fernandez Per, one of the authors, the social condenser aims to the self sufficiency and therefore isolation from the 'conventional city'. In comparison with Hybrid buildings, this publication presents five cases of social condensers which are mainly residential buildings whose service program are associated with dwellings. Koolhaas' patent contraddicts this definition, indicating as social condensers also public facilities and La Villette is the main example. Besides these contrasting definitions, many OMA's projects are called Hybrid by Fernandez Per. Hybrid building appears a more successful model since it may 'revitalise its surrounding environment and improve living conditions through its multi-properties.' (Fernandez Per, 2011)



ThisisHybrid

Sociability
The ideal hybrid feeds on the meeting of the private and public spheres. The intimacy of private life and the sociability of public life find anchors of development in the hybrid building.
The permeability of the hybrid makes it accessible from the city and the private use of its services extends its timetable to 24 hours a day. This means that activity is constant and is not controlled by private or public rhythms. Another use category is created, a full-time building.

Processes
The mixture of uses is a part of the general processes of the hybridation. Property and land development can also be hybrid, by means of a combination of public and private developing. Structure can be hybrid, based on mixed solutions of concrete and steel. Construction can be hybrid with dry assembled elements with wet joints, or the same can be done with prefabrication and traditional assembly methods. Management can be hybrid, with individual and community multi-properties.

Programmes
The mixing of uses in a hybrid building generates a potential which is transferred, as in a system of connected vessels, to those weaker activities so that all involved are benefited. Hybrid buildings are organisms with multiple interconnected programmes, prepared to house both planned activities as well as those unplanned activities in a city.

Density
Dense environments with land use limitations are a good field of cultivation for hybrid situations. The hybrid scheme proposes intense environments of cross fertilisation, which mix known genotypes and create genetic allies to improve living conditions and revitalise their surrounding environments.

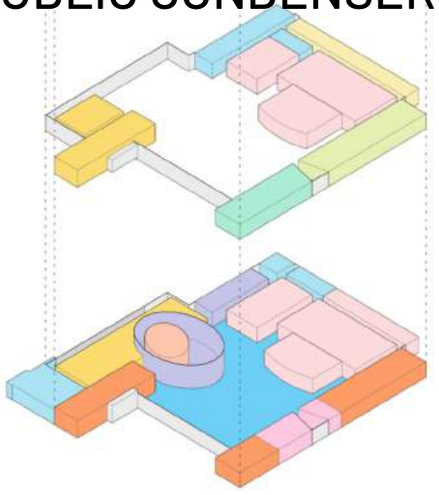
Scale
Hybrids have the character of super-buildings, super-blocks, megastructures or of Building-as-a-City. As some of the projects included in this issue suggest, they are 'urban monsters of a new and generous breed.' [22]
Hybrids are associated with a certain form of *grandeur*, splendor and gigantism, because mixing implies size and superposition demands height. The taking over of the surface to extend the programme takes up land. It also needs a creative impulse and economic confidence, since it produces new situations inadequate for times of indecision.
The scale of a hybrid and its relationship with the environment is measured by the juxtaposition of programmatic sections. In vertical hybrids, functions are joined by superposition and in horizontal hybrids, by on-floor additions.

City
Because of its scale, urban composition strategies can be added to a hybrid. The definition of a hybrid includes perspective, grid insertion, dialogue with other urban landmarks and interrelationships with the surrounding public space.
Occasionally, what is hybrid is the urban plan, made up of a series of mono-functional buildings gathered around a common stage, which represents most of the citizen theatrical world.
The hybrid goes beyond the domain of architecture and enters the realm of urban planning.

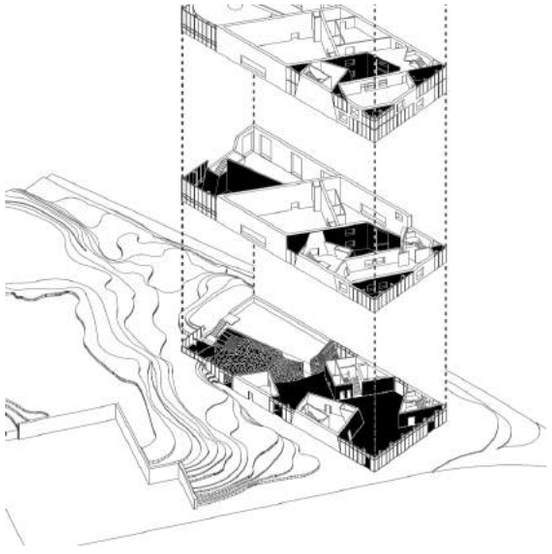
ThisisHybrid 45

A. Per, J. Mozas, and J. Arpa. This is Hybrid: an analysis of mixed-use buildings by a+t. Vitoria-Gasteiz, Spain: A+t architecture Publishers, 2011. p. 45

‘PUBLIC CONDENSERS’

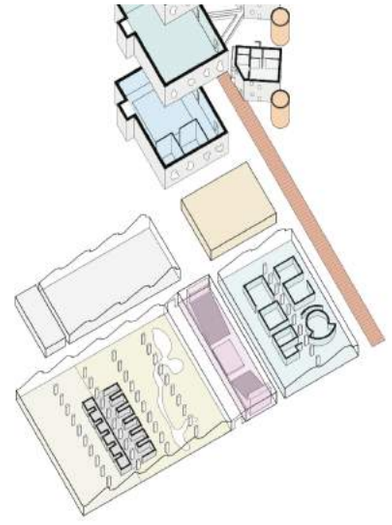


VAN KLINGEREN + DE GRUYTER + ATELIER PRO, DE MEERPAAL
Perimetral programs and agora
Visual connections between levels

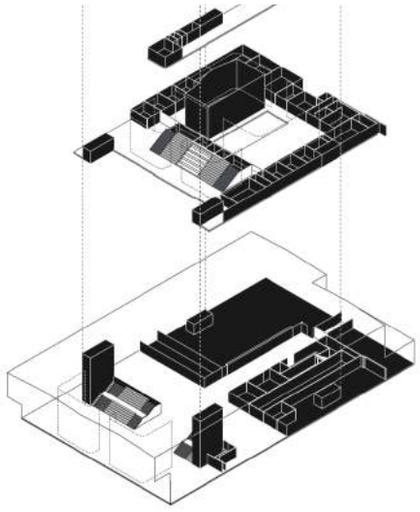


MVRDV + ADEPT, KU.BE
Voids for un-programmed/circulation
Landscape topography on ground level
Visual connections between levels

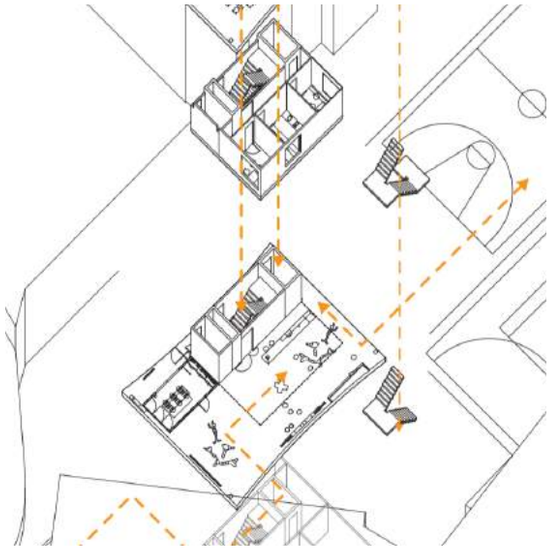
A. AALTO, SÄYNÄTSALO TOWN HALL
Perimetral programs and courtyard
Visual relationship programs-context



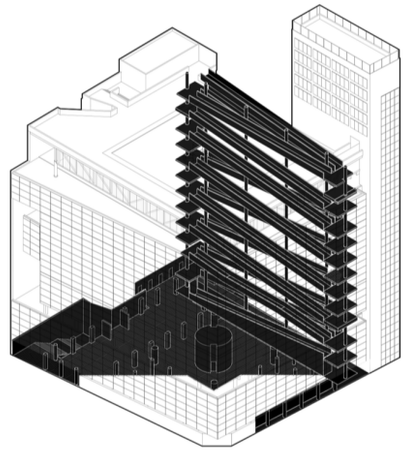
L. BO BARDI, SESC POMPÈIA
Stack and divided sheds
External circulation
Modular structure, Flexibile programs.



BRAAKSMA & ROOS + MECANOO + INSIDE OUTSIDE, LOCHAL
Stacked programs + Visual relationship
Tribuna circulation
Modular structure, Flexibile programs.



BRUTHER, CULTURAL SPORT CENTER
Stacked programs
Permeability on ground level
Visual illusion



MMBB + M. DA ROCHA, SESC24 DE MAIO
Stacked programs + Visual relationship
Permeability on ground level
Including outdoor public space

CASE STUDIES

This paper does not aim to formulate a linguistic convention, neither to add a new definition of public spaces to the ones mentioned earlier. ‘Public condenser’ is an alternative definition that avoids the contradictions around ‘social condenser’. It expresses the concealed purpose of some designed public space: ‘bringing together people of different ages, exercise habits, cultural consumption and lifestyles.’
As a consequence, that category is often a mixed-use where the connection between the parts is crucial social space.

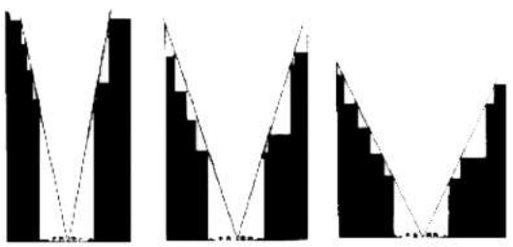
URBAN DENSITY

Given the origins of hybrid buildings, as a group of different functions. The reasons for this extremely mixed-use container to emerge are related to the city density. Koolhaas' refers to Raymond Hood's realization that multipurpose buildings were a desirable condition to avoid urban congestion: 'Every businessman in the city must have realized what an advantage it would be to live in the building where his office is located.'. Hood states that 'communities' activities are confined within certain areas whose traffic does not need to travel distant streets to collect supplies and orders.' According to Koolhaas, the Downtown Athletic Club by Duncan Hunter (1931) is one of those buildings: 'a machine to generate and intensify desirable forms of human intercourse.' The same reasoning can be applied to other dense urban contexts.

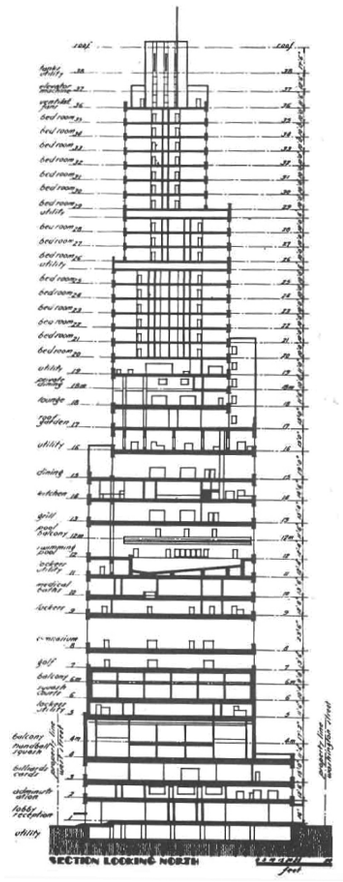
The mixed-use **Sesc 24 de Maio** in Sao Paulo offers a great advantage to move through several public facilities in the same building, avoiding urban traffic. The public condenser, as mixed-use, can eventually decongest the city: 'congestion has been removed from the streets and is now swallowed by the architecture'.

Other field of application of multipurpose buildings are the low-density urban contexts, where they may catalyze the growth of the city and gather distant residents. This was the case of **De Meerpaal in Dronten.**

Copenhagen, especially Vesterbro, does not belong to any of those two scenarios. Renewal policy interrupted the densification to improve public life.



Zoning diagram, Three Height districts. Carol Wills. Priceton Architectural Press, 1995.



Section of Downtown Athletic Club by Starret and Van Vleck, New York, 1930. (The Moinan Group, downtownclubny.com)

Difference in population density of Sao Paulo (Brasil) and Dronten (The Netherlands), contexts of two mixed-use public facilities.

PUBLIC INTENSIFIED NETWORK

Few cities in the world feature the bicycle infrastructure of Copenhagen. This allows reaching a variety of public functions in the inner districts in 20 minutes at most. Mapping the public facilities of the city shows the existing synergy with bicycle network. Bicycle lanes offer to the citizens to easily enter other neighbourhoods for their duties.

Such a large view on the public space, suggests the chance to reconsider the influence of a single public building on the citizens. Instead of responding to local demand, buildings can offer activities for users living far outside a given district.

The combined design of bicycle network and public amenities is the key to remove the economic barriers that segregate many social groups in their living area.

To that aim, people need to be informed and public spaces need to attract. Communication technologies represent the invisible connection complementary to the physical infrastructure. In this vision, the amount of data collected on the users will inform the program of public buildings in the city as a whole. Under this unique system, everyone will be invited to take part in activities outside their neighbourhood. They will give feedback and be able to book, vote and self-organise their public life.

In this scenario, the new project will not be isolated.

Map of Public Intensified Network
for Copenhagen.
(Bycicle Network connecting main
public buildings), 2020.

THE ACTIVATORS

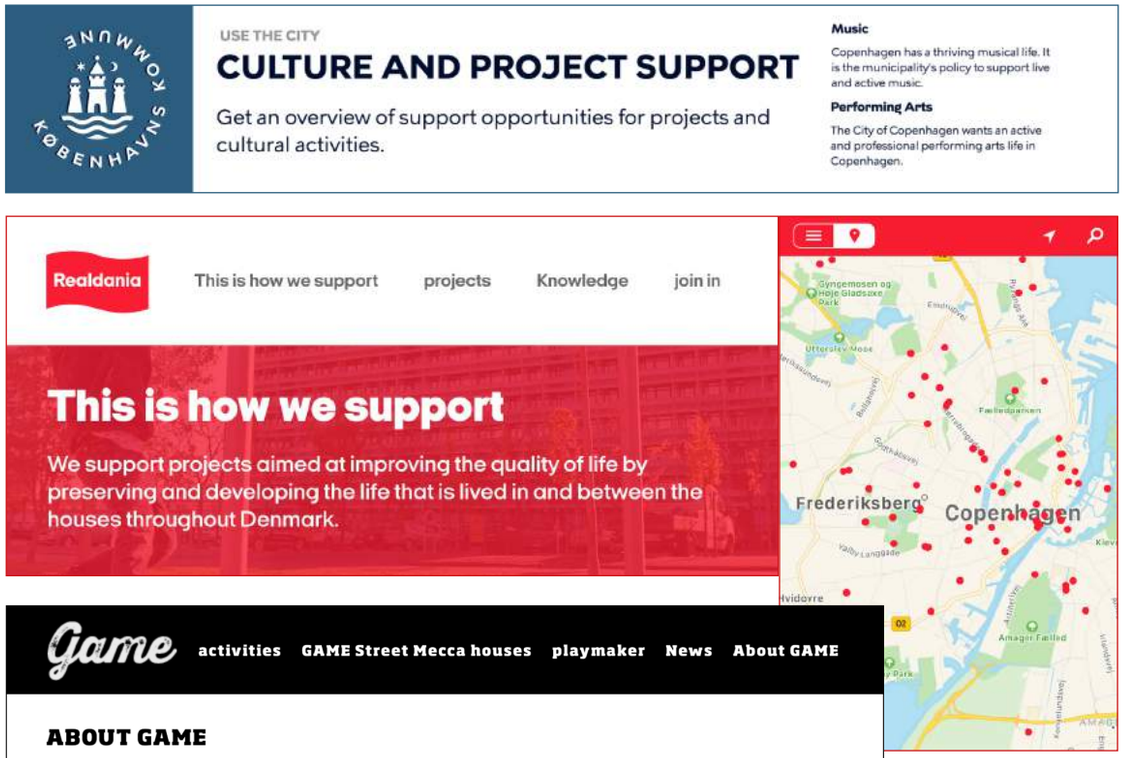
Interactive technologies can support the public life as a service. Beacons, NFC, QR code, geofencing are more immediate compared to other forms of advertisement.

OWNERSHIP

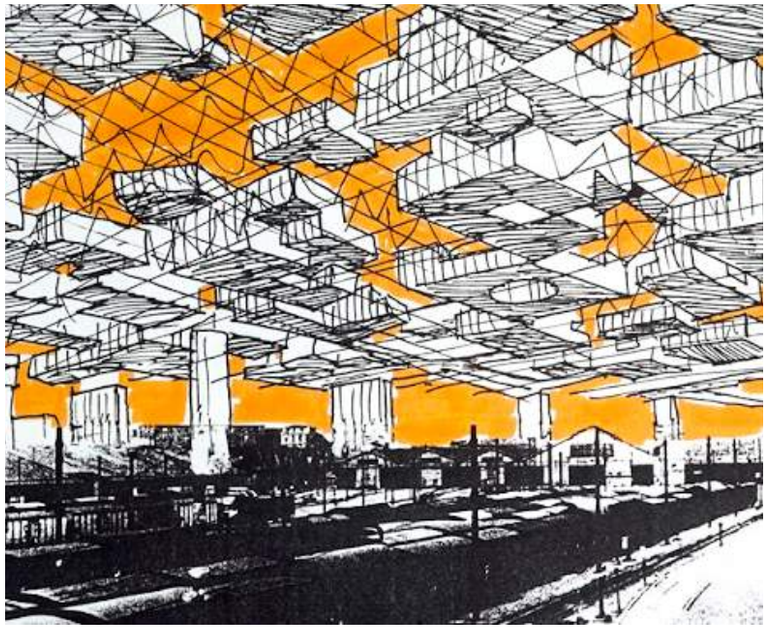
Municipality owns many large public buildings in the city and their interests in making them improving the livability and environmental sustainability is clear from publications on future plannings and ambitions.

Realdania is the main philantropic assossiation operating in Denmark whose aim is 'solving challenges in the Danish society in cooperation with the government, the municipalities, foundations, associations, private businesses and local, voluntary enthusiasts' . The association provides a phone app localising all their properties and workshops.

Map of public buildings owned by Copenhagen Municipality (blue), Realdania (red) and Game (black). Project Site (circle).



Municipality, Realdania and Game websites, promoting support to public activities.



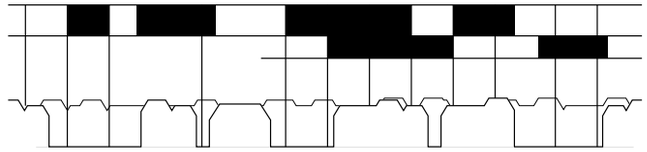
Spatial City, Yona Friedman, 1960. (Exit Utopia, Architectural Provocations, 1956-1976 Prestel, 2005)

ESCAPING URBAN MOBILITY

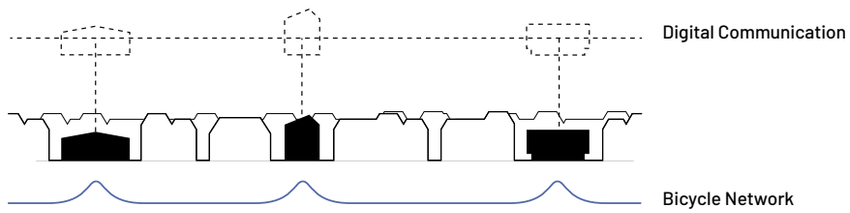
'The Spatial City by Yona Friedman in 1960, was a tubular utopia that sat in concrete towers, where vertical communication flowed. Elevated surfaces that floated 20 metres over the ground served for human activities, such as living or those related to recreation, culture or pedestrian circulation. The lower levels were for work, services and vehicle circulation.' (A. Fernandez Per, 2011)

The new layer of public life envisioned by Friedman in a physical structure, can through the efficient mobility of Copenhagen be created within a single level. The contemporary communication technologies, already driving people in the maze of urban contexts, would catalyse social interactions.

Public Buildings in City



Spatial City (Y. Friedman)



Public Intensified Network

What if <u>every citizen</u>
of any culture, age and social class
could freely join <u>any community</u>
in Copenhagen ?

MANIFESTO

A public condenser in the centre of Vesterbro
to enable a more connected and coordinated public spaces.
This network supported by the healthiest type of mobility and
communcation technologies will push citizens of any social class,
age and culture to join other communities in Copenhagen.


L'TAUENS PLADS
PLAYGROUND, PARK 24H

Haven

Design

SITE

SKYDEBANEHAVEN, *VESTERBRO, COPENHAGEN*

The Shooting Range Garden in the heart of Vesterbro residential neighborhood is one of the oldest urban space formed with the first streets and houses in the 1780s.
The gardens became crucial landmark of the district community also thank to the iconic shooting wall on the south side.
In 2025, it is envisioned to renovate the accessibility to the site with a new high-speed cycle lane. This new connection belongs to a larger network of sustainable mobility designed by the municipality and will turn Skydebanehaven in the perfect site to attract citizens from other neighborhoods.

New Super-highway Bicycle Lanes
source: Municipal Plans for 2025.

Site Plan
2025 cycle lanes and public buildings sround the site.

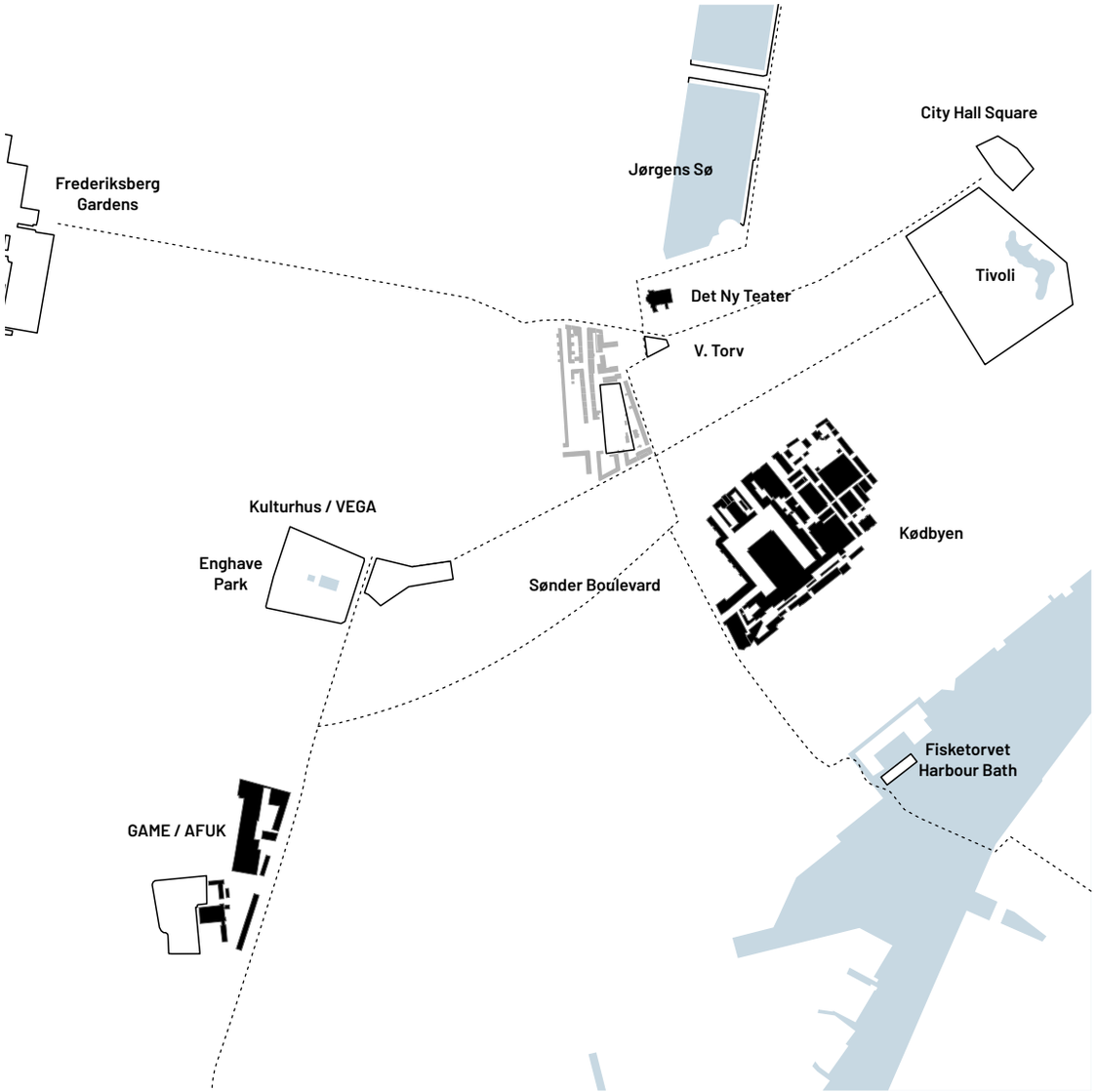
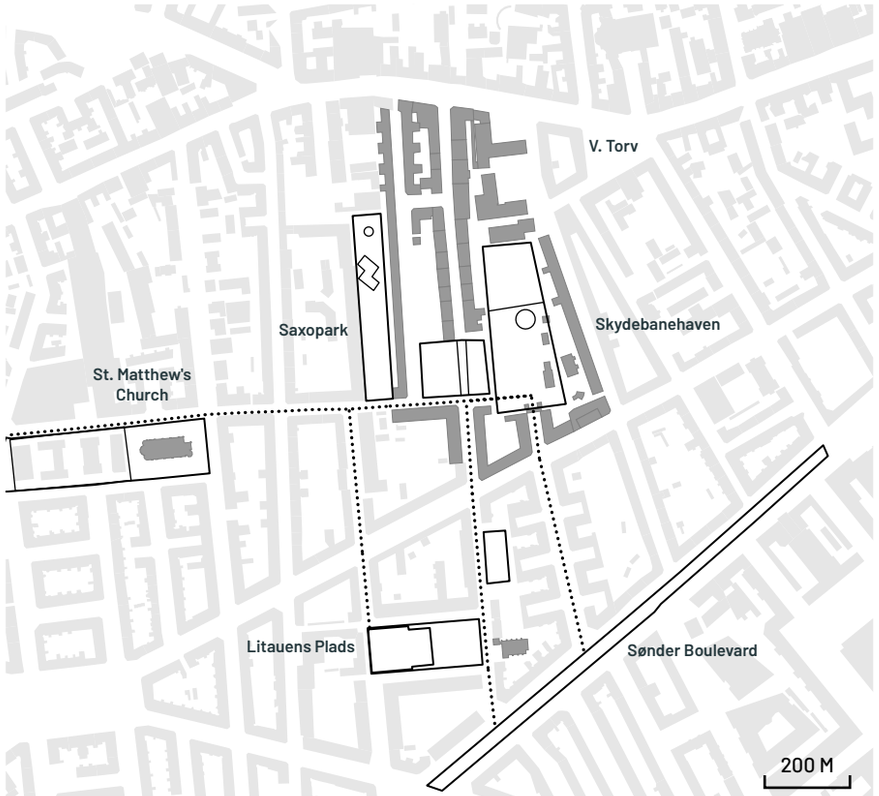


Diagram Urban Connections
(OSM data)

URBAN AND LOCAL

Considering the traffic on the main roads, two level of public spaces are visible. On the scale of Vesterbro, the main infrastructures are leading to Amanger, Friederiksberg, Valby, Norrebro and the city center. In the map, both outdoor public spaces and municipal public buildings are highlighted. The site belongs to three sequences of spaces. A second scale of connections is local, made narrow roads for few cars, parkings and pedestrians. The distinctions between this two scales emerges in the Noise Map, which reveals the currently quiet condition of Skydebanhaven.

Noise Map
(data from
Københavenkorten)



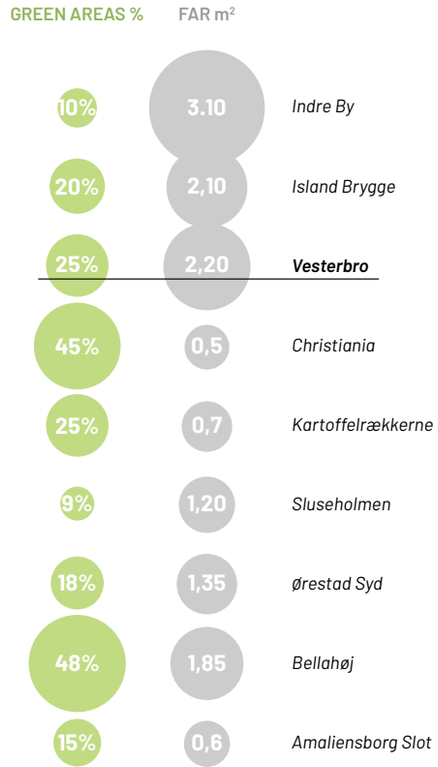
Local Connections
(OSM data)

PRECIOUS UNBUILT AREAS

After the urban renewal, Vesterbro gained new squares, pocket parks and playgrounds within the dense urban fabric. Some perimeter blocks were opened becoming similar public spaces to Skydebanehaven. However, Skydebanehaven represents one of the largest areas in the centre of the district and, on a local level, green areas are still demanded.

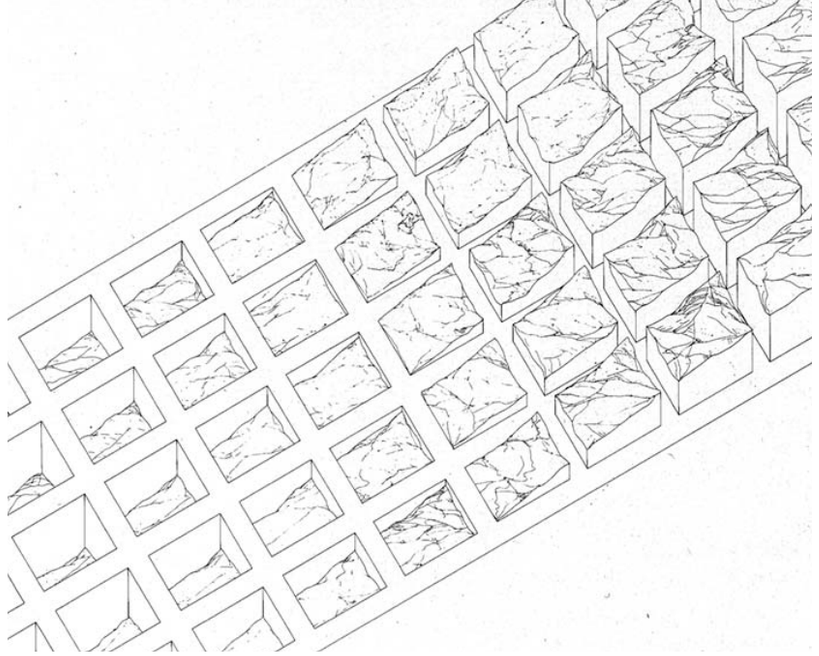
CLIMATE ADAPTATION

In the attempt to improve public life with a more naturalistic environment, heavy floodings occurring periodically in Vesterbro risk to be out of control. The design can be part of the Climate Adaptation Plan published by the Municipality (Copenhagen
Carbon Neutral by 2025), and most importantly turn a problem into a benefit for dynamic public spaces.



Green Areas VS FAR in some urban texture of Copenhagen
(Data from Altas of the Copenhagens, 2018)

Map of the green areas around Skydebanehaven (OSM data)

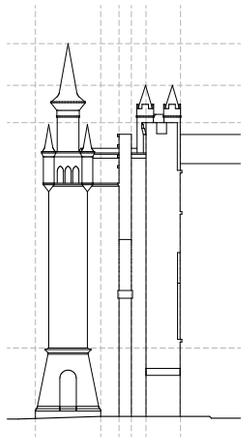


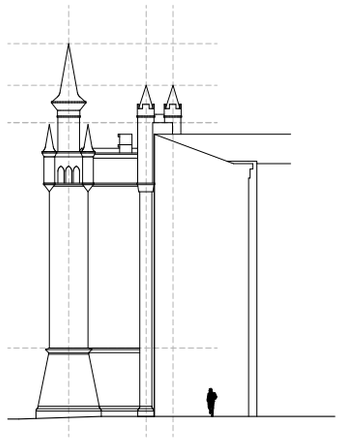
H. D. Schaal, Regular Park Form,
Intersection of paths in a landscape,
Stairway path / Treppenweg (1970)

NATURAL SETTINGS

Herbert R. Schaal's black and white drawings synthesized researches on the continuous space, the relationship between natural settings and human-made structures, the path as a space for representation, always keeping an ironical eye.
The redesign Enghave Park in Vesterbro is a pragmatic example of public space responding to natural processes, in this case, future flooding caused by torrential rain. This park will potentially contain 26,000 m3 of water, replacing underground sewers and shifting between reservoir and playground for locals.

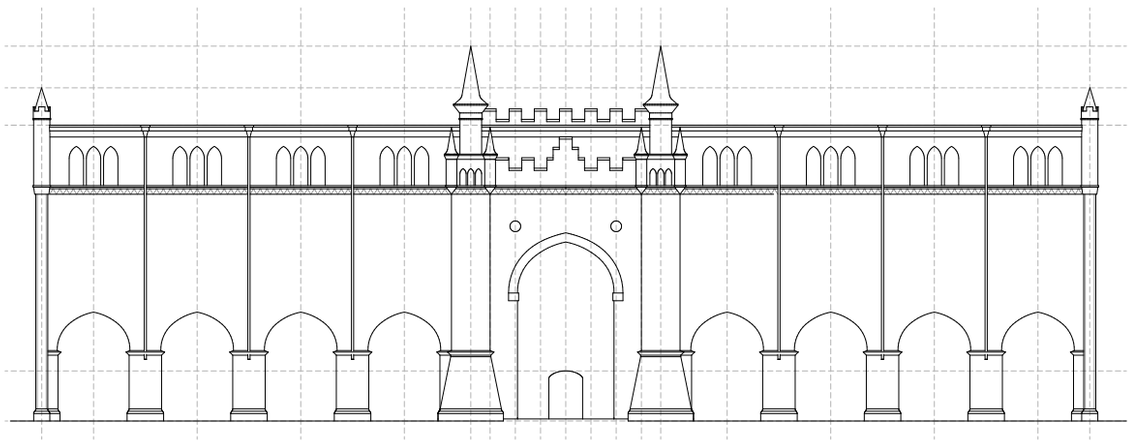
COWI, TREDJE NATUR and Platant,
Enghave Park (2019)





IDENTITY FROM THE PAST

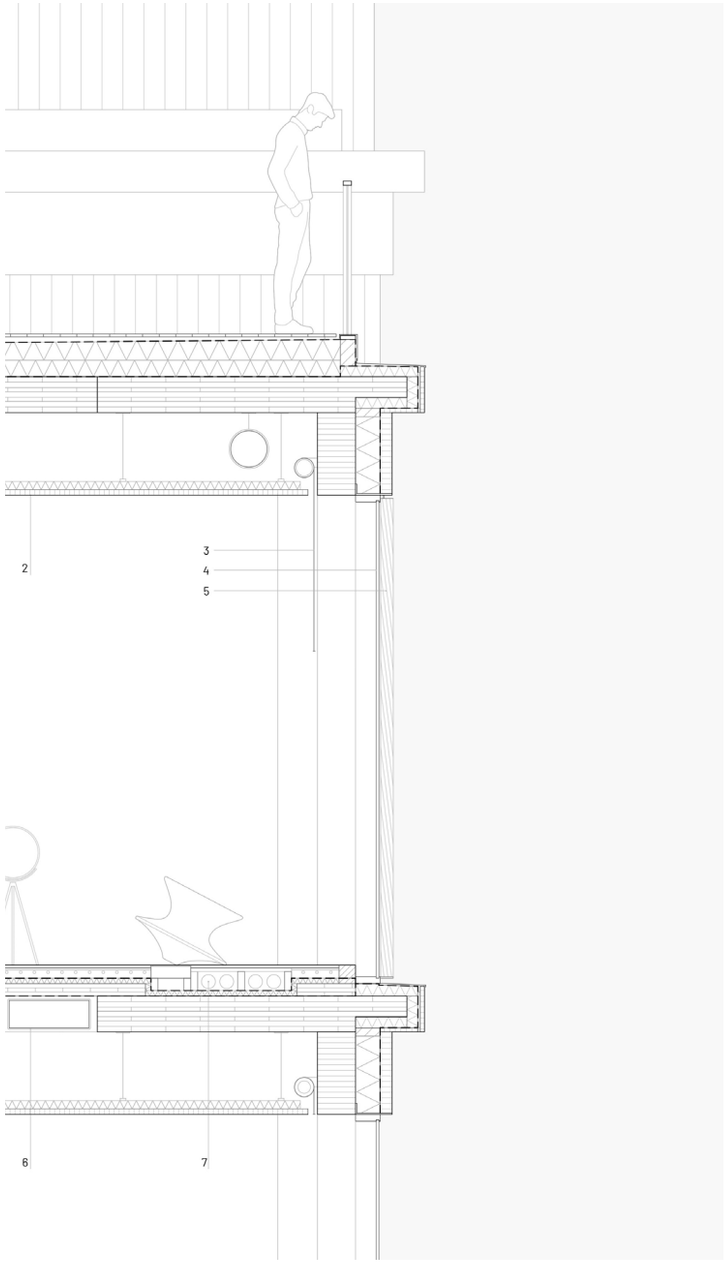
Crucial character to Skydebanehaven is given by the Shooting Wall on the south side. Erected in the 1870s, the wall was restored and remained as visual background and recognizable artefact of the entire neighbourhood. Its presence may easily considered an asset in any new construction on site, especially if it concerns the public.



Shooting Range Wall 1974
source: Copenhagen Municipal Archive

MULTIPLE DISCONNECTED

As typically occurring in many european city, the perimeter block is made by diverse interventions, resulting in a complanar facades composed as a collage of colors, materials, and at times styles. Vesterbro facades alternates pastel colors and are characterized by at least two tones distinguishing the lower plint from the upper levels. This composition of rectangular patches is one of the aestethical character to confront with for new constructions.



Frame of Haven Detail Facade, 1.30

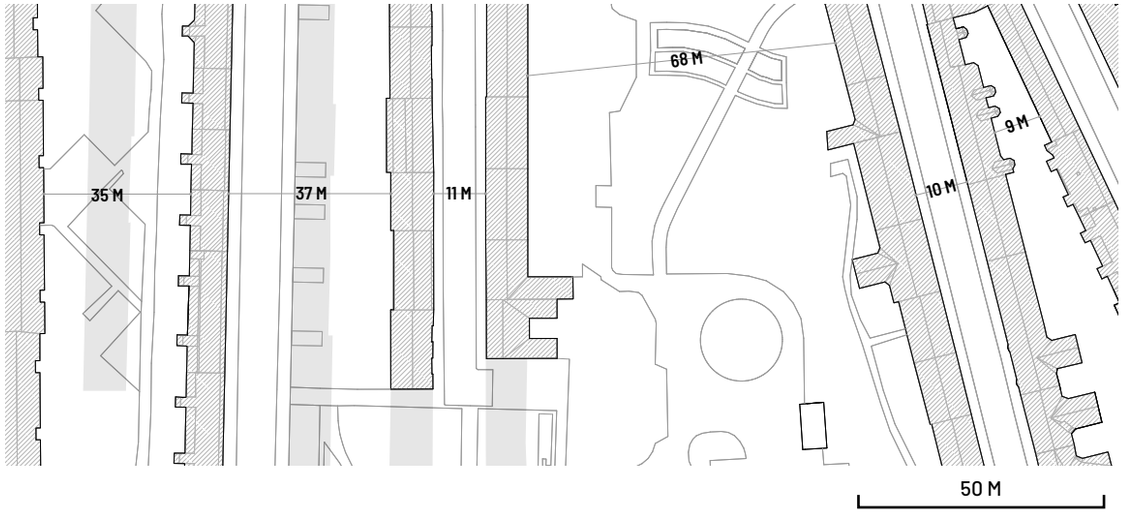
Vesterbrogade in 2019
source: Copenhagen Municipal Archive

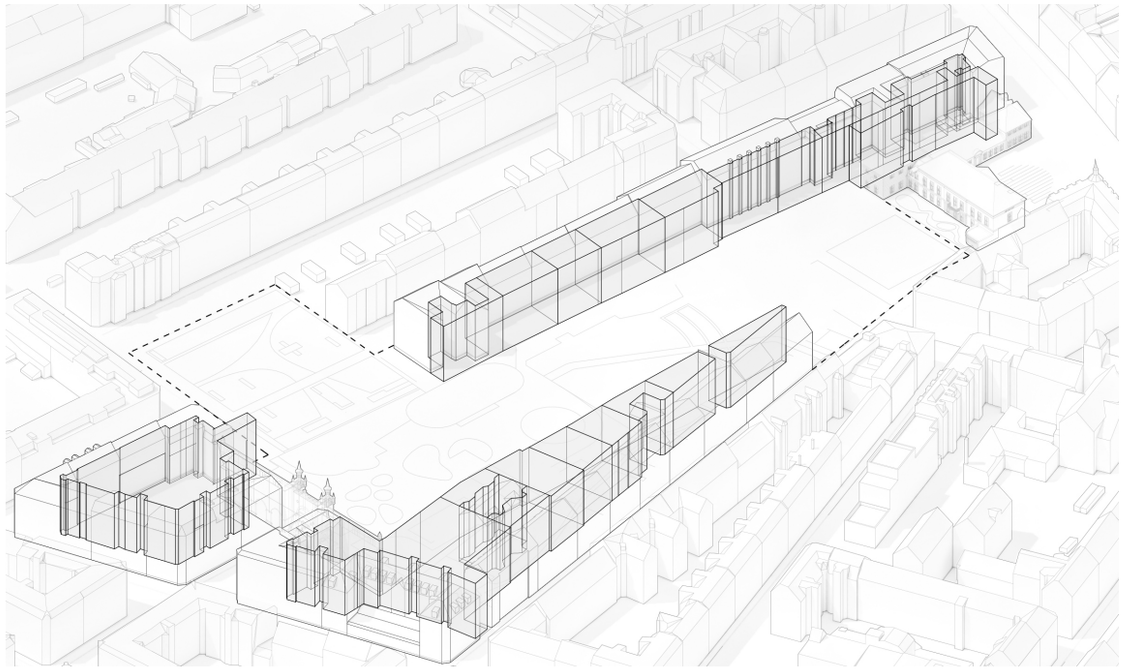
MORPHOLOGY FOR INVISIBILITY

In the MVRDV's publication 'FARMAX - Excursion of Density', the dutch architects explored the maximum volume allowed to garantee the sunlight requirements.
That procedure was applied to the context of Skydebanehaven to get more information on the virtually maximum space that the project could have occupied.
The output demonstrated the possible limitation and contraddiction of building in a court whose perimeter was recently demolished to enhance the sunlight for residents.

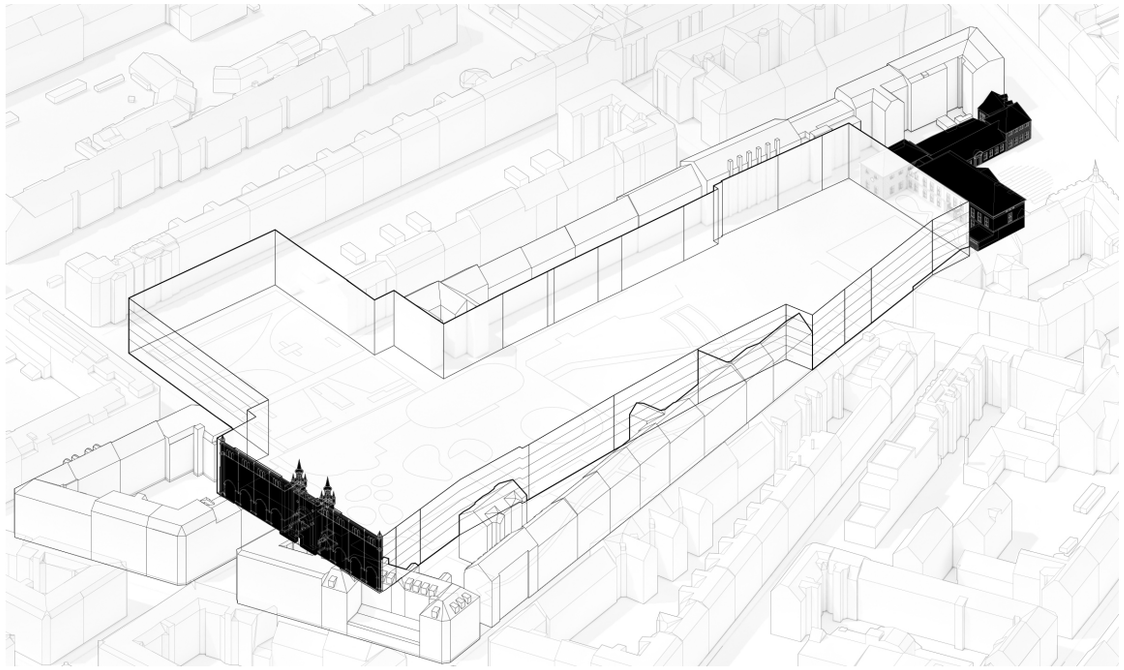
Courtyard Form Dannebrogsgade 1981. Source: Kobenhavn Museum

Building regulations. Copenhagen: Danish Ministry of Economic and Business Affairs, 2010.

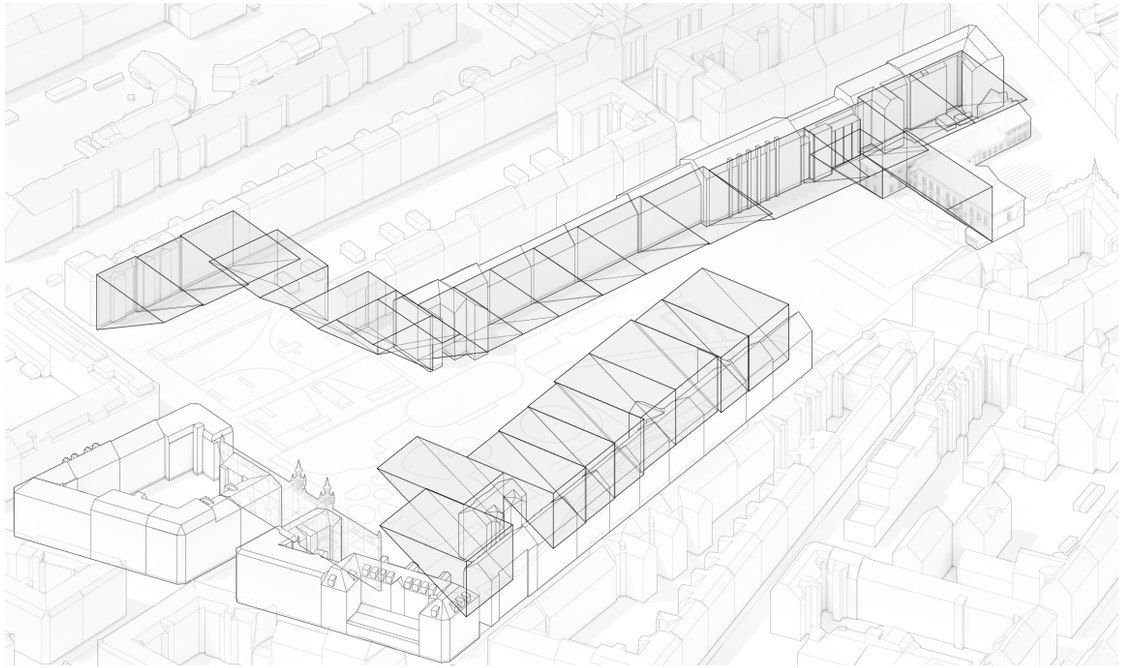




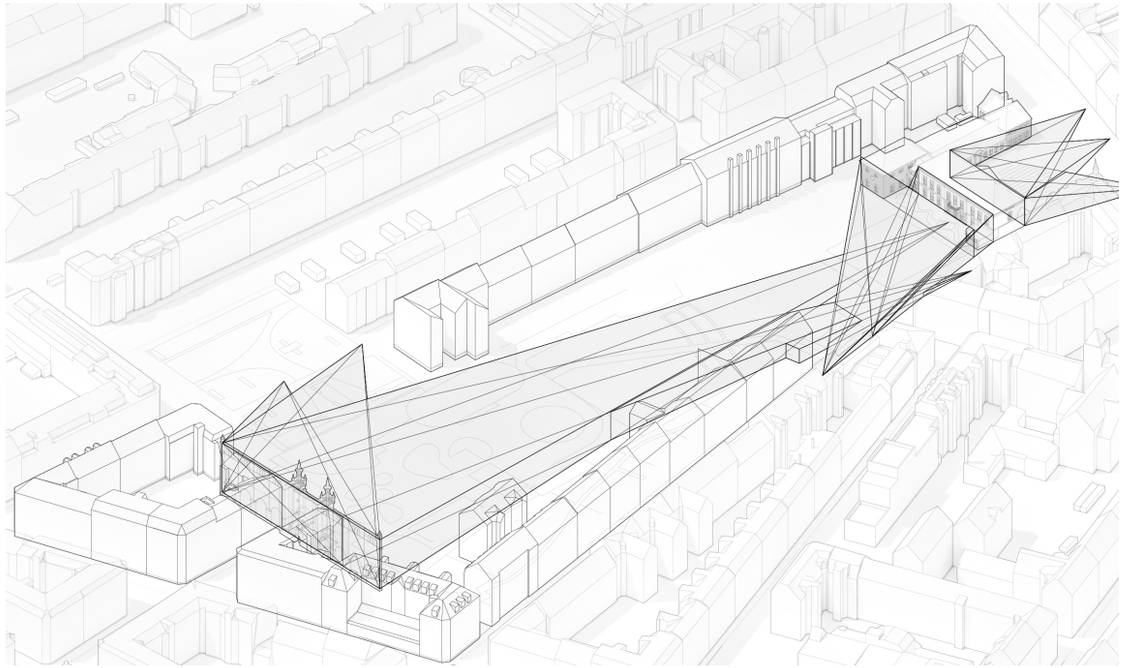
Private backyard



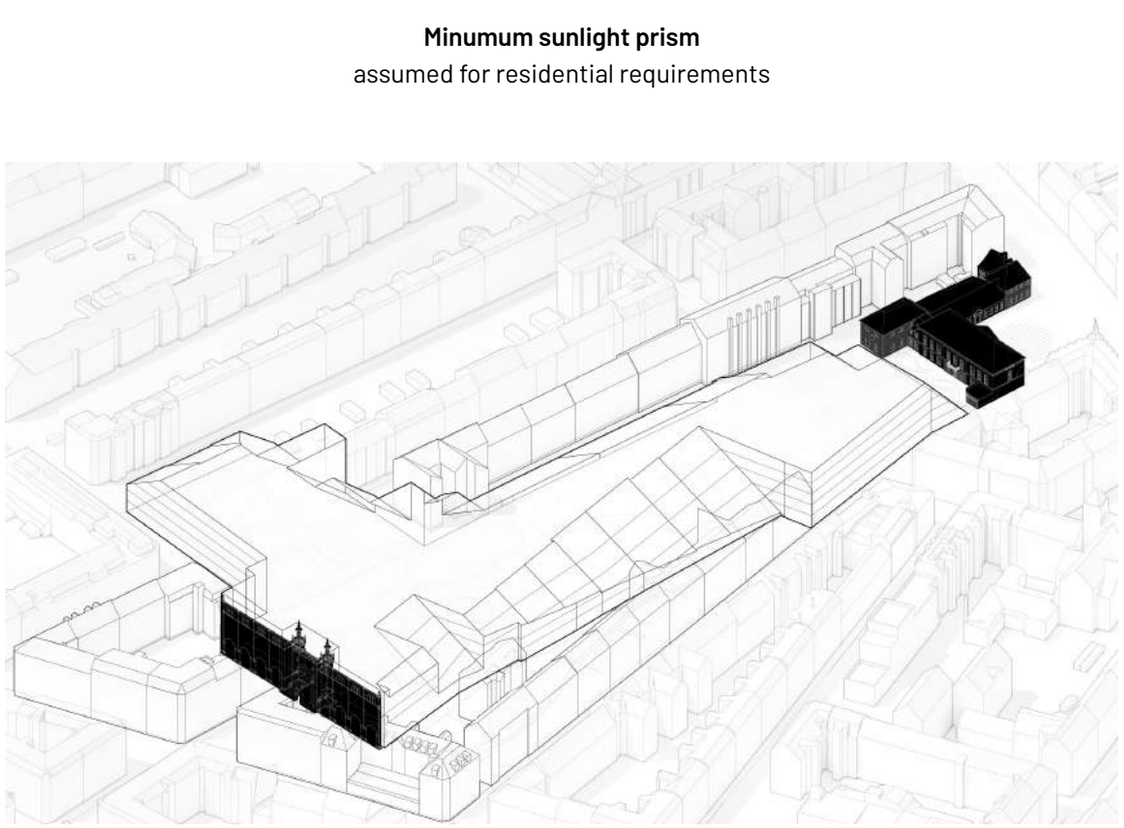
Extrusion of inner court
up to contextual average height of 20 m



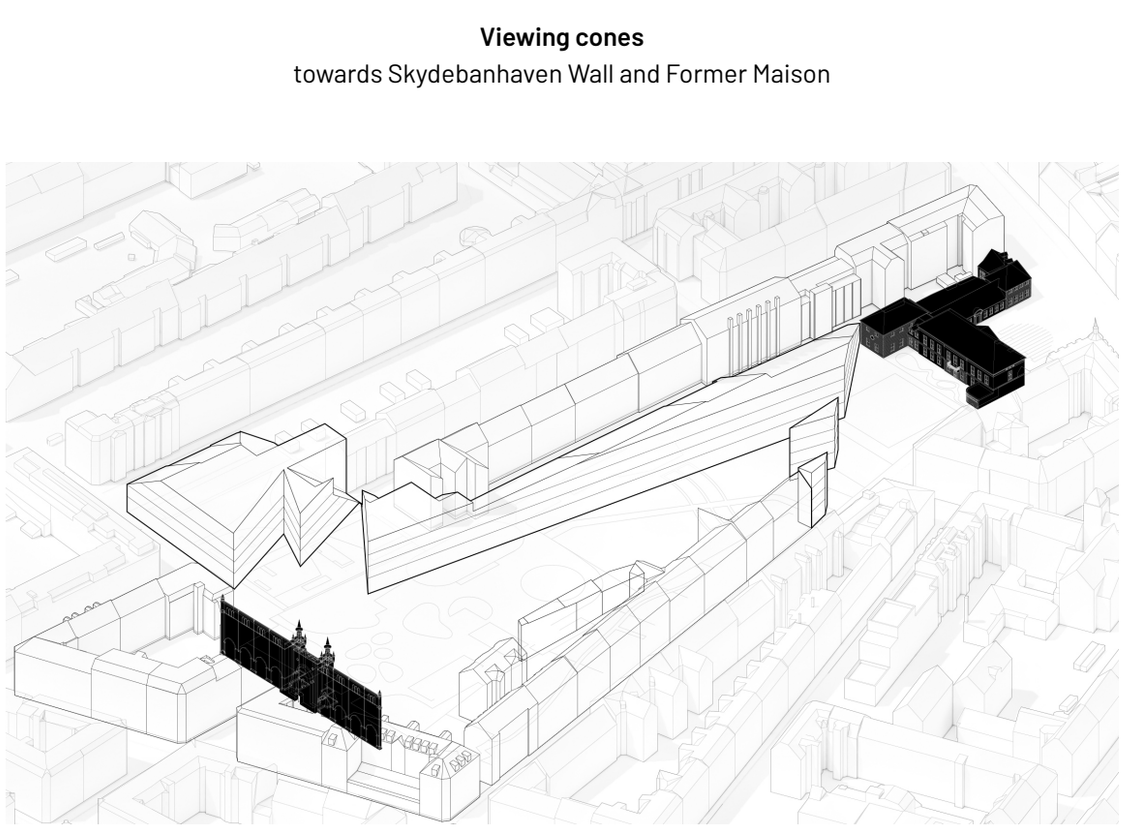
Minumum sunlight prism
assumed for residential requirements



Viewing cones
towards Skydebanhaven Wall and Former Maison



Cut off 1
ground area: 18.930 m^2

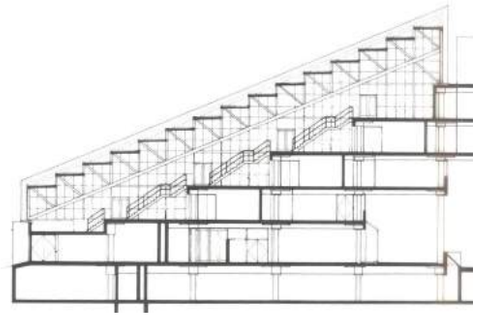


Cut off 2
ground area: 6,870 m^2

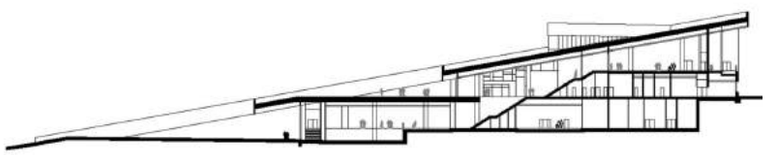
EXCLUDED FORMS

Testing morphologies is intended as a primitive architectural gesture disconnect from other aims of the project. It allows to discover when the context may reject the design.
Sunlight and routing analysis legitimize the need of an empty space between the maison and the new construction.
On the south side, the vast garden and the shooting wall suggested sloped form to mitigate the visual impact of a new construction.

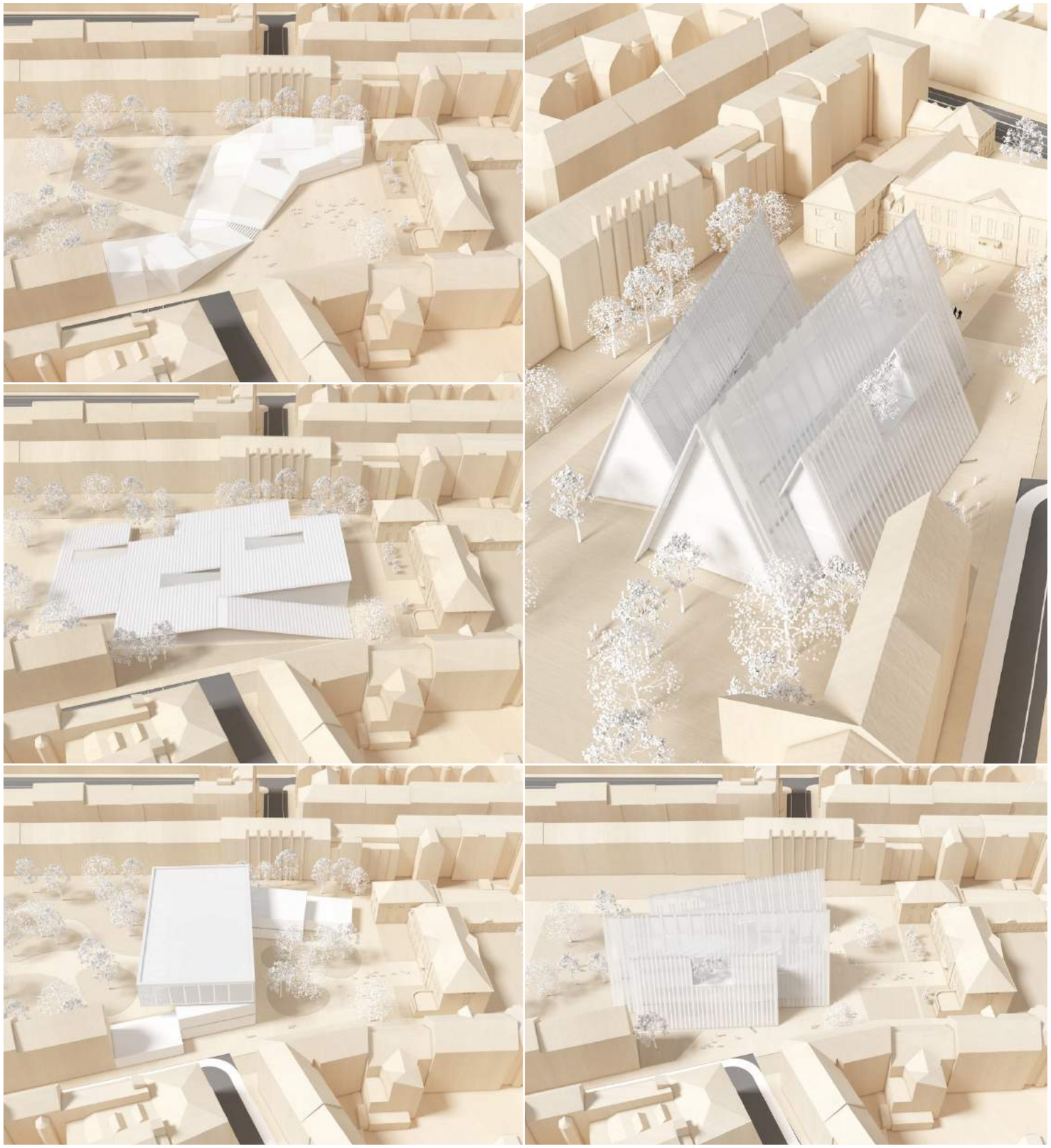
Digital Models of alternative forms on Skidebanehaven site.



Gund Hall,
by John Andrews, Graduate School of Design,
Harvard University, Cambridge, USA, 1972.

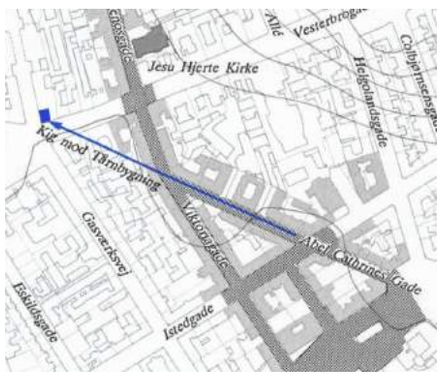


Moesgaard Museum,
by Henning Larsen, Aarhus, Denmark, 2015



CONSEQUENCES OF THE HEIGHT

The tallest buildings in the district are historically churches and spires at the corner of residential blocks. According to the district Atlas of Vesterbro (1991), the disposition of towers resulted from the ealier formation of the urban fabric. This is the case of Abel Cathrines Gade which is aligned with one of the tallest spires along Vesterbrogade. Furthermore, public activities of the brief requires large, at times fixed, sizes while only few can be located on higher levels without affecting the surrounding daylight and wind.



Alignment of Abel Catherine Gade to Kif mod spire on Vesterbrogade
Excerpt from District Atlas of Vesterbro 1991.

BIKE CAPACITY

The bicycle capacity of a public building results from the negotiation between the necessary parking area and extreme condition of overuse. The number of people accepted by the program is the main indicator of the bicycles expected on site. However, the building could offer parking for non-users: local residents or visitors of surrounding sites.

Statistically, 4 kilometers is the average distance that people would cycle to a recreational space in Copenhagen, corresponding to 12-14 minutes ride. With the maximum attractiveness, the public building should have the maximum bike capacity.

If all the bicycles less than 4 km far will be on site, the required parking would equal a 30-level tower.

Realistically, the peak of users is expected in the afternoon, when both schoolars and workers have their free time.

In 2015, cargo bikes amounted for roughly 6% of normal bikes in Copenhagen.

CPH Bicycles Capacity

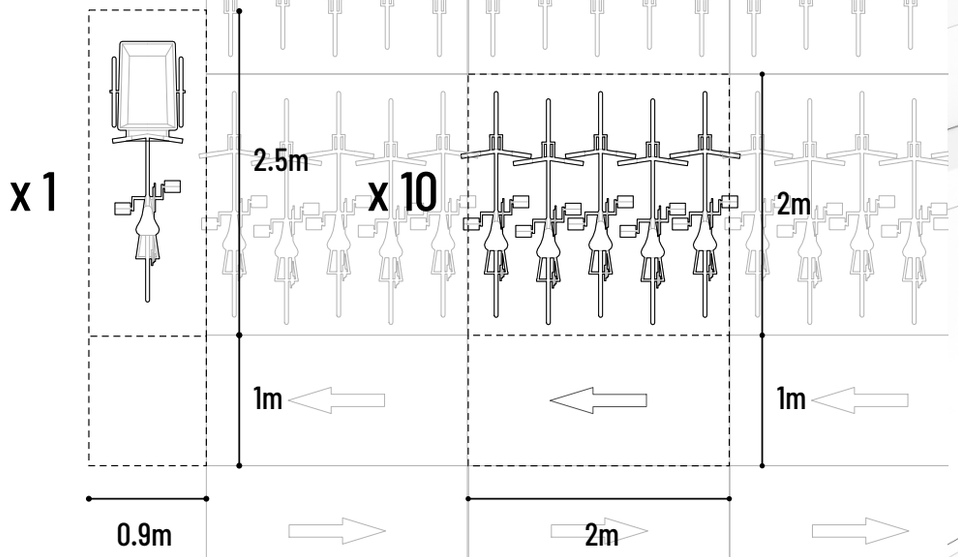
675.000 Bicycles

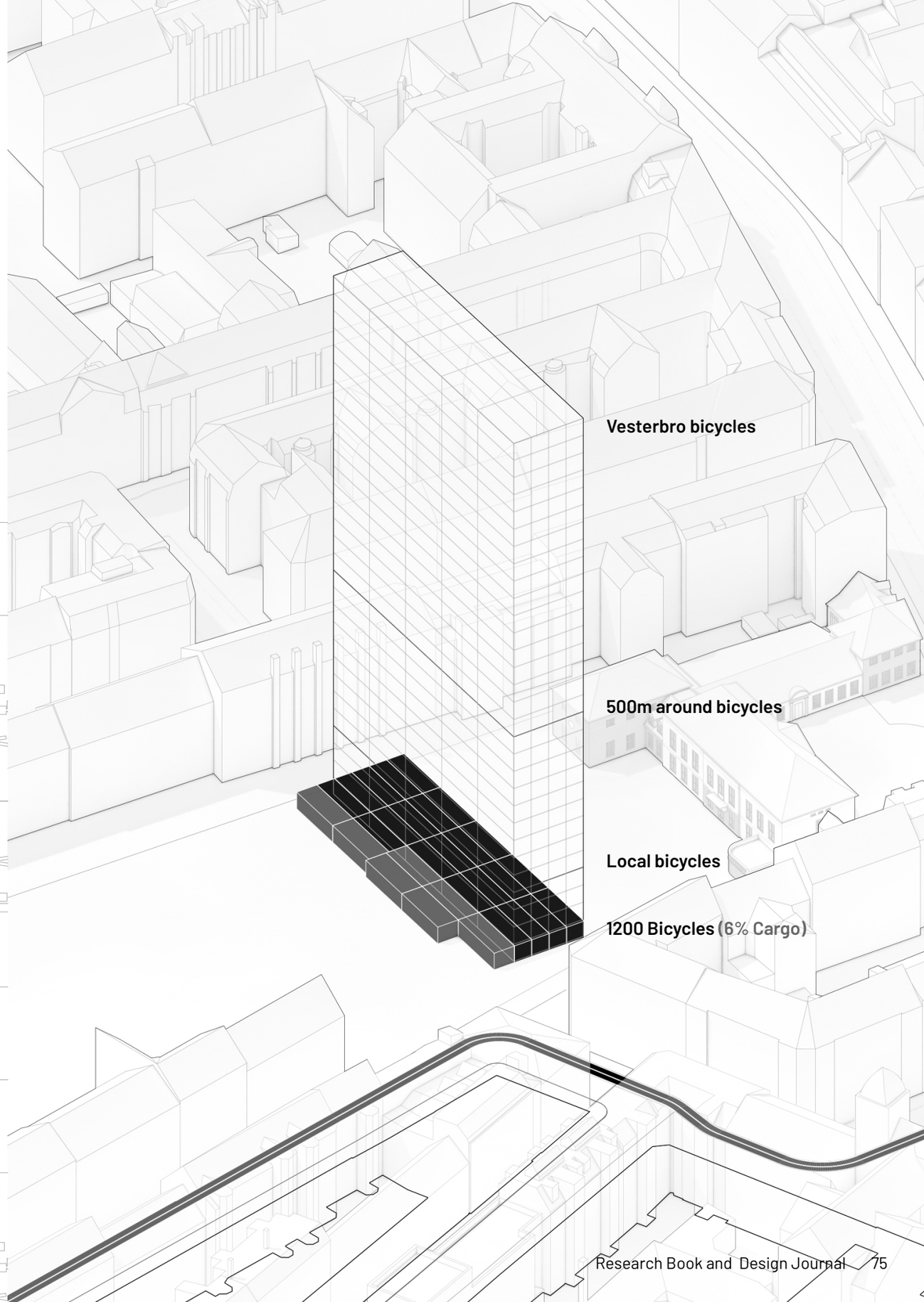
Vesterbro Bicycles Capacity

51.400	Vesterbro Population
5.480	Residents within 100m from site

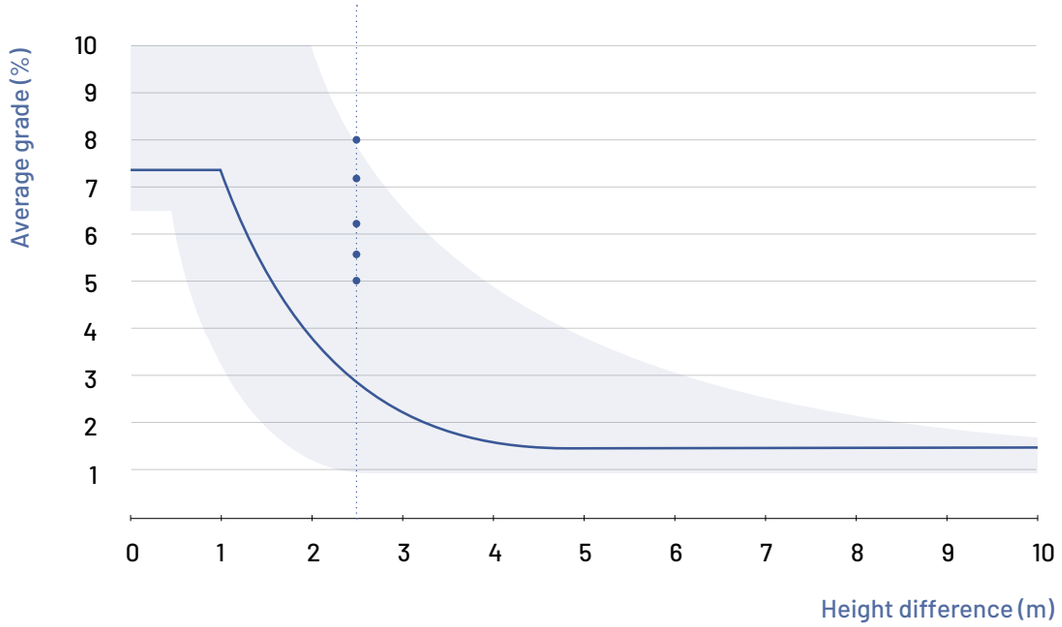
Program Capacity

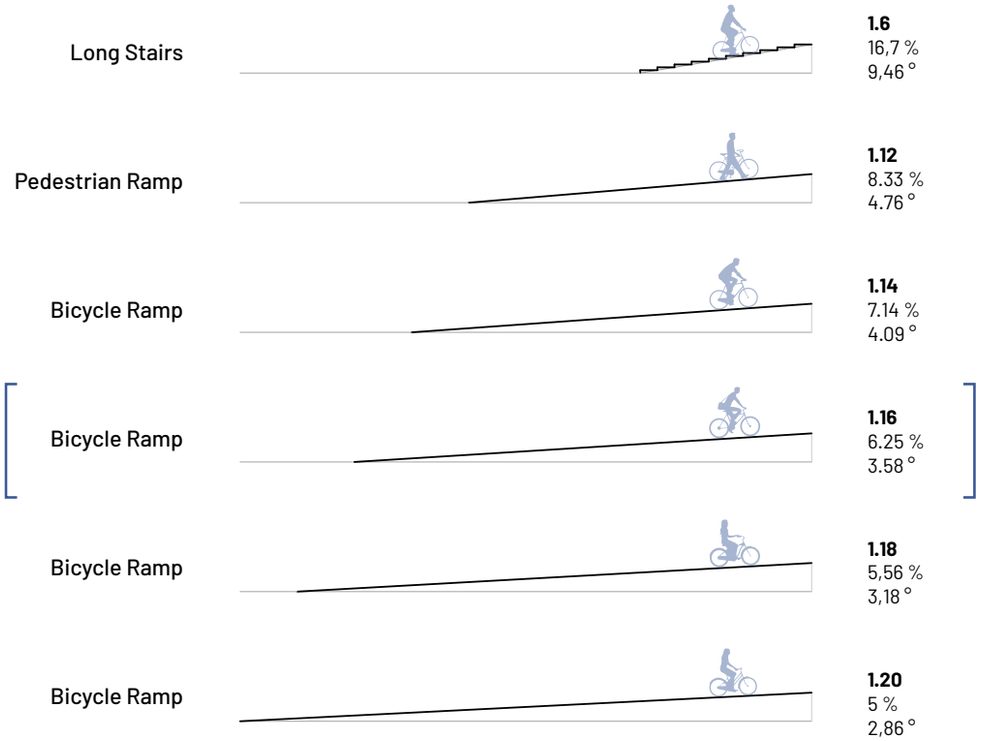
	LOCAL
150	Living Room
90	Sports Hall + Dance
30	Meditation
100	Ungstomgard
	URBAN
300	Auditorium
45	Workshops
400	Gardens + Square
85	Museum
1200	**TOTAL USERS**

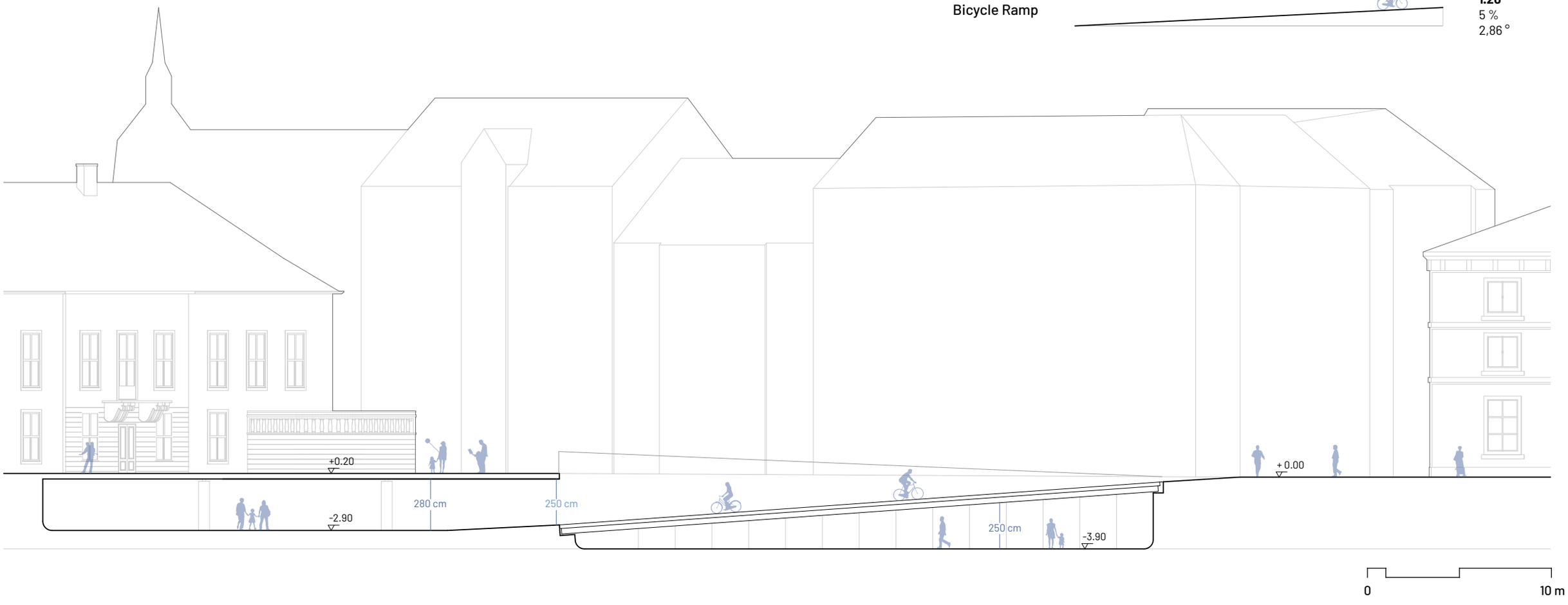




BIKE SLOPES


Average grade (%)
10
9
8
7
6
5
4
3
2
1
0
1
2
3
4
5
6
7
8
9
10
Height difference (m)


Long Stairs
1.6
16,7 %
9,46 °
Pedestrian Ramp
1.12
8.33 %
4.76 °
Bicycle Ramp
1.14
7.14 %
4.09 °
Bicycle Ramp
1.16
6.25 %
3.58 °
Bicycle Ramp
1.18
5,56 %
3,18 °
Bicycle Ramp
1.20
5 %
2,86 °


+0.20
-2.90
280 cm
250 cm
250 cm
+ 0.00
-3.90
0
10 m

PROGRAM FOR SOCIAL MIX

To define a program in the logic of the Public Intensified Network (Manifesto), it is important to consider the characteristics of the main 'public condensers' already existing in Vesterbro.
In this way, the design will be directed towards different spatial qualities. Indeed, in a scenario of changable programs, it is crucial differentiate the architecture typology from the existing and offer contextualised and attractive public space.
For instance, Kødbyen and GAME Complex are the largest public faciities in the district while VE2, Vesterbro Ungstomgard and Skydebane Maison are potentially existing activities to be integrated on site.
This analysis contributed to the definition of design program from a large array of public activities:

CULTURE

Theater
Auditorium
Performing arts center
Music Venue
Concert house
Cinema
Opera house
Dance hall
Amphitheater

Museum
Pavilion
Gallery
Exhibition center
Installation
Preservation Site
Acquarium
Planetarium
Watching Tower

Workshop
School
Makerspace
Hackerspace
Library
Learning center
Visitor center
Visual arts center
Science center
Youth center
Kindergarten
Office
Watching tower
Zoo
Aquarium
Interpretation Center
Planetarium

MOVEMENT

Playground
Sports Hall
Gymnasium
Swimming pool
Fitness club
Ski centre
Skatepark
Race Track
Running Track
Martial Art
Bouldring, Climbing
Interactive Game
Table Game

Spa
Sauna
Meditation room
Bath House
Massage Room
Therm
Hospital
Medical facilities
Rehabilitation center
Retirement
Asylum
Healthcare center
Clinic

COMMERCE

Market
Shopping Centre
Showroom
Grocery Store
Pharmacy
Temporary stores
Bicycle Store
Gas station
Charging Station

URBAN

Urban Farm
Botanical Garden
Herb Garden
Greenhouse
Community Garden
Park
Riverside
Lagoon

Cafeteria
Pub
Night club
RestaurantFast Food
Coffee Shop
Lounge Room
Dining Room
Square
Community Hall
Sidewalk
Street

KØDBYEN / ØKSNEHALLEN

'It approx. 173,000 m² of meat village area, i.e. The Brown, Gray and White Meat Town between Halmtorvet and Ingerslevsgade with approx. 129,000 m² of buildings and approx. 2,100 jobs, has over the past 10 years the character has changed and gained a more central position in the municipality development.
Nearest to the Central Station is the Danish Gymnastics and Sports Associations at the end of the '90s established the DGI city, which at present. is expanding with a 4th stage. DGI-city sports facilities as well as the new leisure and cultural offerings in the renovated buildings in the Brown Meat Village - Øksnehallen and more - serves the citizens of Vesterbro, but also applies - with their functions and central location - to a much larger hinterland.'

Sources: gamedenmark.org

KØDBYEN / ØKSNEHALLEN

3MIN BIKE TO SKYDEBANEHAVEN

PERFORM
HUSETS TEATER

PERFORM
WAREHOUSE9

THINK
PERFORM
ØKSNEHALLEN

THINK
TOOLBOX FILM

THINK
MUSIC SCHOOL

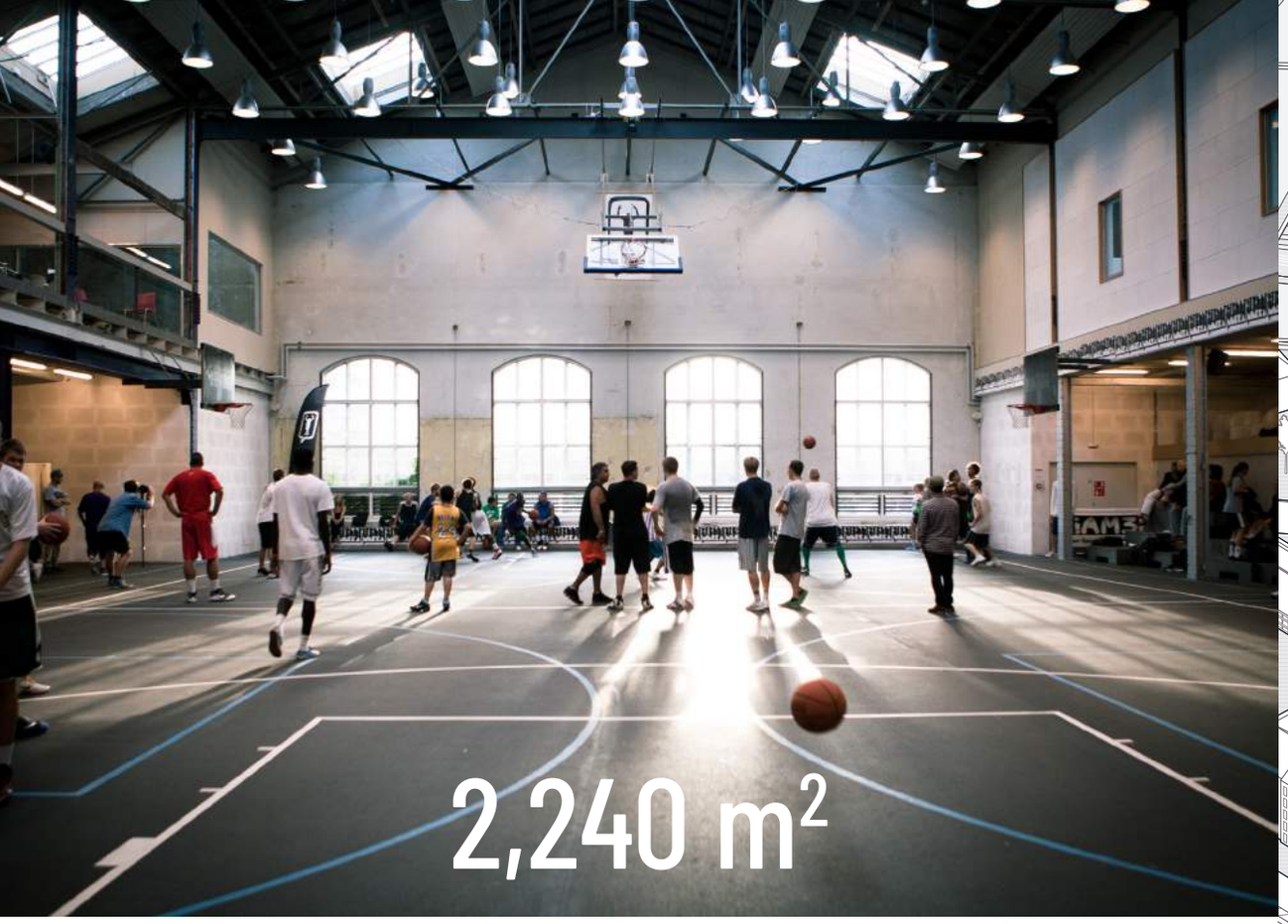
THINK
HAUT SCENE

THINK
THEATER SCHOOL

PERFORM
SORT/HVID

PERFORM
BO BJERGGAARD

PERFORM
KB3

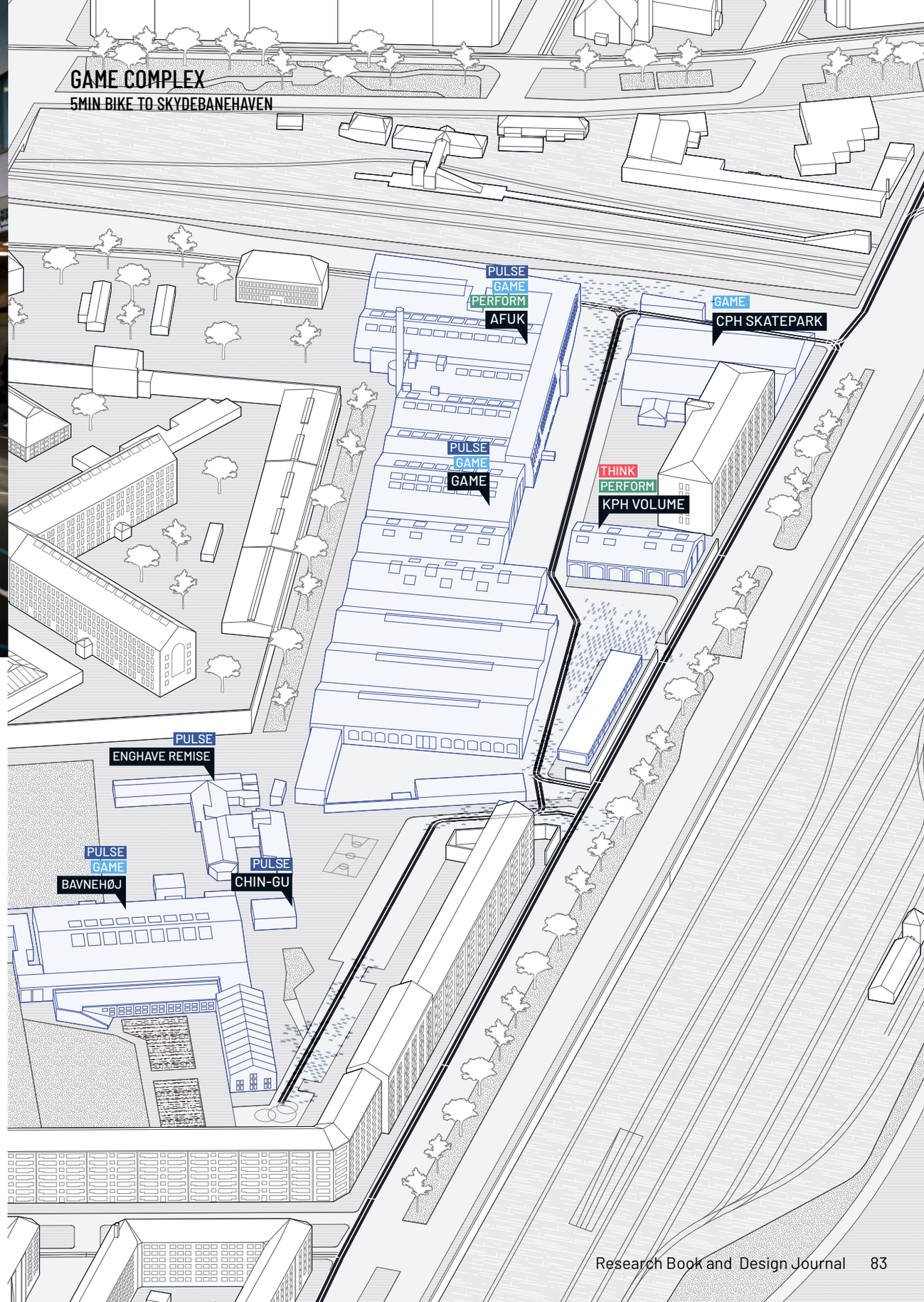


GAME / STREETMEKKA COPENHAGEN

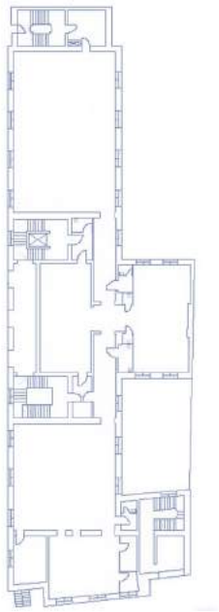
GAME Streetmekka Copenhagen consists of a total space of 2240 m². It consists of three sports halls with an upper balcony. Every school or institution in Copenhagen can book and have access to this facility without any costs.
In its proximity, a series of other sheds host diverse sports areas.The dimension of sheds provide rooms for extensive sportshalls and indoor skatepark. With an open-air swimming pool and many other outdoor football pitches, the whole area is characterised by sports functions.

+ BAVNEHØJ HALL / SWIMMING POOL
+ AFUK SCHOOL
+ CPH INDOOR SKATEPARK

Sources: gamedenmark.org



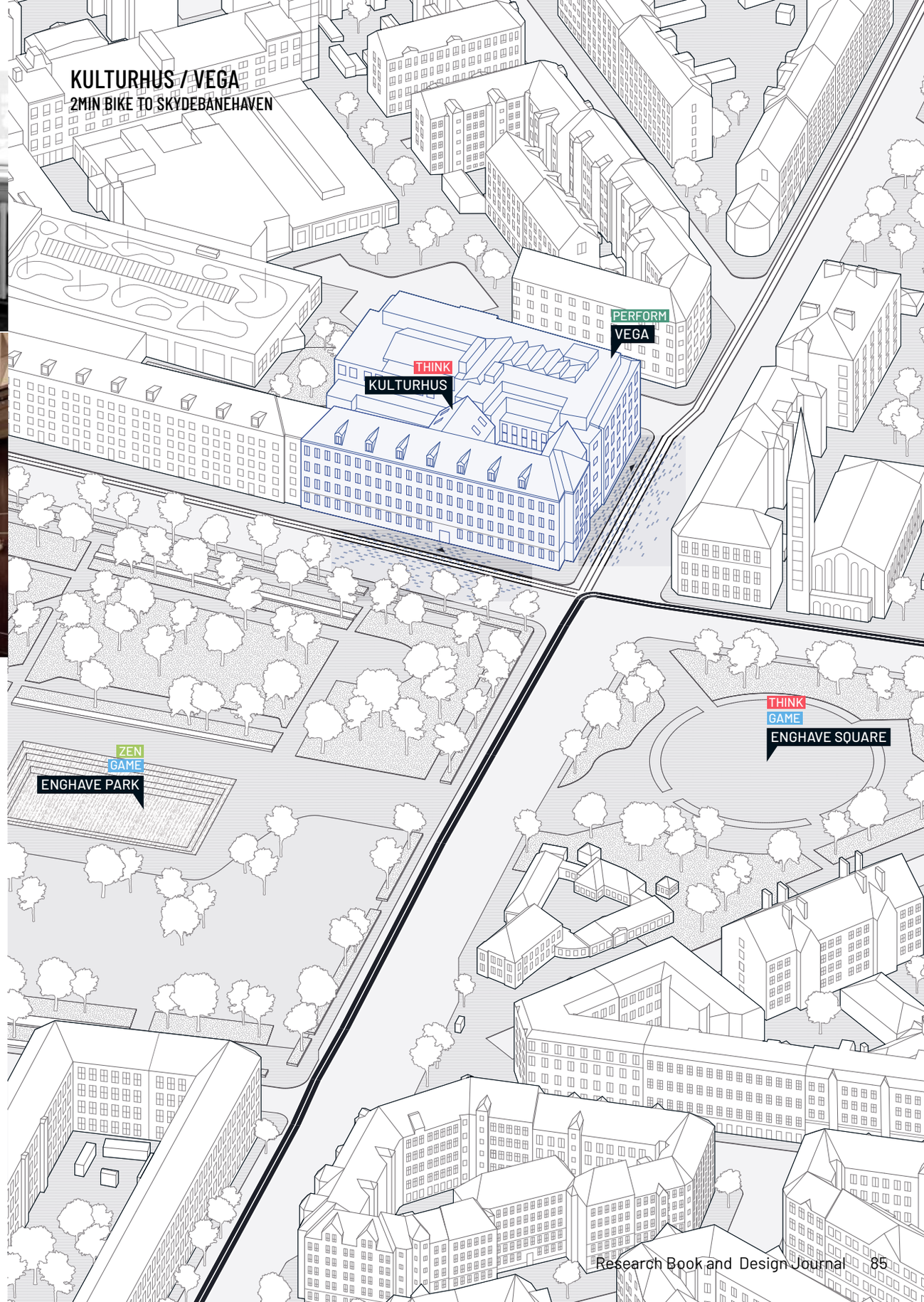
VESTERBRO LIBRARY AND KULTURHUS / VEGA MUSIC CENTER



The Library and Kulturhus of Vesterbro are located in one of the tipically residential perimeter block built in th first half of the last century. Therefore, it is configured with rooms connected by coridor and staircase. It includes and adult library and living room at the ground level, while the upper levels includes other tematic rooms, ceramic workshop, kids library and offices.

VEGA is an entertainment center built in 1956 and restored in 1996 as a music venue. It include six large halls: one concert hall for up to 800 seats or 1500 standing people, a party hall (500 people) ,a lounge hall (300 people), a bar (200 people), and other two halls for up to 50 visitors.

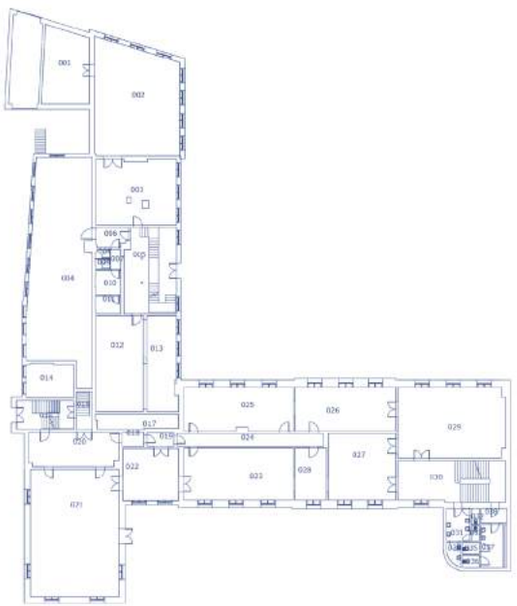
Sources: Kobenhavn Kommune kulturv.kk.dk. Images: renover.dk; vega.dk



2,550 m²

1,220 m²

SHOOTING RANGE MAISON / FORMER MUSEUM OF COPENHAGEN



The Skydebanhave Maison consits of 2550 m2 in two levels and a 700 m2 basement with ceiling 1,25 above terrain. As one of the oldest construction of the neighborhood, it is considered a protected and therefore periodically mantained building.
In 1782, the Royal Copenhagen Shooting Society granted the permission for training outside the city and acquired a 3.5-hectare piece of land stretched more than 500 meters from Vesterbrogade down to Kalvebod Strand. Five years later, the society built the Maison as a venue for their social activities and shooting range for the leisure of high-societies types.

VESTERBRO UNGDOMSGÅRD / HALL 250

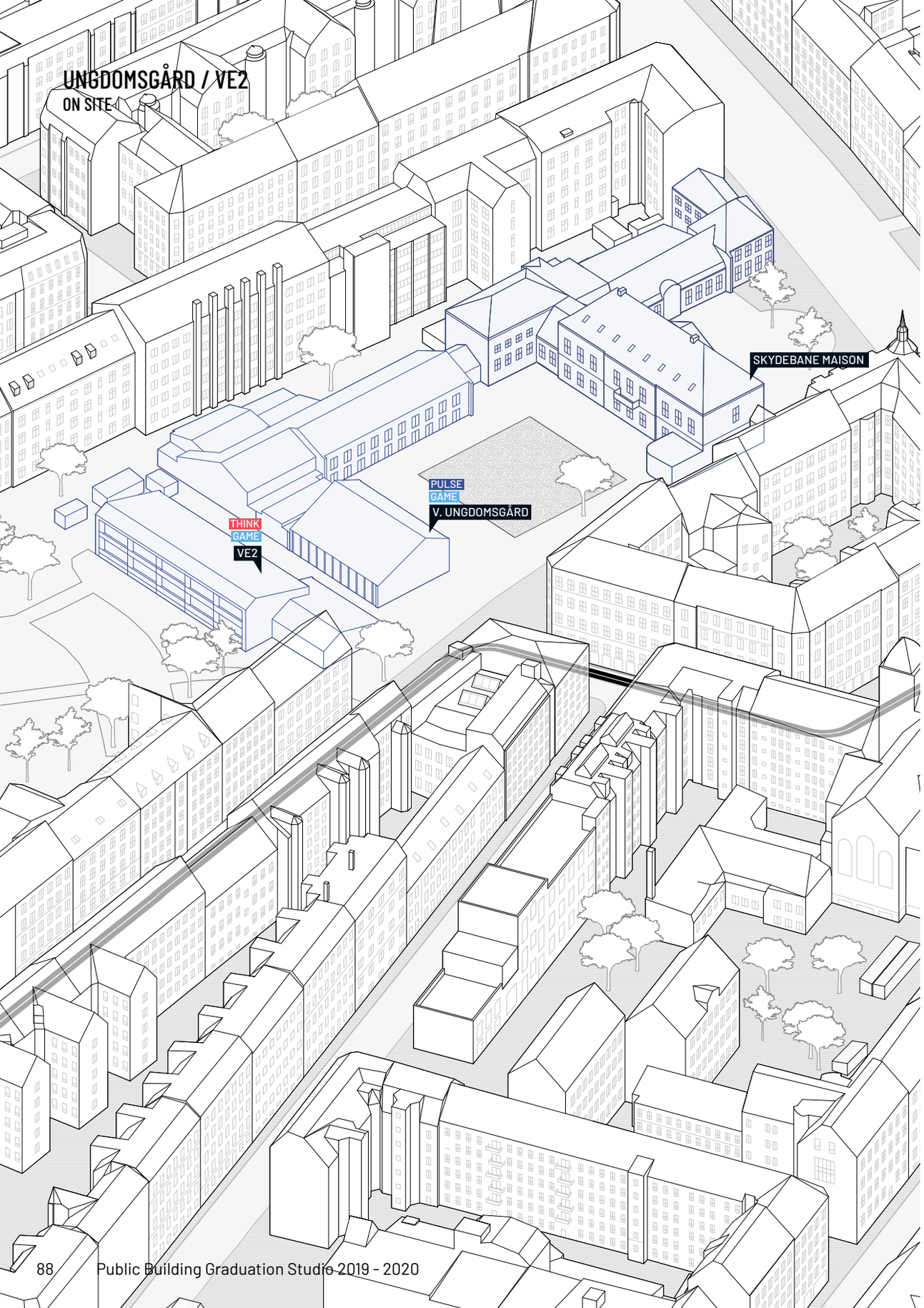
'Vesterbro Ungdomsgård is an attractive leisure service that supports children and young people to become as skilled as they can and viable. We therefore focus on well-being, learning, community and democratic education.
(...) different activities every day - among other things. sports and games, creations and designs, inventions, live and board games, music, choirs, DJ, food workshop, gaming and much more.'

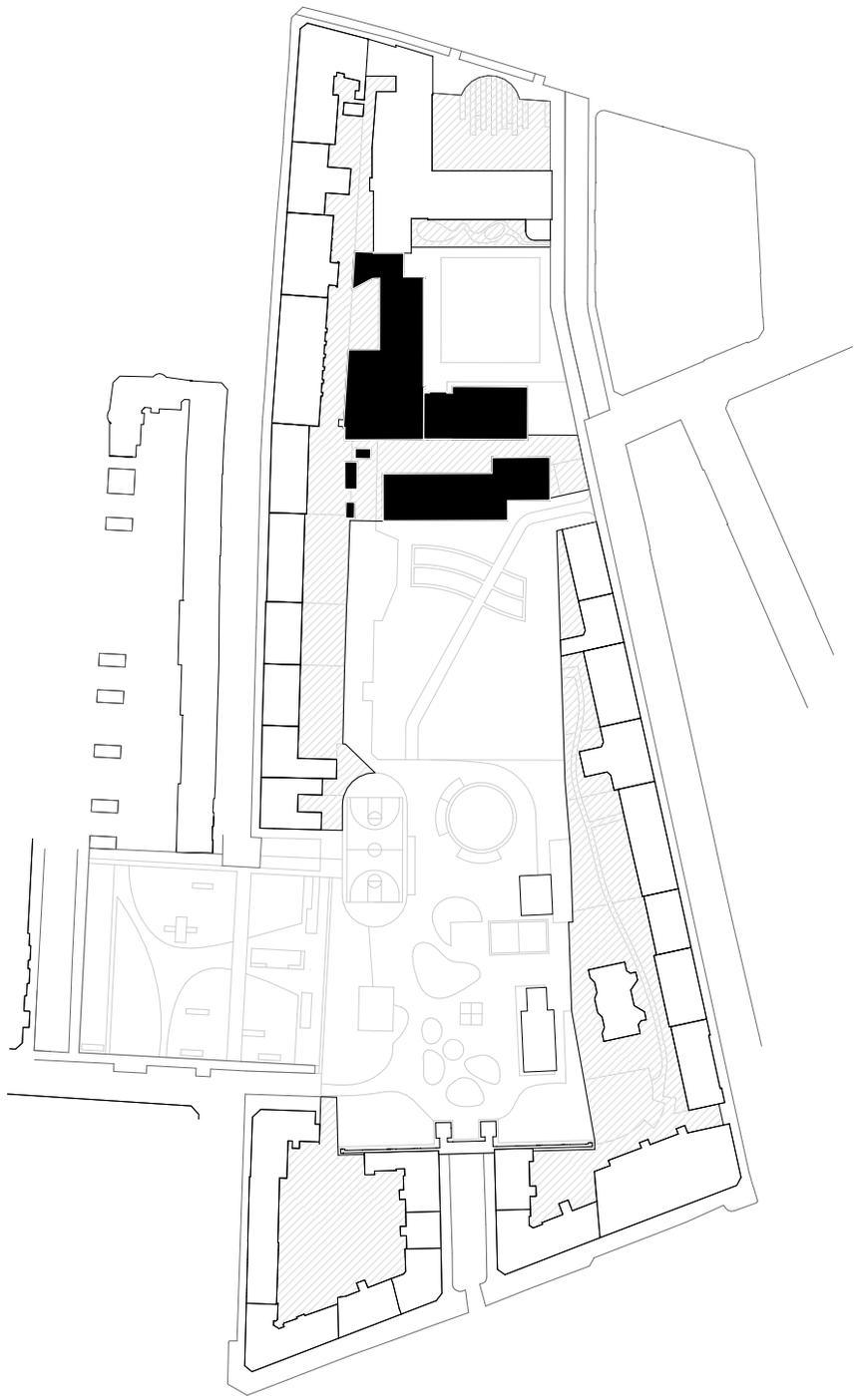
+ VESTERBRO BØRNEGÅRD / VE2

Ve2 is a nursery school on two levels, plus basement, which can host up to 110 children.
It includes four halls, a kitchen, a living room.

UNGDOMSGÅRD / VE2

ON SITE

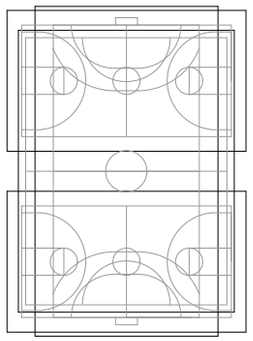




Haven, Interior View

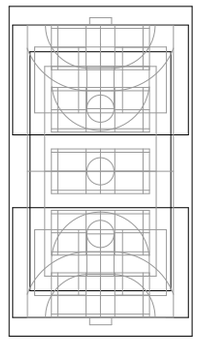
Sports halls are the largest spaces inside a public buildings and need to follow precise dimensions of courts.
On the narrow site of Skydebanehaven a sport hall will inevitably be an exception in the a residential block around 12 m thick.

Polifunctional sport court is the key to maximize inclusivity.
Sizes needed to be confronted with the actual require of sport hall in light of: the mentioned Game Complex in Vesterbro, the visual impact of a large volume in Skydebanehaven and an efficient use of timber structure.



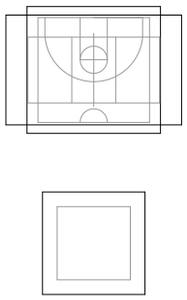
Large
35x45

Typical of sports center or complex.



Medium
25x45

Handball size for most indoor sports in Denmark



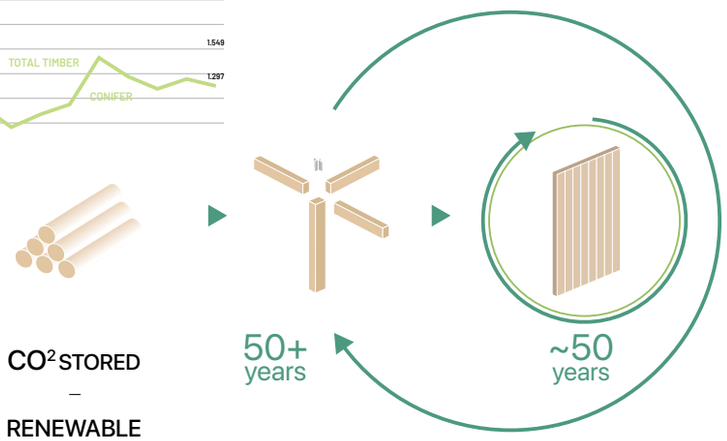
Small
24x18 max.

Separate courts.

The size chosen for Haven is the Small court to promote sociality.
Occasional and free play is perfectly possible with relatively small sports zones. Therefore, the professional character of large sports halls is sacrificed in favour of a more open, transparent and green space.
The small courts provide the chance to fill the gaps with indoor trees and plants, leading to the definition of a playgarden zone.

CLIMATIC CONSEQUENCES

Haven, Aerial View



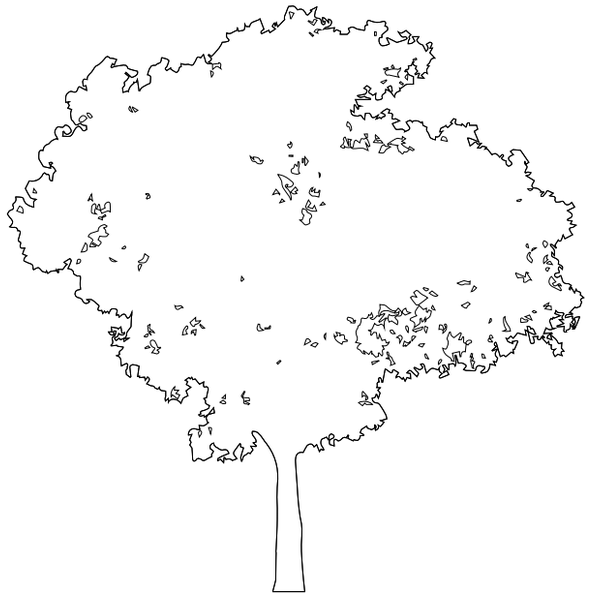
Over the next 40 years, it is expected that more than 230 billion sqm will be built in the world. The production of building materials such as steel and concrete accounts for massive carbon emissions, making it urgently needed to introduce new and more sustainable materials to construction. Wood is an obvious choice for green building construction, as it has a lower carbon footprint, uses less energy and water, and is 100% renewable if it comes from sustainably managed forests. This sets timber apart from other building materials, such as concrete and steel.
(Global Status Report 2017)

'Global warming will result in more extreme weather phenomena, and during summer and autumn in Denmark, the tendency is that we will experience more heavy rainfalls, and cloudbursts will become even heavier. In many places, the sewer system does not have the capacity to handle cloudbursts, which call for sustainable urban drainage solutions to handle the water elsewhere and avoid flooding. Also in spring and summer time an increased risk of drought makes local water retention and collection for e.g. irrigation valuable.'
(An archictetural guide to the UN 17 Sustainable Development Goals)

Materials durability.
Laminated timber, Accoya wood and Glazed facade

PLANTS ABACUS

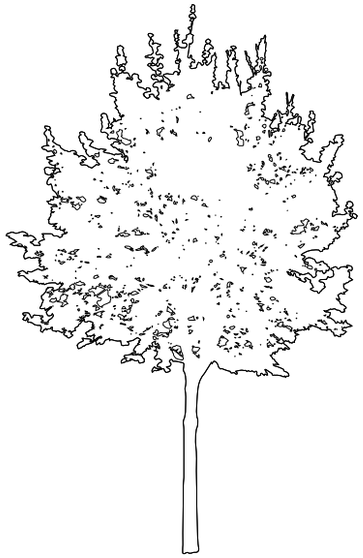
Haven, Interior View



Tilia

European Lindens

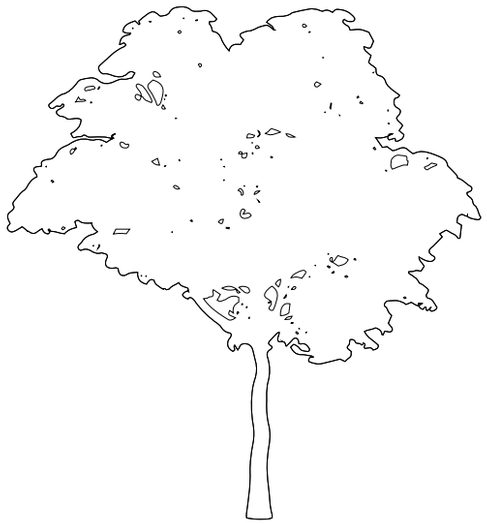
15-25 m



Ulmus Lobel

Elm

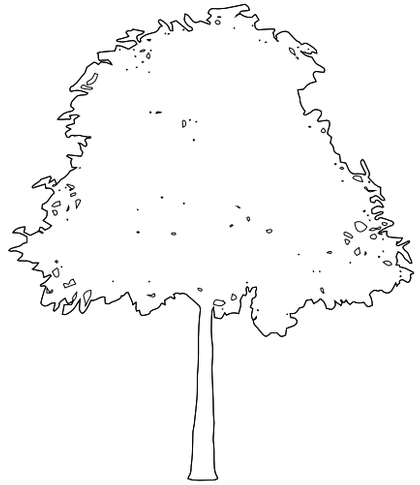
10-15 m



Acer Platanoides

Norway Maple

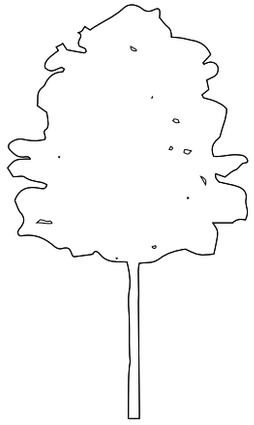
10-15 m



Acer Macrophyllum

Bigleaf Maple

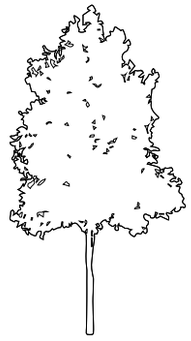
15-20 m



Acer Campestre

Field Maple

11-14 m



Alnus spaethii

Alder

10-12 m

Acer Saccharinum

Silver Maple

8-14 m

Fraxinus Pennsylvanica S

Green Ash

5-6.50 m

Fraxinus Pennsylvanica Multi-stem

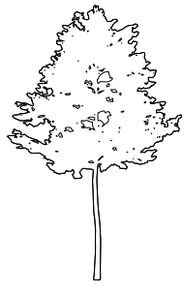
Green Ash

5-6.50 m

Ficus lyrata

Fiddle-leaf Fig

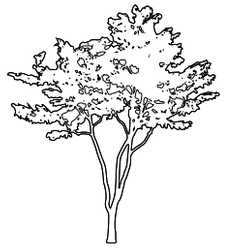
1-1.50 m



Fagus Sylvatica 'Greenwood'

European Beech

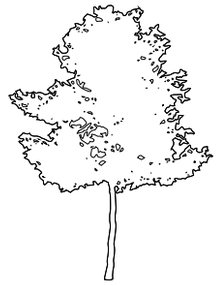
6-8 m



Fagus Sylvatica Multi-stem

European Beech

6-7 m



Fraxinus Pennsylvanica

Green Ash

6-7.50 m

Monstera Deliciosa

Swiss Cheese Plant

0.90 m

Ficus Elastica

Rubber Fig

0.80 m

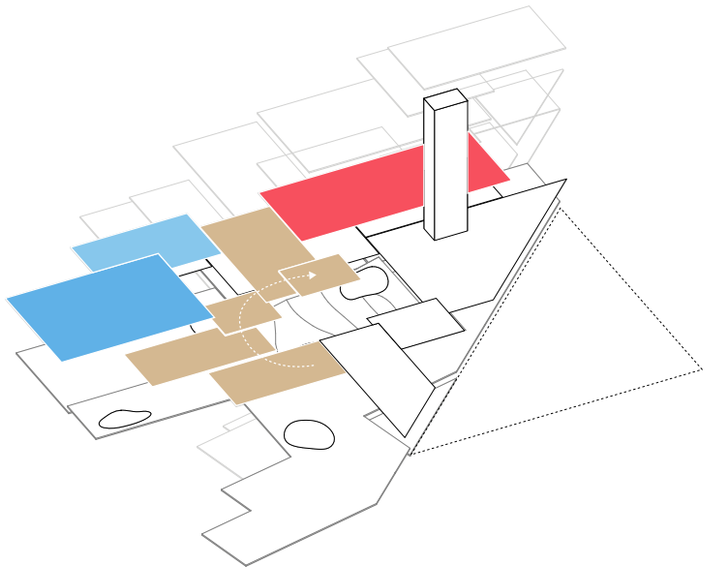
Hedera

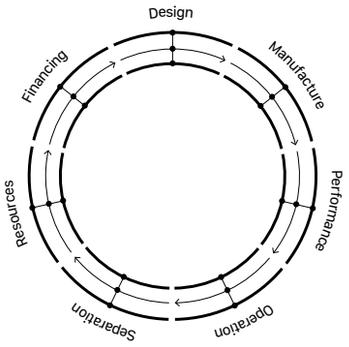
Ivy Leaves

0.30 m

STRATEGIES OF THE PROGRAM

In the edition of Imminent Commons 2017, cured by Alejandro Zaera-Polo and Hyungmin Pai, authors elaborated strategies more or less diffuse to maximize the use of existing or new spaces through their program settings.
The common ambition to all the strategies described is assuring the maximum life-time possible for space.

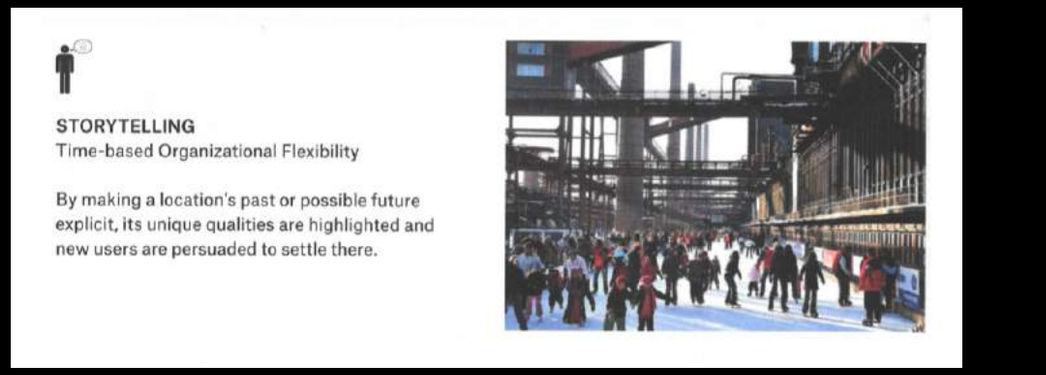


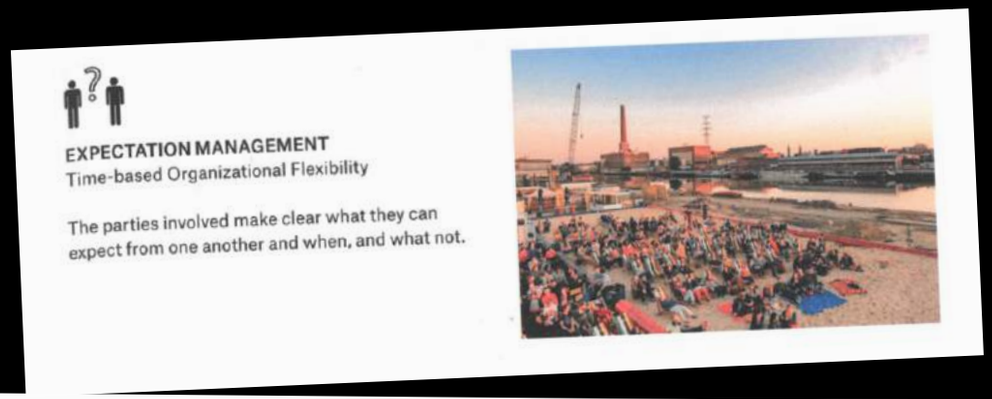


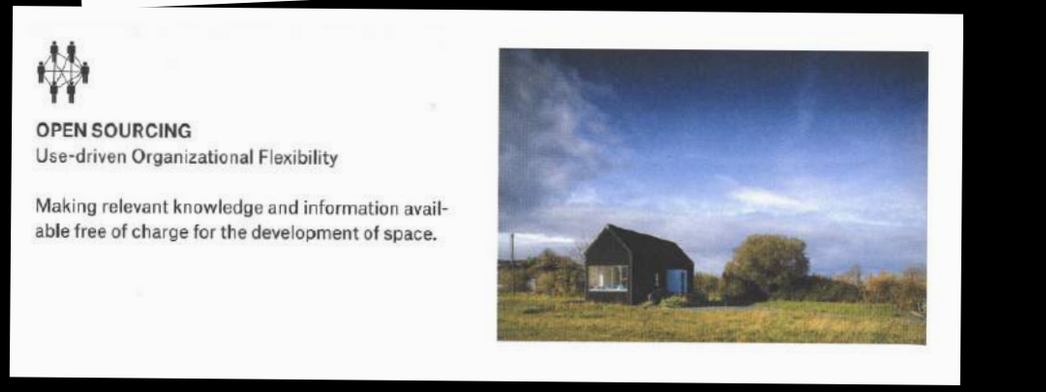
This approach appears to be an alternative to achieve circularity by controlling the whole life-cycle of a building and its parts.
'Sharing Platform' is one of the five circular economic models suggested by Peter Lacy and Jacob Rutqvist' in Waste to Wealth' (2015). It consists of extending the use of the building by sharing its parts maximizing the use of the building over time. Possibly the building requires spacial flexibility to respond to diverse users demands. Schools, Community, Co-workers and many more can assure that space will find its functionality in the future, performing in fact as a public asset.

Haven, diagram of highly-accessible platforms.

Scheme 'Sharing Platform' from Lacy, Peter, and Jakob Rutqvist. Waste to wealth : the circular economy advantage. Basingstoke, Hampshire: Palgrave Macmillan, 2015.







Source: Imminent Commons: Urban Questions for the Near Future, 2017.

ACKNOWLEDGEMENTS

The development of the project, as well as this research, was possible thank to the knowledge shared by the mentors and tutors during the Graduation Studio of TU Delft.

Firstly, I would like to thank my mentor **Ir. Paul Kuitenbrouwer** for having trusted me and supported this work since its beginning, and for the time and efforts dedicated to enriching the value of this project.

I especially thank my mentor **Ir. Gilbert Koskamp** for the passion, time and precious knowledge shared with me on the fields of architecture, building technology and sustainability.

I would like to acknowledge **Prof. Ir. Nathalie de Vries** for inspiring and motivating me with her architectural vision.

Dr Sang Lee and **Dr Nicola Marzot** were essential in stimulating my creativity in research and design methods with seminars and discussions during the year. For their time and trust, I'm very grateful.

I would like to express my gratitude to all the **friends, students and professors** who spent time with me talking about arts, architecture and technology.

Finally, a special thank goes to **my parents** who never stopped to trust and motivate me during these years of study.
For this, I will always be grateful.

Research Book

HAVEN

The public interlace for social inclusivity in post-renewal Copenhagen

Luca Fontana
4773691

Public Building Graduation Studio
Public Condenser, The Hague – Copenhagen
AR3AP131

TU Delft
2019 - 2020