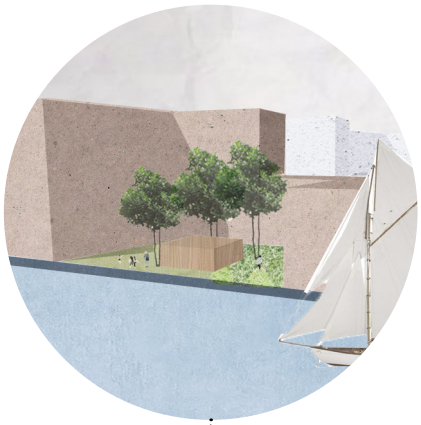
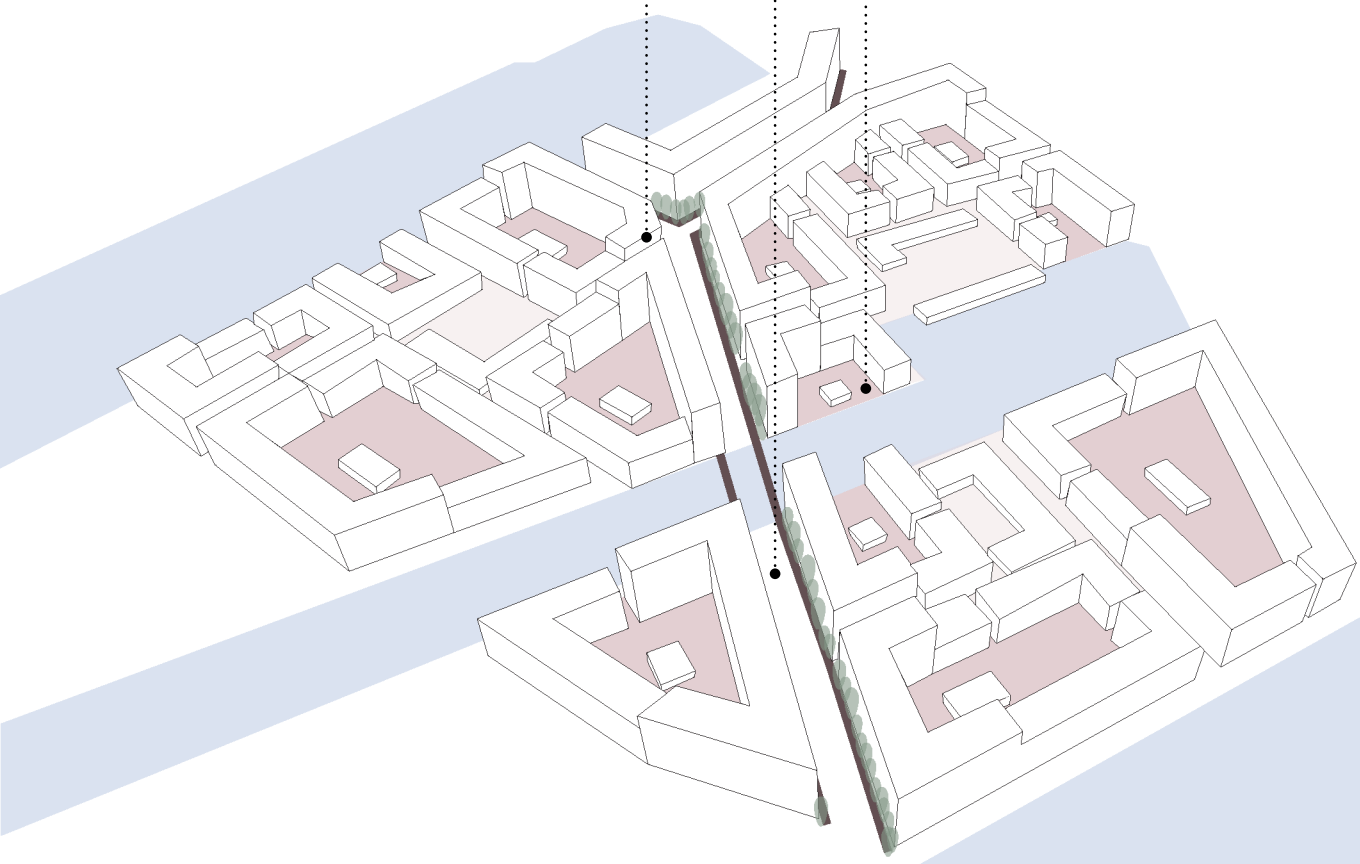
LOCATION BASED URBAN BLOCK TYPES

MASTER THESIS SPRING 2021





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CHALMERS SCHOOL OF ARCHITECTURE
SOCIAL ECOLOGICAL URBANISM
EXEMINER: LARS MARCUS / SUPERVISOR: META BERGHAUSER PONT

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CHALMERS SCHOOL OF ARCHITECTURE
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GOTHENBURG, SWEDEN

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UNIVERSITY OF TECHNOLOGY

THANKS TO

Meta Berghauser Pont, for introducing me to the complexity and intricacy of spatial configuration of cities and for your persistent guidance;

my family and friends, for your endless support.

MARIJA VULETIC

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I am interested in the way the spatial structure of the city influences people's social-cultural behavior and even affects how citizens succeed to embrace their identities by belonging to the social cluster within urban structures as part of the city.

My education was based on developing architectural skills where form and function through conscious design solutions provide intelligible spaces. Within the Master studio 'Spatial Morphology' spring 2020, I explored the spatial-configurational perspective of the city systems. I learned how to analyze the effects of design proposals on urban processes with the use of Space Syntax and Spacematrix tools.

After investigating and analyzing conceptual solutions I am eager to utilize them in real-life cases and thus face real design challenges that come with it.

MASTER STUDIOS

Sustainable development and the design professions

Future visions for healthcare, housing and work 3: Healthcare architecture

Nordic architecture

Spatial Morphology design studio

History, theory and method 2: Resistant Architecture

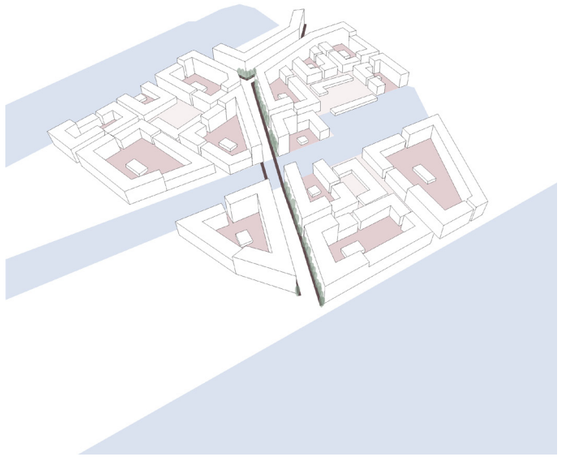
Matter, space, structure course

Social Ecological Urbanism, Master Thesis direction

BACHELOR (SC.) URBAN PLANNING

Architecture and Urban Planning

University of Montenegro, Podgorica



ABSTRACT

This thesis aims to develop urban blocks that fit the local context while complementing the city-wide scale. Enhancing the city as a spatial and functional whole comes from understanding that places are not only local things. The structure of the urban grid sets a potential for each location, in terms of the expected pedestrian movement, based on its relationship with the rest of the city. Currently, buildings do not always match the location's potential, which results in urban blocks that are not dense enough, or too dense, when considering their location.

To accomplish this aim, the thesis explores the relation between potential pedestrian movement on the street, which relates to the city-wide scale, and territories of occupation and movement in the urban block, which defines the local context.

Morphological analyses, more specifically – space syntax tool is used to define the potential qualities of the location and suitability of the design solution for the urban block. The focus in this thesis is on designing the structure of the urban blocks which in the best possible way supports streets with given centrality on the city-wide scale. For instance, in a street with high intensity of movement, it is important to organize the interface between what is private and what is public territory. Further, such streets have more potential for commercial activities that should be accommodated by the buildings along the street. Street centrality itself, which has empirically been shown to well capture the number of people distributed through streets, will be used as a constant guideline in this thesis.

The main outcome of the thesis is design principles to create urban block types which are not randomly developed but rather spatially related to their location. These design principles will especially focus on developing a diversity of spatial qualities that relate to the diversity of surrounding street types. Territories within the block should provide diverse life qualities and thus make a transition from dynamic/active street life on the outside to semi-dynamic/community life and semi-static/private club life on the inside of the urban block.

KEYWORDS: URBAN STREET GRID, PEDESTRIAN MOVEMENT, URBAN BLOCK TYPE, ACTIVE STREET LIFE, COMMUNITY LIFE, PRIVATE CLUB LIFE

CONTENT

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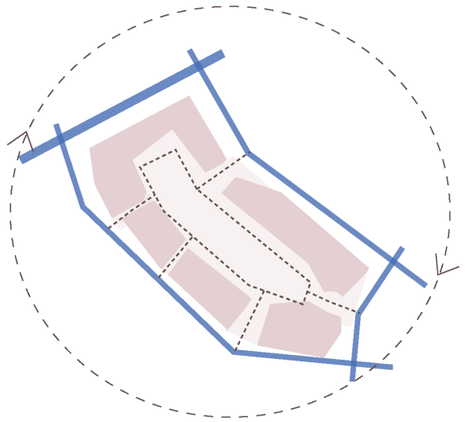


INTRODUCTION

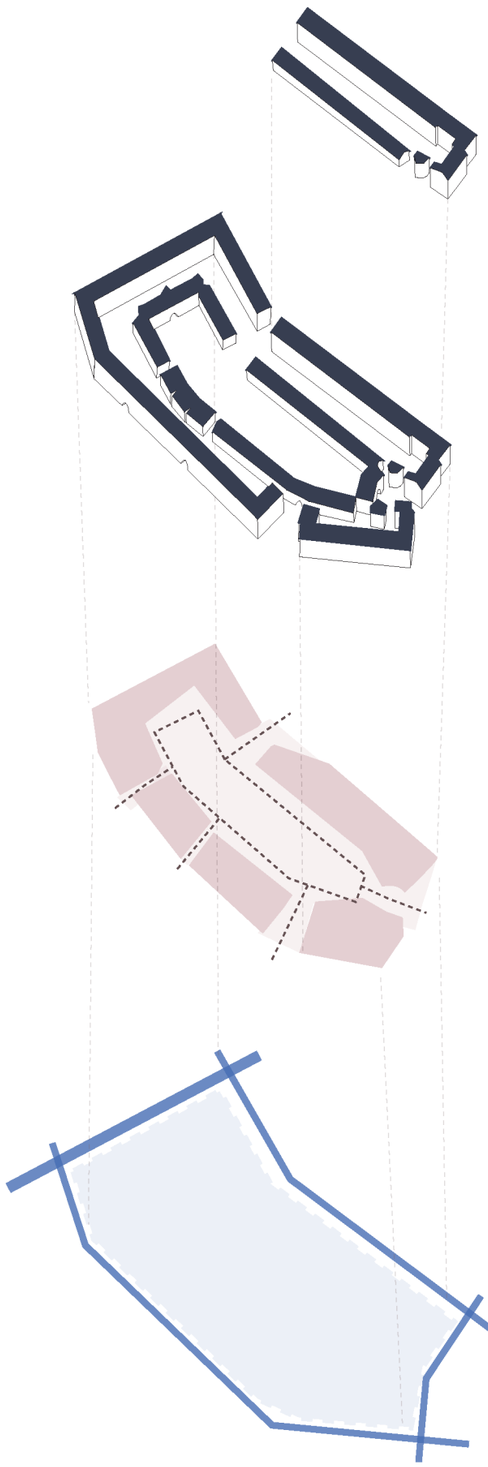
The world population is rapidly growing. The trend of urbanization is influencing more and more people to move to the cities. Densification of urban blocks enhances city growth by reducing transport needs, preventing sprawl and environmental impact, and the urban infrastructure can be used more resource efficiently.

Cities as complex, self-organized systems embody spatial, social, economic, and ecological processes and structures that are changing over time. Therefore, cities are not static systems and they are constantly going through unseen cycles of growth which are resulting in complex urban tissues. The process of city growth consists of reconfigurations of physical components that have different lifespans. There are slow, intermediate, and fast variables where streets and plots are slow and therefore have a stabilizing effect and control development of other morphological elements that often change faster, such as land use and buildings. (Romice, Porta, Feliciotti, 2020, p. 28).

This thesis takes this as a starting point and aims to explore the reconfiguration of the urban block (changing relatively fast) based on the street grid and its location (changing relatively slow). Thus, the street grid will be used as a constant element and urban blocks as a changing variable that can be used to adapt on the local scale to enhance the integration on a city-wide scale.

Most city structures have over the years been organized around main urban streets which affected the distribution of services. The consistent, well-connected network provides persistence of function as well as clustering of density affects the accessibility to the services in the area that, in combination, stimulates pedestrian movement. Within the urban block, the interactions between the residents take place that creates a social cluster not involving strangers (Romice, Porta, Feliciotti, 2020, p. 17).

This complexity of the movements and interactions outside and inside the urban block requires a certain distinction of public and private life. The quality of living in the city is achieved when individuals can choose how to balance the interaction with others and their own private life inside the urban block. In this sense, urban block, in spatial-configurational perspective, needs to fully embrace the potential of the street grid and with densification support and regulate the movement and interaction of strangers and residents within the block.



ONE TRADITIONAL URBAN BLOCK

SUPERBLOCK

TERRITORIES AND LOCAL STREETS INSIDE THE STRUCTURE OF THE SUPERBLOCK

LOCATION AS PART OF THE STREET GRID SURROUNDED BY URBAN STREETS

AIM AND DELIMITATIONS

This thesis aims to study the efficiency of urban blocks to support their location where location is mainly defined by its position in the street grid that in turn highly influences pedestrian movement. The thesis thus starts from the potential given by the street grid and the spatial structure of urban blocks then determines the movement and occupation within it through the design of buildings and territories (the latter also referred to as 'goods').

THE URBAN BLOCK REVISED

On one hand, we have streets and thus public life (with citizens moving and occupying these territories) and on the other hand, the urban block and thus life of a social cluster (with residents moving and occupying these territories).

Based on the analytical theory and existing cases, the thesis progressed towards questioning two extremes of life in a city – one case is when territories are dominantly public which results in a lack of space for embracing stronger social interactions and thus feeling of belonging to a certain yard and territory. And the other situation is when we have gated communities that strictly exclude citizens inside the urban block of residents. The thesis, however, was aiming to develop urban blocks that are embracing diverse, integrated variations of movement and occupation and not excluding and restricting them. The aim was to develop a structure of urban blocks that has a clarity of different levels of interactions but through the conscious use of interfaces integrate these diverse life qualities.

So how to create the structure of an urban block where residents can reach public life in few steps and become part of citizens but still have an opportunity to choose when to retreat from the busy noisy life and have an informal chat within the social cluster they live in and let their children safely play around?

The answer is found in the superblock concept, such as Zaanhof in Amsterdam. The superblock consists of few traditional smaller urban blocks that enclose private life. The structure of superblock embodies one more level of interactions that embrace a social cluster in between these traditional urban blocks. This community life presents a transition between these private yards and very busy and dynamic streets on the outside of the superblock.

Therefore, in the thesis research I am setting the focus on three variations of movement in the urban block structure: a dynamic exterior movement of active street life; a semi-dynamic interior movement of community life; and semi-static interior movements of private club life.

AIM AND DELIMITATIONS

ACTIVE STREET LIFE

''...THE FUNDAMENTAL CORRELATE OF THE SPATIAL CONFIGURATION IS MOVEMENT. THIS IS THE CASE BOTH IN TERMS OF THE DETERMINATION OF SPATIAL FORM, IN THAT MOVEMENT LARGELY DICTATES THE CONFIGURING OF SPACE IN THE CITY, AND IN TERMS OF THE EFFECTS OF THE SPATIAL FORM, IN THAT MOVEMENT IS LARGELY DETERMINED BY SPATIAL CONFIGURATION.'' BILL HILLIER (1996)

Hillier (1996) introduces the theory of natural movement that states that the most powerful determinant of pedestrian urban movement is the structure of the urban grid considered purely as a spatial configuration. Therefore, street centrality is an important driver for pedestrian movement. This also drives the process of densification and more and diverse functions, which in turn, boosts pedestrian movement. This is what Hillier refers to as the 'multiplier effect'.

The dynamic street has the potential to be developed as the spine of the area that connects the local scale of the urban block to the rest of the city-wide scale as it overlaps pedestrian movements on different radii. The quality of active street life is achieved by supporting different levels of 'urban buzz'. The local area of the urban blocks is integrated with city-wide scale by creating meeting spots between residents from urban blocks and strangers moving on the urban street. Here, for example, building entrances facing the urban street support interaction between residents and strangers. Likewise, the active floor on the street level creates an interface between strangers (citizens) passing by and temporarily using the active ground floor (store-occupants as Minoura (2016) calls them). With all this said, active street life is enhanced with the efficient structure of urban blocks which will further be explained in the thesis.

COMMUNITY LIFE

Once the movement is shifted from the urban street inside the urban block the structure of these local streets supported by urban block organization should reduce movement of strangers from interrupting community life inside the block. The local streets should be modified by reducing the speed and ease of movement from dynamic to semi-dynamic. The linear structure with many crossings that is characteristic of dynamic streets should be broken into more turns inside the urban block and thus reduce accessibility for strangers, while embracing interactions between residents on a community level to strengthen social identity.

What differs from the active street life is that the functions which are accessible here are supporting common needs (such as kindergartens or common food production spaces). The quality of community life is that the territory is a safe, shared space that embraces the feeling of belonging and control with entrances to the buildings along the local streets.

PRIVATE CLUB LIFE

Aside from tendency to interact with other citizens, individuals need their own private space to retreat from public life. Therefore, the structure of the urban block should be organized to create layers from dynamic street life to semi-dynamic leading to semi-static flows inside the private club territory.

The private club good has beneficial effects on an individual's feelings of belonging and safety. As Eva Minoura explains in ''Uncommon ground'' (2016), the private club good is enhancing the sense of stewardship and belonging to your yard. Often you are also allowed to make changes and control this territory as your own. These private goods can be a yard and can also include buildings for club use (a repair store or similar) which strengthens the sense of responsibility for this private good.

If the spatial system of the urban block is well-structured there is no need for signs to explain who may use and take care of which territory. This thesis focuses on creating this structural logic of the urban block that will embrace the spatial diversity of needs between residents and strangers. It aims to embrace the publicness/dynamic on the outside and unity/safety on the inside of the urban block structure and thus, create efficient blocks that are not randomly developed but rather bounded by the location and at the same time, supporting the location.

METHODOLOGY AND PROCESS

In the book 'Space is the Machine', Bill Hillier (1996) explains the strong interrelation in the city system between its physical form and its functional performance, which he describes as a means-ends system. Hillier was the first to adopt network analysis methods to study relationships between street structure and other spatial elements and processes that occur in the city. This approach is part of urban morphology that studies the urban form as the product of the relationship between humans and their environment (Romice, Porta, Feliciotti, 2020). To study and analyze the composition and efficiency of the urban block and its relation with the street grid, this thesis takes a morphological approach using space syntax as a tool to analyze location and test and develop design solutions.

The network analyses are used to identify the street types based on the work of Berghauser Pont, Stavroulaki, and Marcus in their paper 'Development of urban types based on network centrality, built density and their impact on pedestrian movement' (2019) and define the preconditions for developing location-based urban block types.

The thesis process consists of three main steps that aim to answer the thesis question: 'How to design location-based urban block?':

1. LOCATION-URBAN BLOCK RELATION

The thesis acknowledges the importance of efficient development of location-urban block relation and sets a focus on perceiving urban blocks from a spatial-configurational perspective. This step consists of a theoretical review that aims to explain the integration between urban blocks as a local structure and street grid as the link between the local and city-wide scale. The theory studied is the analytical theory that explores and tests spatial-configurational findings. Further, the main acknowledgments from the literature review are linked to the thesis question and aim to explain 'How to design location-based urban block?' from the theoretical point of view.

Next, the theoretical findings are complemented with real case examples of urban blocks from Amsterdam and Stockholm. Both literature and real case references are utilized to extract the central characteristics of a superblock that guide the efficient development of location-urban block relation. This is used to extract the main parameters that will further be used to embrace the thesis question through design concepts of urban block type. They are building frontage and enclosure, building's height, building's position, accessibility, and interfaces (building entrances, active ground floors, passages).

2. COMMON TYPOLOGIES AND DESIGN STRATEGIES IN GOTHENBURG

The idea to understand the socio-cultural structure of current urban block types in Gothenburg was constructed based on the common repeated urban block types in the city tissue. To understand the existing urban block solutions for the street grid in Gothenburg, I studied five block and extracted the main design strategies that are shaping the current urban block types. By using the space syntax tool, I defined the street types and analyzed the impact of urban blocks to enhance the quality of the location. The findings helped me to identify the strategies which, I noticed, were in many cases embracing location potential of natural kind (water or greenery), but that the location qualities related to the street's potential are not considered. After summarizing these discovered design principles, in the chapter 'A proof of concepts' they were further reconstructed based on location-urban block relation and guided the further urban block developments in a more conscious rather than random manner.

3. A PROOF OF CONCEPTS (INCLUDING TWO EXAMPLES)

CONFIGURATION OF NEW URBAN BLOCK / FRIHAMNEN

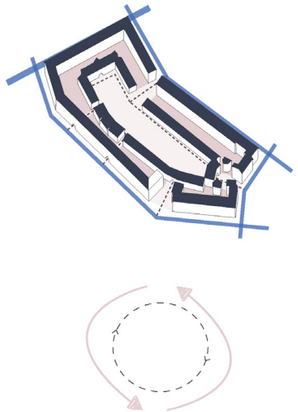
The previous findings, strategies and variables resulted in a design solution of a new urban block type of a superblock that is spacious enough to embody three diverse variations of movement. The newly proposed street grid in Frihamnen, which is yet to be developed, provides the potential for progressing the new urban block type that would be consciously structured in Gothenburg's urban tissue. In this site-specific solution, the accent is not on creating final forms of the urban block but rather setting the main strategies that should guide the design solution in the most efficient way possible. Thus, I can say that the focus was on structuring the urban block so that the precon-

ditioned pedestrian movement is supported and guided to embrace diversity between the public interactions and the private retreat.

RECONFIGURATION OF EXISTING URBAN BLOCK / FRÖLUNDA

So why was there a need for one more site-specific proposal? As stated at the very beginning of the thesis, urban blocks tend to reconfigure over time around larger and slower variables, such as plots and streets. This is to say, that all the findings within this thesis to this point are wrapped up and used in an existing urban context. By intervening on this site in Frölunda the main approach was to adapt the new design strategies in an existing spatial configuration. The challenge of densifying and structuring the existing urban form was a possibility to discuss the newly proposed urban block type to an existing spatial situation in the city of Gothenburg.

02



LOCATION-URBAN BLOCK RELATION

"IS A TRUISM THAT WE DESIGN OUR CITIES AS WE UNDERSTAND THEM" (HILLIER, 1996).

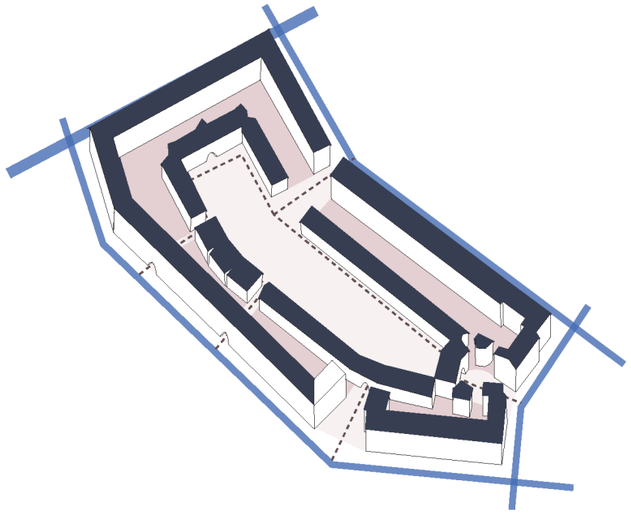
In this chapter, I aim to approach the thesis question: 'How to design location-based urban block?' from a theoretical point of view. The chapter consists of two parts that aims to come upon the main urban block variables that define location-urban block relation. First, I discuss theoretical research which is based on analytical papers. Second, I use reference projects from Amsterdam and Stockholm which give insight into how things learned from literature references work in real life. To conclude, the main characteristics of superblock type that consists of three layers of movements will be defined and further on used in this thesis as guidelines for studying the existing and developing the new urban block types in Gothenburg's tissue.

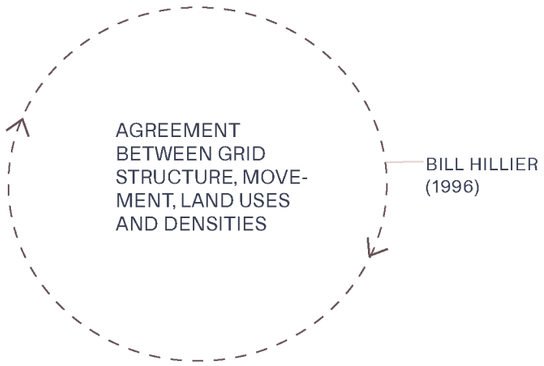
The theory used in this thesis to discuss location-urban block relation is based on two aspects. The first aspect aims to define the location as a quality for achieving potential pedestrian movement set by the street grid based on the theory of natural movement (Hillier, 1996). Here, the main finding acknowledges clustering the street types based on their profiles that is further explained by Berghauser Pont, Stavroulaki, Marcus (2019), and it is considered as a precondition set to define location-urban block relation.

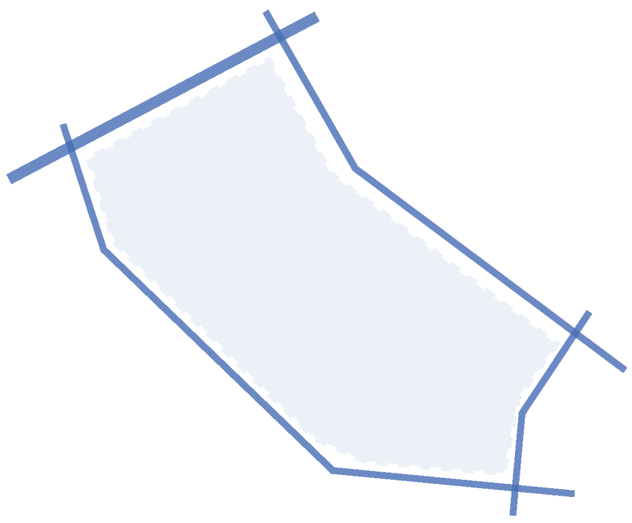
The second aspect of the theoretical review focuses on recognizing the urban block as a variable that should adopt to the location's pre-conditioned quality for urban life. Here, Minoura's territorial division is recognized as the main guideline for supporting location-urban block relation (Minoura, 2016).

The reference projects are studied to further acknowledge the street types and territories and their spatial connection in real-life scenarios. The ability of urban blocks to recognize street types as the precondition of the location, and to support it by structuring different territorial goods, is what is examined here.

The focus through both parts is on understanding the way urban blocks should be based on their location and thus provide diverse qualities of living. Therefore, the chapter concludes by establishing the following characteristics of a superblock as the most important ones for the location-urban block relation: building frontage and enclosure, building height, building's position, accessibility, and interfaces (building entrances, active ground floors, passages).Further on, this thesis will use the main variables of a superblock and utilize them as a founda-







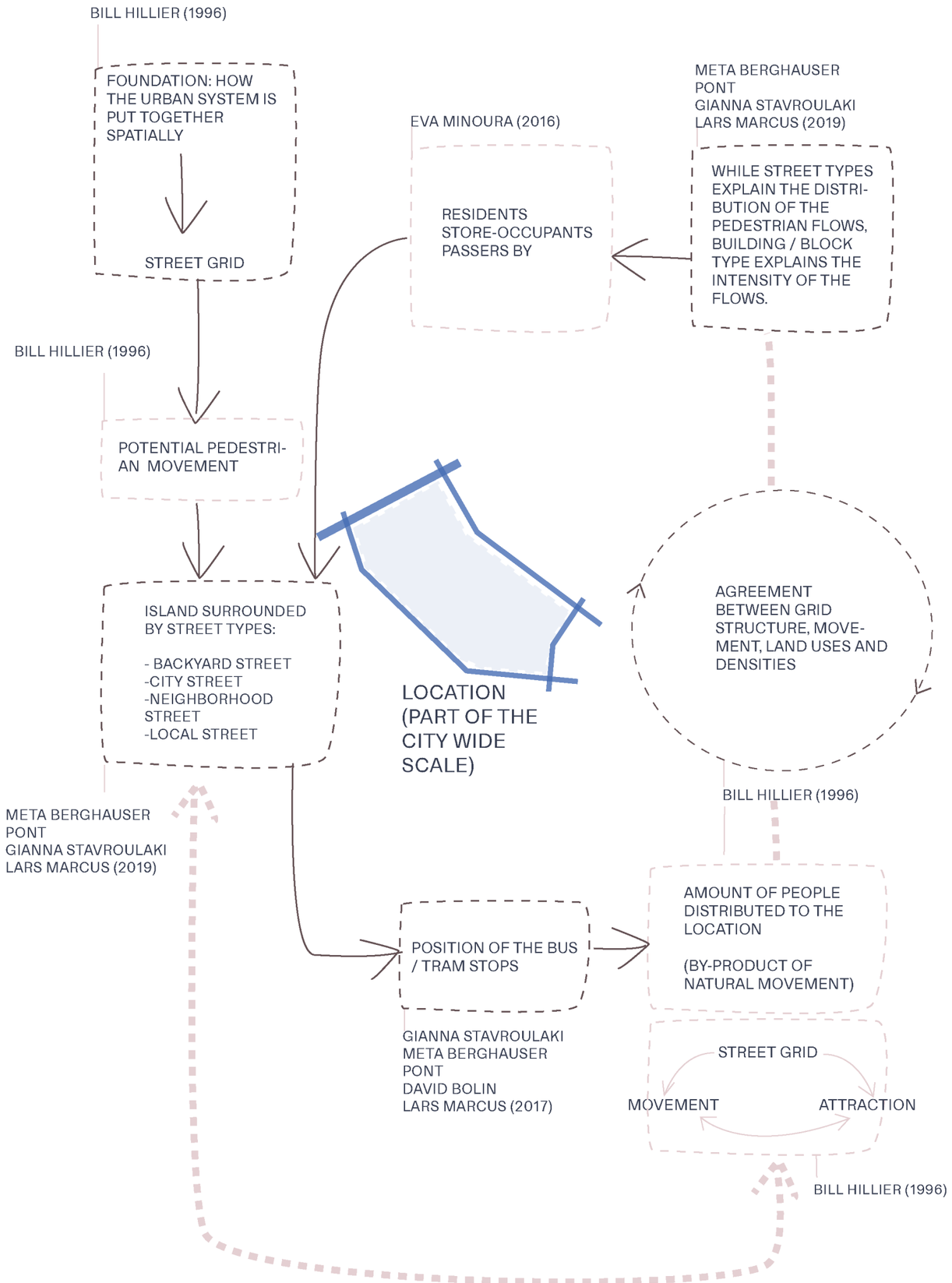
LOCATION AS PART OF THE CITY-WIDE SCALE

''PLACES ARE NOT LOCAL THINGS. THEY ARE MOMENTS IN LARGE-SCALE THINGS, THE LARGE-SCALE THINGS WE CALL CITIES. ONCE AGAIN WE FIND OURSELVES NEEDING, ABOVE ALL, AN UNDERSTANDING OF THE CITY AS A FUNCTIONING PHYSICAL AND SPATIAL OBJECT.'' (HILLIER, 1996)

To treat the place as not only a local thing but as a part of the city-wide scale is to recognize how location is connected with the urban street grid. As Hillier (1996) explains, the foundation for all elements in the spatial configuration of the city is how the street system is put together spatially. According to Hillier's theory of natural movement, location's potential to distribute pedestrians depends on its relation to the street grid. Some locations will be more integrated, which is determined by the connection of surrounding streets with the city-wide street grid.

This thesis uses location as a constant variable and integration will not be changed but rather used as a resource for guiding further development of urban blocks which should aim to support this preconditioned potential.

To illustrate how location is affecting the urban block we could discuss how urban buzz occurs in the area. Locations that are better integrated into the street grid, if recognized as quality to attract more people, will have higher densities of development to boost pedestrian movement further. This synergy between higher integration and higher density of urban blocks will in turn have a multiplier effect and boosts the potential number of pedestrians moving in the street and different activities along the street. One could also try to create busy areas by developing dense attractions to attract people, but if the streets do not have the condition to generate movement, the risk is we will end up with empty, abounded active ground floors. (Hillier, 1996).



LOCATION AS PART OF THE CITY-WIDE SCALE

To better understand potential urban processes in the city's structure, Berghauser Pont, Stavroulaki, and Marcus (2019) clustered streets based on their centrality or, as said, potential to distribute pedestrians on different scales. As a result of different street centralities, four street types were recognized: city street, neighborhood street, local street, and background street.

CITY STREET TYPE includes the ones with increasing centrality on higher scales and is important for through movement at 5km scale. These streets connect the urban block and its location with the rest of the city.

NEIGHBORHOOD STREET TYPE defines streets that are important for movement in-between urban blocks and are characterized with potential active/dynamic life. They have high centrality on most scales but dropping on the lowest and highest scales and thus create a link between local and city-wide scale movements.

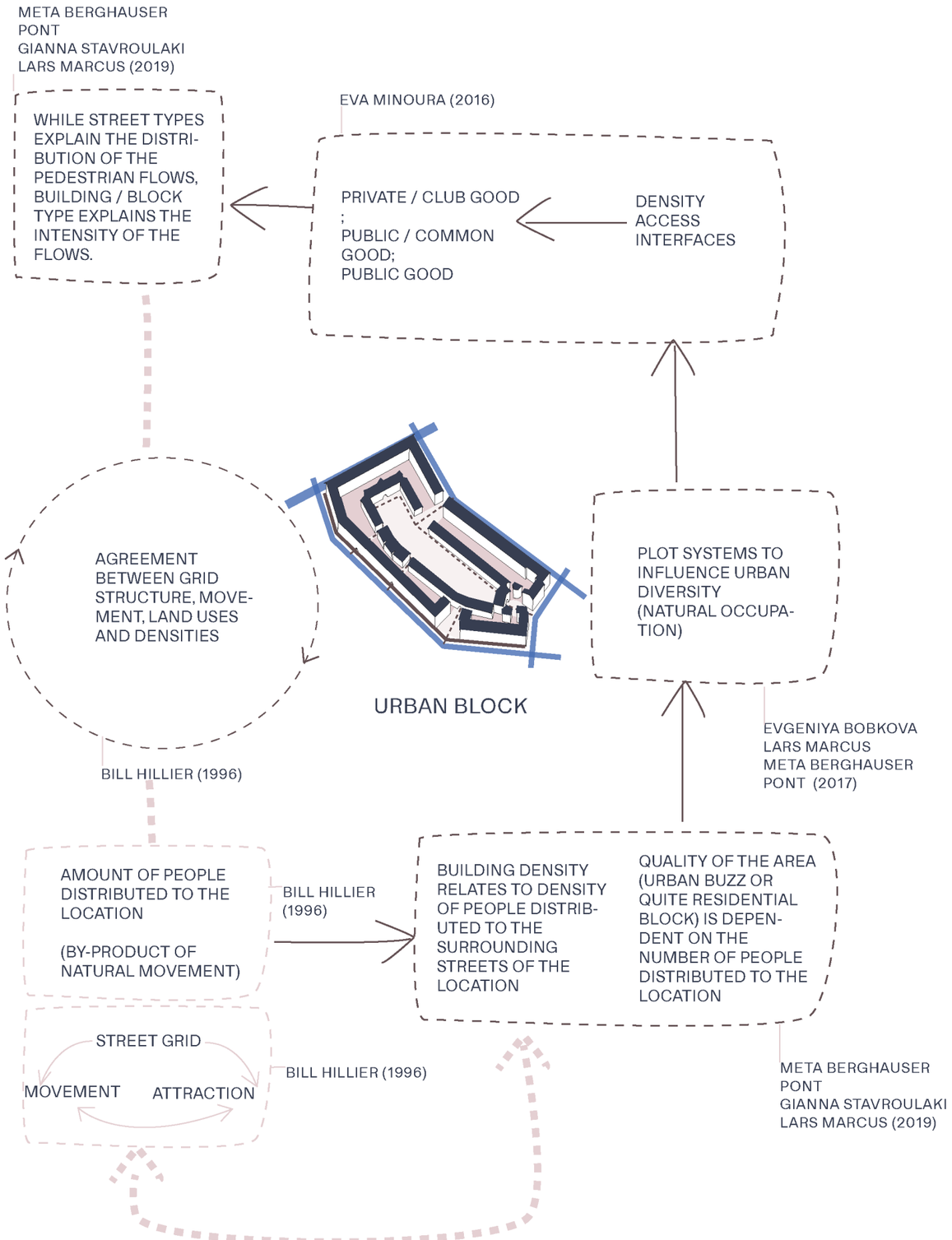
LOCAL STREET TYPE are streets which are important for local scale, or in other words, for moving within the urban block. They are semi-dynamic compared to city and neighbourhood street types because they are clearly dropping centrality on those scales.

BACKGROUND STREET TYPE is streets that have low centrality on all scales and thus, are not playing an important role in movement at any scale. These are streets that should characterize the semi-static movement of private club life.

Relating to the aim of this thesis to structure three variations of movement within the urban block, based on the street grid's potential, street types will be a fundamental guideline for recognizing location's quality. Thus, these street types will be used in the thesis as follows: first, in the second part of this chapter to study the location-urban block relation in the reference projects from Amsterdam and Stockholm; then, in the chapter 'Common typologies and design strategies in Gothenburg' to analyze the support of existing urban blocks to their location and extract current design strategies; and finally, in the chapter 'A proof of concepts' to guide the design of the urban blocks that integrate with the city-wide scale of Gothenburg.

So how to create a well-defined relationship between the dynamic movement on urban streets which occurs in-between urban blocks and semi-dynamic ones within the urban block? How to design an urban block as a structure that is going to distinguish the outside movement of strangers from the inside movement of residents (Hillier,1996)? The focus is thus, on creating the structure of urban block that is organized to embrace diversity of the flows of residents and strangers and still provides interfaces between people moving on different scales. As Hillier (1996) writes in 'Cities as movement economies' in the book 'Space is the machine', the way to embrace the integration on different scales is to create spatial means to the functional ends. In other words, to maintain several spatial interfaces that will create an advantage on a local scale from the dynamic, city-wide movement.

For example, building entrances that support the local movement of residents should be connected to spaces that overlap city-wide movement. This way parts (local entrances) are connected to the whole (city-wide scale), and dense zones which generate contact are being created. Further on, the structure of the urban block enhances the different street types' potential by creating an interface between the inside and outside movement with convex and linear structures, or in other words, between the interior semi-dynamic and semi-static movements, that is then linked to the dynamic movement, connecting the local to the whole (Hillier, 1996).



URBAN BLOCK VARIABLES TO SUPPORT THE LOCATION'S POTENTIAL

The location-urban block relation depends on the agreement between the street grid, movement, land uses, and densities. Consequently, if they are not in balance the integration of local and city-wide movements, strangers and residents, and urban block and its location is broken (Hillier, 1996). This is to say that while street types explain the potential distribution of pedestrians, urban block density explains the intensity of local pedestrian flows. So, both variables combined, street structure and urban block density, influence pedestrian movement on the streets (Berghauser Pont, Stavroulaki, Marcus, 2019).

As Minoura (2016) explains, the urban block is not only a shelter of buildings for people to live in, but its structure has a performance on people's behavior when it comes to social and cultural terms. She further on elaborates on the fact that in recent years a shift has occurred from a dense, compact fabric to a diffuse and discontinuous fabric with elements that don't always relate to each other.

To create quality within the urban block is to successfully distinguish different groups of people who move on the location. As Minoura (2016) divides them, residents, store-occupants, and passersby are satisfied by different goods. The residents need a territory that performs as a private retreat and cannot be the same territory that embodies the movements of strangers. To perceive an urban block as more than just a shelter, means that its structure should define a social cluster within it and that life on the inside of the urban block should aim to provide safety and belonging for the resident, while the urban street that embodies dynamic movement is distinguished by urban block structure and is connected with the block through interfaces.

Boundaries are often avoided because of the role they play in inclusion and exclusion, but as they are necessary to regulate differences, we can state that they act to strengthen the identity of the social cluster within the urban block and divide it from busy city life. As Minoura highlights, to make territories used, we need to structure them in an intelligible way, where interfaces between private club good for residents and public good for strangers are clear. This interface is where the communication or meeting spot between residents and strangers occurs. Urban block's variables such as accessibility, enclosure, and the size of the space framed are factors that influence these performances (Minoura, 2016).

With all this said, this thesis sets a focus on designing a consciously developed location-urban block relation by creating a spatial structure of the urban block that uses the potential of street types on the location and develops different territories which support the movement patterns conditioned by the configuration of streets. This is to say, that the foundation of the location-urban block relation is connecting findings of Minoura's description of public (dynamic), common (semi-dynamic), and private club (semi-static) territory, with Berghauser Pont, Stavroulaki, and Marcus' (2019) definition of street types.

LOCATION-URBAN BLOCK RELATION SCHEME

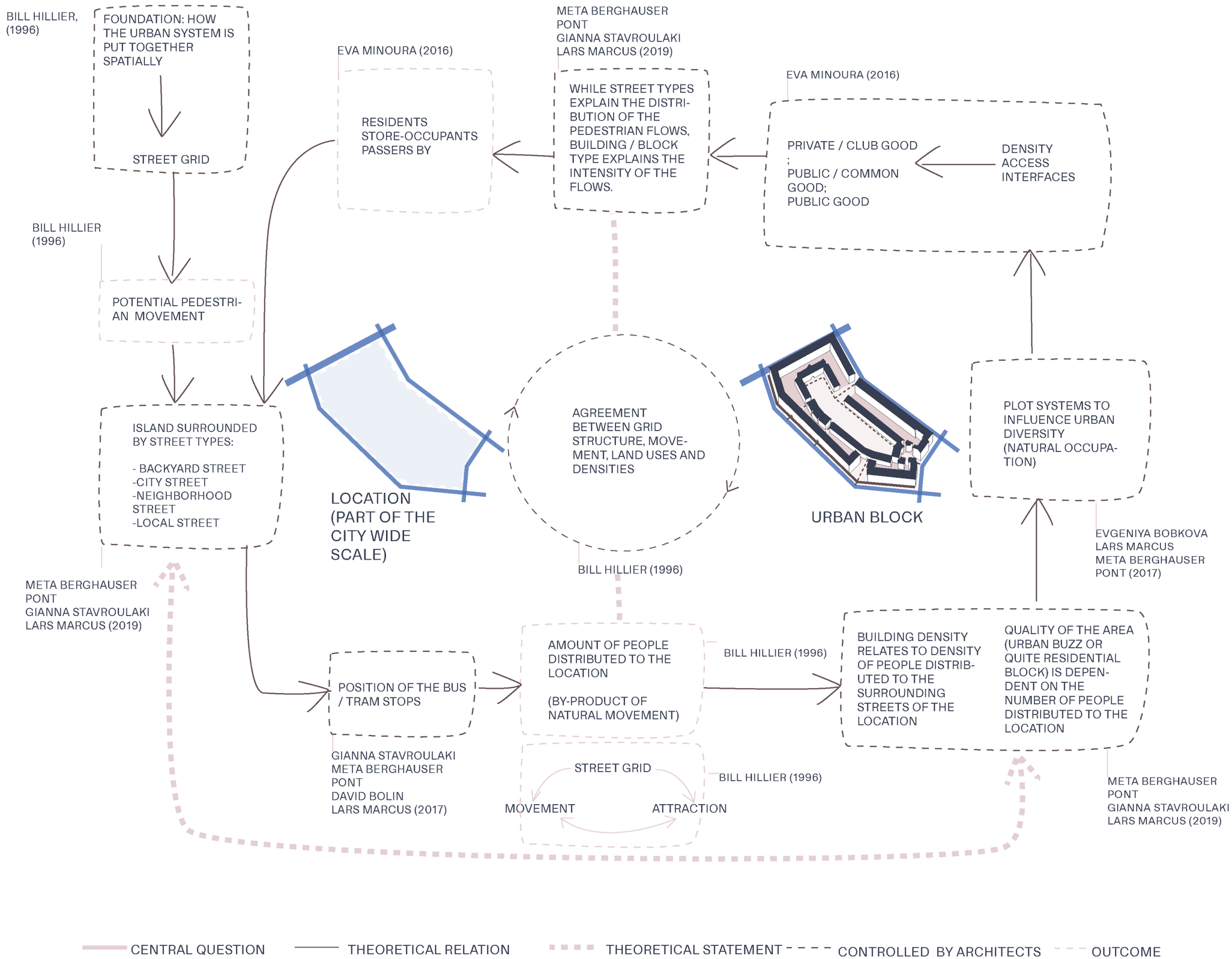


FIGURE 01 ZAANHOF

ZAANHOF / AMSTERDAM

In the following part, the theoretical findings will be strengthened by examining real cases of urban blocks. Three examples of urban blocks from Amsterdam and one from Stockholm are used to understand variables that are central for the matches or mismatches in the location-urban block relation. The superblock characteristics are demanded to guide the conscious structure of territories that support street types.

Spaarndammerbuurt was originally developed for affordable social housing. The area, which has a central position in the city of Amsterdam, was developed with the dominant typologies of closed urban blocks. The further analysis will focus on two urban blocks from this area: Zaanhof and Spaarndammerhart.

FIGURE 02 ZAANHOF EXTERIOR

FIGURE 03 ZAANHOF INTERIOR

Zaanhof (designed by H.J.M. Walenkamp, 1916) is the housing complex that dictates the typological urban block in this area with its structure of the outer and inner ring of buildings. The outer ring is a response to dynamic /public street life and thus the buildings are positioned to follow and support the structure of the urban streets. The building height is higher compared to the inner ring, and it corresponds to the higher level of urban buzz on the urban street and higher noise levels. This ring is enclosed and reduces strangers from entering the social cluster of the inner parts of this housing complex, while the small gates are representing interfaces between outside and inside. The inner ring of buildings, on the contrary, is a transition from this busy life to a more seamy-dynamic common yard that this inner ring defines in the middle of the block. The territory in between these two rings is the least accessible for strangers and its semi-static movement corresponds to the private yards' function which consists of traditional urban blocks.

This structure is efficiently distinguishing different life qualities from active streets to the common yard and private gardens. The block's structure successfully regulates three variations of movement within the urban block. Location's potential to attract pedestrians on the urban street is supported with the building frontage and enclosure and building height and thus FSI of the outer ring that represents a division and regulates accessibility between busy and calm. The buildings' position successfully directs and restricts movement and enables structuring intelligible territories for the public, common, and private life.

THE FOLLOWING VARIABLES ARE ACKNOWLEDGED AS IMPORTANT FOR SUPPORTING THE LOCATION-URBAN BLOCK RELATION:

BUILDING FRONTAGE AND ENCLOSURE, BUILDING'S POSITION, BUILDING'S HEIGHT, ACCESSIBILITY, AND INTERFACES (PASSAGES, BUILDING'S ENTRANCES).

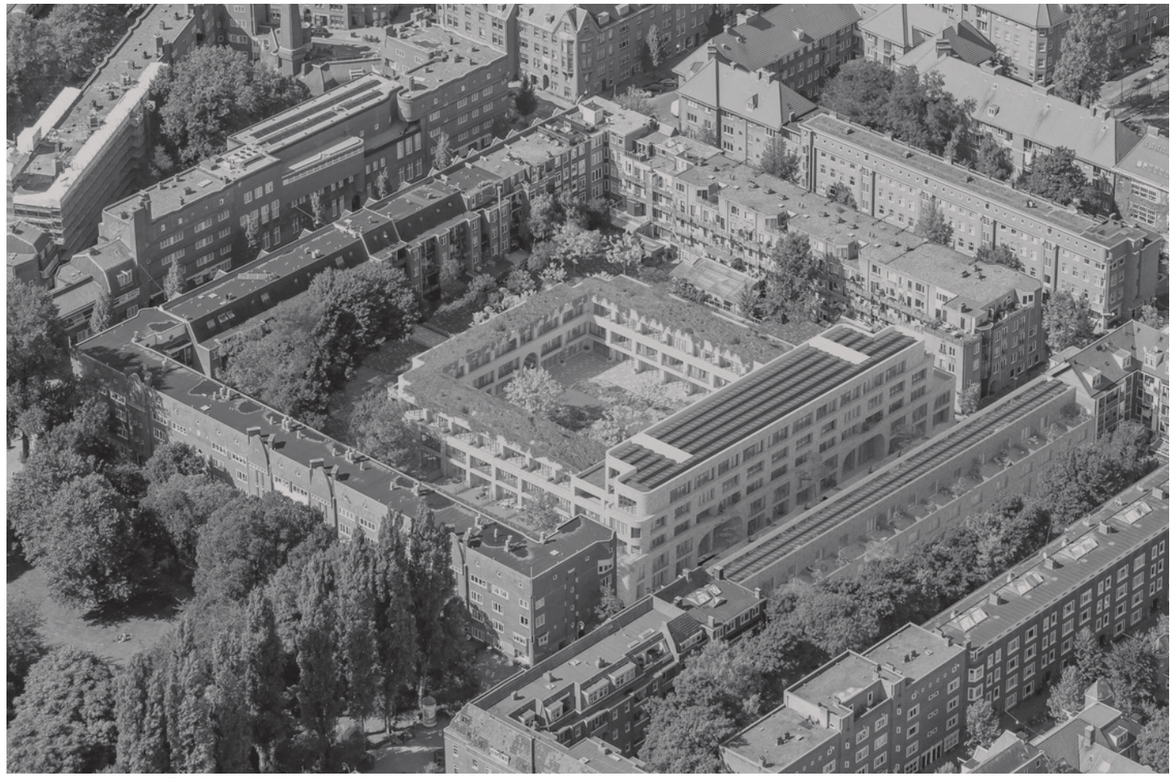


FIGURE 04 SPAARNDAMMERSCHOOL

The newly proposed urban block in this area, Spaarndammerhart (designed by Korth and Tielens, 2021), is embracing this urban block type that creates a transition between territories and supports both street life outside the block and quality of calm and healthy living on the inside.

Acknowledging the scratches that the area suffered over the years resulted in setting rules for the development of this new urban block. To embrace street life, the building position had to be aligned with the street. Further on, the active ground floor attracts strangers, and as well as the building height, it is a barrier from the noisy street.

To treat the block's interior as part of the city-wide scale, the interaction between strangers and residents is supported with the interfaces like building entrances on the urban street and small passages to the common yard. The shared space of this yard has a semi-dynamic movement, with both individual and shared entrances to the housing units, and the collective awareness is embraced by enclosing the yard 90% from the life on the street.

Apart from this shared space, inhabitants have a private club good at the back of the building which is enclosed between two rings of the buildings and completely away from the stranger's eyes. The diverse quality of living that is provided by the structure of the block itself is further enhanced with architectural and landscape elements.

THE FOLLOWING VARIABLES ARE ACKNOWLEDGED AS IMPORTANT FOR SUPPORTING THE LOCATION-URBAN BLOCK RELATION:

BUILDING FRONTAGE AND ENCLOSURE, BUILDING'S POSITION, BUILDING'S HEIGHT, INTERFACES (BUILDING ENTRANCES, ACTIVE GROUND FLOORS, PASSAGES), REGULATED ACCESSIBILITY OF TERRITORIES.

FIGURE 05 SPAARNDAMMERSCHOOL EXTERIOR

FIGURE 06 SPAARNDAMMERSCHOOL INTERIOR

FIGURE 07 FUNENPARK

The Funenpark (buildings are designed by de Architekten Cie, De architectengroep, NL Architects, Geurts en Schulze, Claus en Kaan architecten, DKV Architekten, Architektenburo L. Lafour & R. Wijk, and Van Sambeek en Van Veen architecten) is a housing area developed in an open landscape. The outer part of the urban block is a long housing complex that is aligned with an urban street and partly faces the railway. However, the block does not enclose all the way around towards the urban path of the greenery, but it rather consists of point buildings that have no clear boundaries with public paths through this landscape.

The territories are mixed and are creating confusion in space – is it a public park or rather a common yard? As it is treated as one consistent and open land that should serve as dynamic, semi-dynamic and semi-static at the same time, consequently, the territory remains not fully used by neither strangers nor residents.

The potential of the urban path in the landscape is not recognized as important and the structure of the urban block doesn't embrace its quality. The ground floor coverage is not dense enough to responds to this necessary division of three different types of pedestrian movement and therefore the public life and residents' privacy are ignored by positioning buildings randomly in the green space. This resulted in not distinguishing public flows from the interior of the block. Further on, the building height does not differ to the pedestrian movement through location that has a potential to change from dynamic to more static.

With all this said, we could conclude that opening the urban block's structure towards the public life resulted in the unused potential of pedestrian paths and of urban block's ability to support quality of safe and calm living within its structure.

THE FOLLOWING VARIABLES (OF THE OUTER LINEAR BUILDING BLOCK) ARE ACKNOWLEDGED AS IMPORTANT FOR SUPPORTING THE LOCATION-URBAN BLOCK RELATION:

BUILDING FRONTAGE AND ENCLOSURE, BUILDING'S POSITION, BUILDING'S HEIGHT.

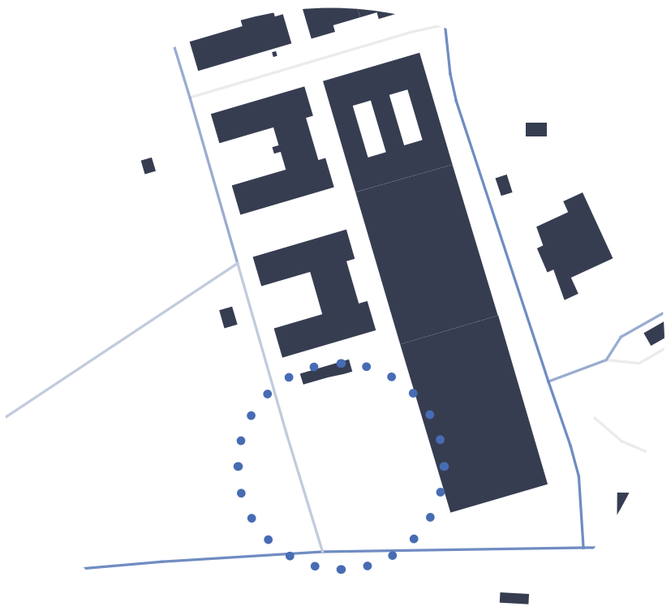
THE FOLLOWING VARIABLES ARE ACKNOWLEDGED AS IMPORTANT FOR MISSING THE LOCATION-URBAN BLOCK RELATION:

BUILDING'S POSITION, BUILDING FRONTAGE AND ENCLOSURE, BOUNDARIES, INTERFACES (BUILDING ENTRANCES, ACTIVE GROUND FLOORS, PASSAGES).

FIGURE 08 FUNENPARK EXTERIOR

FIGURE 09 FUNENPARK INTERIOR

FIGURE 10 79 & PARK



79 & PARK / STOCKHOLM

79 & Park (Bjarke Ingels Group, 2018) is an enclosed urban block in the central part of Stockholm, structured from its characteristic wooden units which form one housing complex. The architectural volumes and materials are embracing the quality of apartments and the block enclosure provides a common yard for sharing space between residents.

''The southwest point of the building extends farthest into Gärdet; and to create a humane edge between building and nature, is pushed down to the lowest profile, transforming it into a public platform with a 270 degree view of parkscape and simultaneously freeing the majority of the residential units to views of the park. The same move also ensures that the central courtyard will always receive copious amounts of sunlight.'' Diego Hernández for ArchDaily (2018)

While the interior of the block and housing units provide safety and comfort for residents, the public life of the street is not fully supported. The block is located near a green area of Gärdet and to increase the possibility for residents to enjoy this attractive view and get more sunlight in their apartments, the part of the block facing the green is lower, despite the dynamic movements on the city street. On the contrary, the opposite corner of the building that faces likely local street and thus semi-dynamic movements, is the highest point of the urban block. This results in conflict between density of the urban form and density of the likely pedestrian movement, where the block is not dense enough where the movement is likely highest, and too dense where the movement is lower.

After examining this case one could conclude that the design process was focused on creating quality inside the urban block, but the integration of residents and strangers along the dynamic street was not prioritized.

THE FOLLOWING VARIABLES ARE ACKNOWLEDGED AS IMPORTANT ONES FOR SUPPORTING THE LOCATION-URBAN BLOCK RELATION ON THE INTERIOR OF THE URBAN BLOCK:

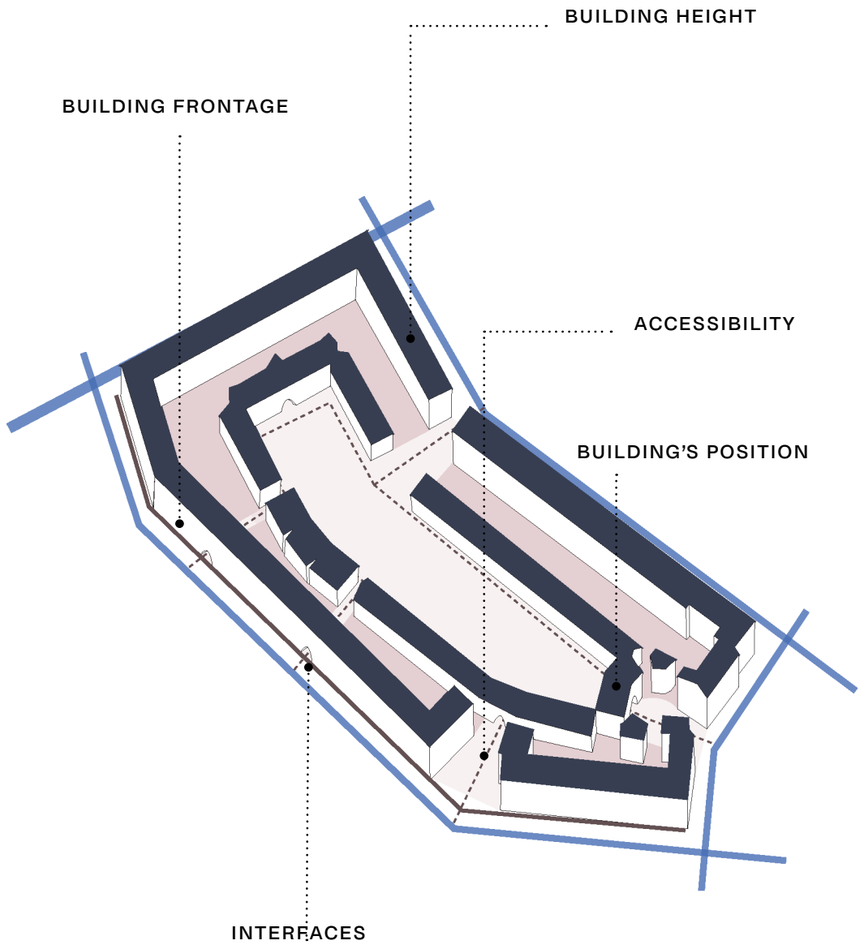
BUILDING FRONTAGE AND ENCLOSURE, BUILDING'S POSITION, ACCESSIBILITY, INTERFACES (BUILDING ENTRANCES, ACTIVE GROUND FLOORS, PASSAGES).

THE FOLLOWING VARIABLES ARE ACKNOWLEDGED AS IMPORTANT FOR MISFIT OF THE LOCATION-URBAN BLOCK RELATION ON THE EXTERIOR OF THE URBAN BLOCK:

BUILDING'S HEIGHT.

FIGURE 11 79 & PARK EXTERIOR

FIGURE 12 79 & PARK INTERIOR



SUPERBLOCK CHARACTERISTICS

Based on the study of four real cases and theoretical explanation of the thesis question, the following variables were found as the main characteristics of superblock and thus important for supporting location-urban block relation: building frontage and enclosure, building height, building's position, accessibility, and interfaces (building entrances, active ground floors, passages).

BUILDING FRONTAGE AND ENCLOSURE

The spatial-structural division between private and public good is achieved with the GSI, or coverage of building's ground floor area, and it demonstrates the relationship between built and non-built space. On one side, in efficient use with parameter building's position, it acts to frame the dynamic street, by creating a building frontage along with this linear continuous space of the street. On the other side, it encloses the inside of urban blocks and creates territories that are more or less accessible.

BUILDING HEIGHT

Building height plays an important role in defining public and common qualities, and likewise in acting as a barrier between the noisy street and calm common yard. The building height should correspond to the likely density of pedestrian movement on streets. Therefore, the height will be decreasing once the movement shifts from dynamic to seamy-dynamic and then seamy-static.

BUILDING'S POSITION

Building's position defines boundaries of open space within the location and sets spatial-structural boundaries between different territories of occupation and movements. How a building is positioned plays an important role in determining the structure of urban blocks and it affects the accessibility of the territories.

ACCESSIBILITY

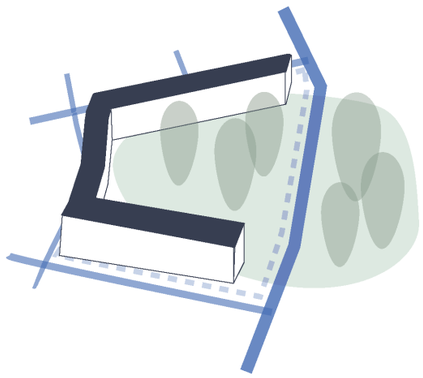
Accessibility defines who uses the territory and provides safety for residents by distinguishing them from the rest of citizens. It is a variable that urban blocks should manifest through its structural-spatial organization of built elements. The structure of local streets affects accessibility, where continuous linear streets are more intelligible and thus accessible for the larger number of people, and streets with more turns are less inviting and thus less accessible.

INTERFACES (BUILDING ENTRANCES, ACTIVE GROUND FLOORS, PASSAGES)

Interfaces are meeting points between different patterns of movements and they play an important role in integrating location with a city-wide scale. For example, the connection between residents of private club life is achieved through the function of yard buildings (such as repair stores, washing rooms, storages etc.), further residents of one private club good interact with the rest of the community through the common functions of kindergartens and other common buildings. Likewise, the building entrances create a meeting spot between residents and strangers and thus, should be placed on streets that embrace dynamic or semi-dynamic movements. Passages play an important role in developing interactions between diverse movements and active ground floors strengthen interactions of pedestrians moving on different scales.

The thesis sets a foundational explanation of how urban block variables should consciously support location-urban block relations and be utilized based on the potential of the street grid. However, the thesis didn't set the precise parameters for variables which leaves space for further development of this concept by using the spacematrix tool (Berghauser Pont and Haupt, 2010).

03



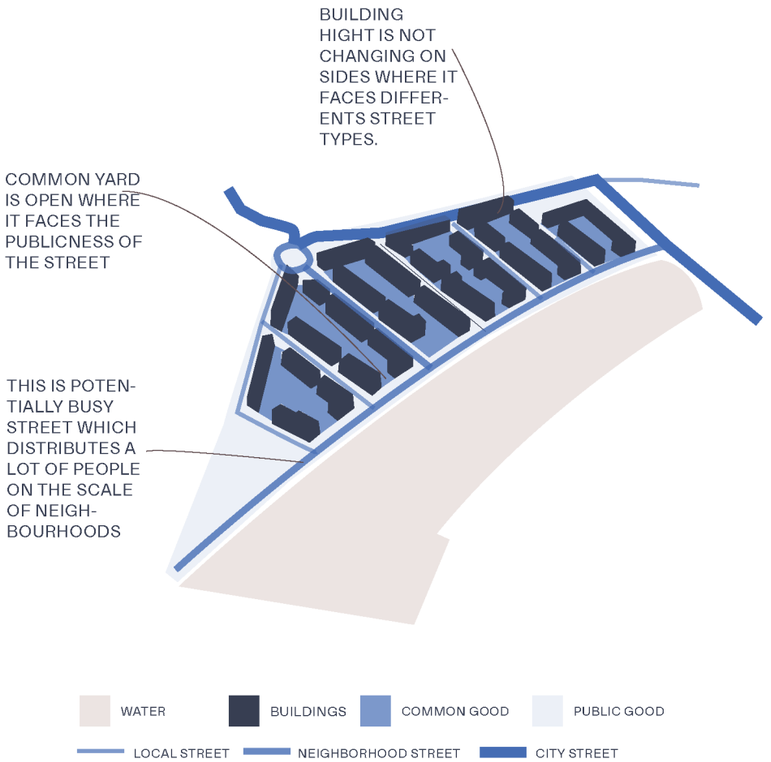
COMMON TYPOLOGIES AND DESIGN STRATEGIES IN GOTHENBURG

This chapter is introducing the socio-cultural context of Gothenburg by studying five areas: two urban block types situated in Eriksberg, one in Guldheden, one in Kålltrop, and one in Frölunda. The structures that are investigated represent the most dominant and common urban blocks in the city based on my observation of the overall spatial configuration of the city.

The investigation of these urban blocks aims to give insight in ambiguity in the location-urban block relation. I will describe the reasons for the chosen design solution and where problems in the location-urban block relation occur, extract the main design strategies. The strategies that will be highlighted at the end of this chapter are the ones that are creating ambiguity in the location-urban block relation.

The main conclusion is that current design strategies focus on achieving the quality of individual life inside the buildings, providing a view, privacy and sunlight. However, the needs of residents for retreat and belonging to the yard or private club territory of their housing units are completely set aside.

It seems that the current social perception of individual retreat outdoors equals to the public spaces and interaction with other citizens. However, one could argue that the social life begins with the smaller group like a small estate, which takes care of their common territory. The point which is achieved here is the feeling of belonging and owning that triggers the safety and engagement of residents. When one is embracing their social identity within the urban block that they live in, from private indoor, private outdoor (private club good), and common yard, the next level of socializing would be in public space through the interaction with citizens on the busy streets and public areas (parks, waterfronts, squares, etc.).

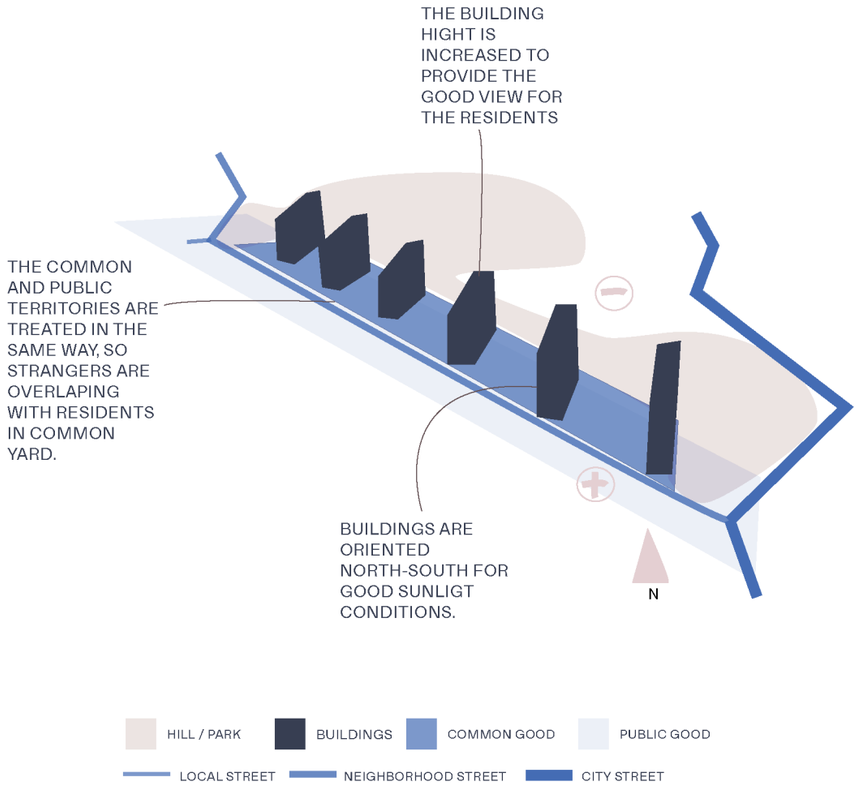


ERIKSBERG / GOTHENBURG

The housing blocks in Eriksberg are developed in a rather integrated area and are oriented towards the water which is treated as the public space. The urban blocks are enclosed structures in a part where they face the urban street that connects them with the rest of the neighborhood and city. However, the common yard of these urban blocks is open towards the water where they face another urban street.

The differentiation between public street life and community life inside the block has thus no clear boundaries on this side of the block. The potential of the street along the water to attract a high number of people threatens the feeling of safety and ownership of the residents. And while the aim of opening the urban block on this side was to provide a good view and integrate residents with water as a spatial-natural element, from the spatial-structural perspective (the street grid), this creates misunderstanding in who is supposed to use the common good.

If we consider the efficiency of the use of variables that characterise location-urban block relation of the urban block, we can understand better where the problem occur. The building frontage and enclosure and thus, the number of floors and building's position, are not supporting the division of the potential public street from the common yard. Thus, this community good is left too accessible for strangers. Consequently, interfaces between busy/dynamic and safe/semi-dynamic areas are not defined.



GULDHEDEN / GOTHENBURG

The urban blocks in Guldheden are tall slab buildings positioned on a hill, oriented north-south. The two main design strategies which were guiding this design process are the good view from the apartments and good sun orientation. The goal of the design was to create good living qualities in buildings which are thus, in this case, perceived only as a shelter. However, the socio-cultural role of buildings and yards in creating a social community for people living there is not developed within this project. Because the territory around the buildings is 100% open towards the public and potentially busy street, this open space that is theoretically meant to be a common yard might be perceived more as public space.

Positioning buildings north-south is a common case in the urban tissue of Gothenburg. Consequently, it ends up placing them diagonally on the plot and creating confusing boundaries in relation to the street. Further, in the city's configuration, it is noticed that this method of achieving good sun orientation got lost in translation, so the principle of diagonal position became a trend set by the dominant type in the area.

The tall slab buildings emerging on a hill are a common situation in the city of Gothenburg, as the view is a tempting pleasure for all of us. However, considering the preconditions of the location, this concept is creating rather too dense areas where the potential for it often does not exist. As a result, the streets that have semi-dynamic movements will be facing dense urban blocks. This is an evident conflict between the density of pedestrians on the street and the density of urban blocks, which creates the feeling of abandoned streets.

Perceiving the structure of this urban block through its variables sets the record straight when it comes to not supported location-urban block relation. The building's position is not supporting the dynamic street type of neighborhood street, while the number of floors is embraced more than the location's structural configuration is preconditioned to support.

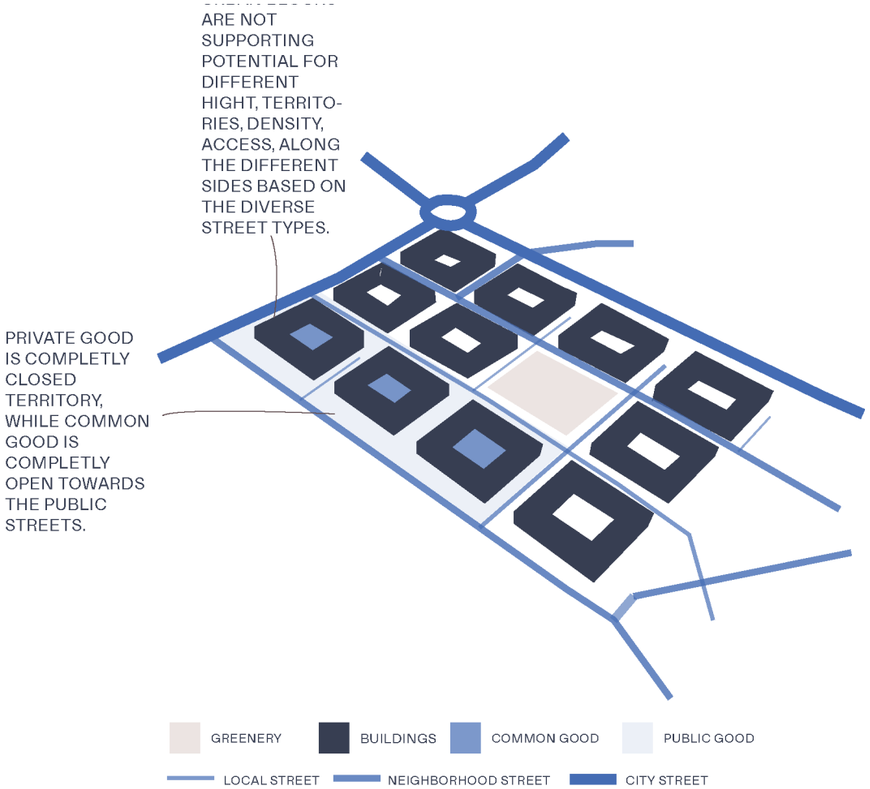
The undefined interfaces and accessibility of the territory further break the relation between the structure of the street and this urban block.

ERIKSBERG / GOTHENBURG

The housing blocks in Eriksberg are developed in a rather random manner. This case illustrates one more example of urban block typologies that are randomly developed with no sensitivity towards the location qualities. While the location is facing, on the one side, potentially dynamic movements of the urban street and, on the other side, potentially semi-dynamic movements of the local street, the main characteristics of the urban block do not correspond to this spatial-configurational context.

The building is treated to function as a shelter and its position on the location is rather casually set to follow the row of buildings which are belonging to another urban block on the other side of the city street. Creating a pattern of buildings randomly positioned on its location and not being aware of the territories this creates is the act of leaving scars on the whole city-wide scale. The movements are broken and the balance between streets' potential, land uses and density is neglected.

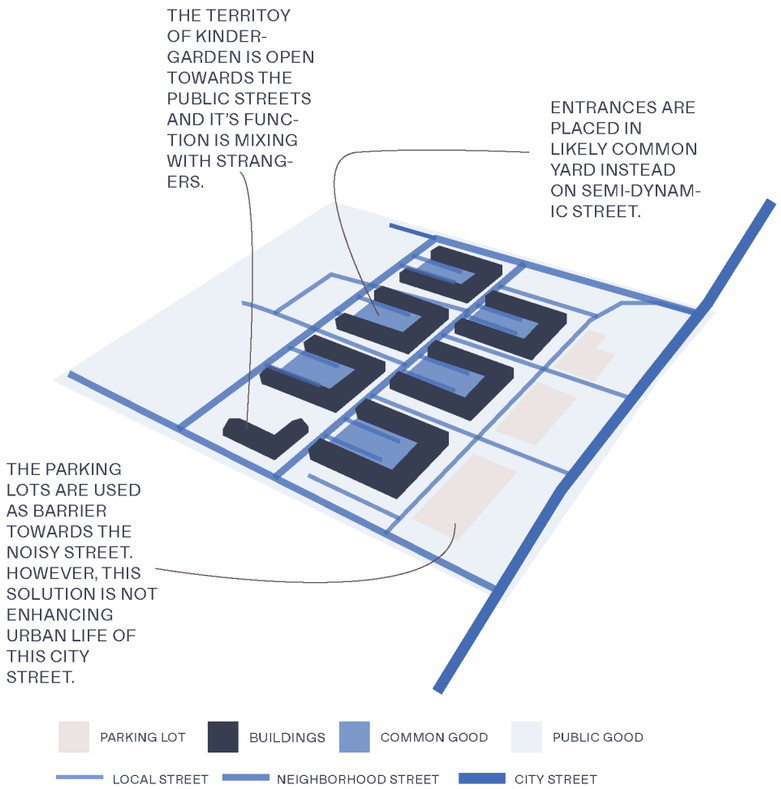
With all this said, we could conclude that if the main urban block characteristics are not bounded to preconditions set by the street types, the variation of three different movements: active street life, community life, and private club life will be undeveloped. Thus, the social life of people won't be supported, and the location is treated just like a place and not part of a city-wide system. To avoid this result, one should be aware of the impact building frontage and enclosure, building's position, building's height, accessibility of territories, and interfaces (building entrances, active ground floors, passages) have on developing the structure that will reinforce the integration between parts and whole.



KÅLLTORP / GOTHENBURG

This illustration shows the reference project of closed urban blocks that create the same homogeneous design solution on a site with varying qualities. Instead of supporting the urban/dynamic potential of city streets and creating a transition towards the semi-dynamic and semi-static territories, the block's structure encloses private club goods while the common yard remains 100% open toward the public life on both busy and more quiet streets.

The diversity in density, building height, accessibility, and so on, should correspond to diverse urban processes on the location. By treating different potential densities of urban life along different streets the same, we treat the city as a static structure that doesn't manifest our needs for diverse and rich urban life qualities.



FRÖLUNDA / GOTHENBURG

In this modernistic area in Frölunda, urban blocks are pushed away from the city street. One of the reasons for creating such setbacks and instead create parking lots along the potentially dynamic city street, is to avoid noise pollution. However, this lack of desnity along this city street, also decreases the potential of interactions between residents and citizens moving on different scales.

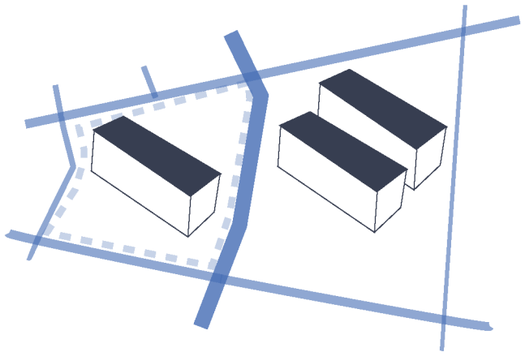
Further, the interior of the block is not fully embracing the potential of semi-dynamic and semi-static streets. The building entrances should create an interface between residents of the urban blocks and thus embrace the feeling of belonging to the community. In this case, entrances are positioned in a potentially semi-static ground. This creates interaction between residents and visitors in the private club good that is not supposed to embody such meetings. As a result, residents are discarded from the safe and controlled ground and instead interrupted by visitors on their private territory.

One more unclear function of the common good is created for the kindergarten which is exposed to public flows of a potentially dynamic neighborhood street. Public life should not be mixed with the expected safe and controlled territory for children's play.

After examining these five cases in the urban context of Gothenburg, we can extract the main design strategies that are NOT supporting location-urban block relation, but rather creating undefined territories which result in unused goods. In the next chapter, 'A proof of concepts', these strategies will be modified to embrace the integration of places with a city-wide scale.

CURRENT DESIGN STRATEGIES IN GOTHENBURG

01



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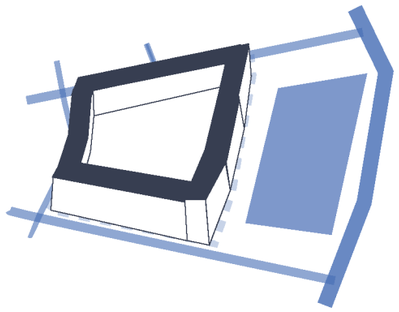

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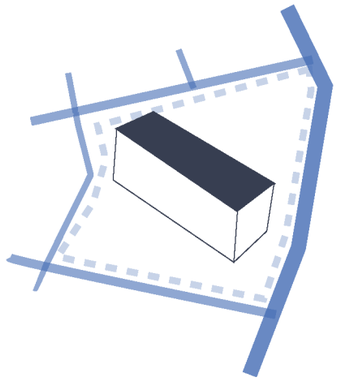

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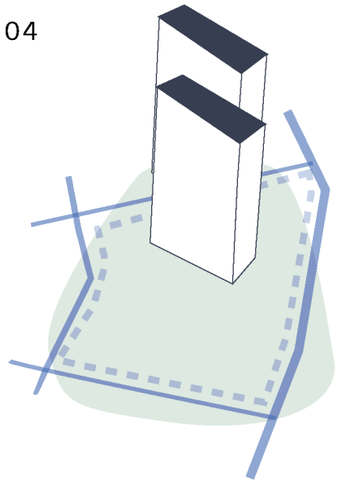

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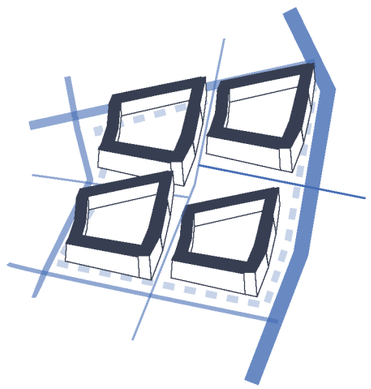

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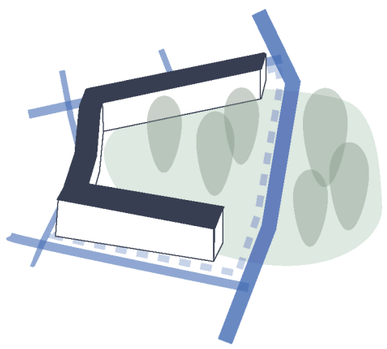


01

URBAN BLOCK GUIDED BY EXISTING TYPOLOGIES AND NOT SUPPORTING DIVERSE STREET TYPES SURROUNDING THE LOCATION WHICH ARE SETTING A POTENTIAL FOR DEVELOPING DIFFERENT TERRITORIES AND FUNCTIONS.

02

POSITIONING PARKING LOTS AS A BARRIER TOWARDS THE URBAN STREET RESULTS IN THE UNUSED POTENTIAL OF SUPPORTING THE LIKELY HIGH DENSITY OF PEDESTRIAN MOVEMENT WITH THE DENSITY OF THE URBAN BLOCK.

03

STRUCTURING AN URBAN BLOCK AS A DIAGONAL SLAB BUILDING CREATES UNUSED AND UNDEFINED TERRITORIES.

04

HIGH-RAISED BUILDINGS AS A DESIGN SOLUTION ON THE HILL GUIDED BY THE VIEW OPPORTUNITY INSTEAD OF BEING A RESPONSE TO POTENTIAL PEDESTRIAN DENSITY ON THE SURROUNDING STREETS.

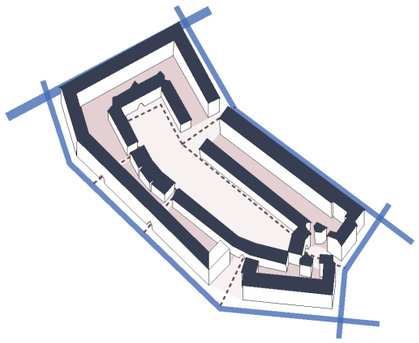
05

CREATING CLOSED URBAN BLOCKS WHERE ALL THE MAIN VARIABLES ARE TREATED THE SAME WAY, WHILE THE STREET TYPES HAVE DIFFERENT POTENTIAL, DEVELOPS UNUSED LIKELY DIVERSE QUALITIES OF THE LOCATION.

06

OPENING URBAN BLOCKS TOWARDS A NATURAL ELEMENT (WATER/PARK) RESULTS IN CREATING UNEDIFYING BARRIERS BETWEEN PUBLIC/DYNAMIC STREETS AND COMMON/SEMI-DYNAMIC YARDS.

04



A PROOF OF CONCEPTS

This chapter gathers all the previous findings on understanding location-urban block relation and developes the concept of a superblock with its main characteristics to embraces diverse urban life qualities of the area.

The chapter consists of two cases. First, the site-specific design is used for the configuration of a new urban block type in Frihamnen, that follows the proposed urban grid layout suggested by the city of Gothenburg. Second, the new urban block type is used to redevelop an existing, segregated area in Frölunda.

The chapter concludes with proposing design strategies for Gothenburg to develop urban blocks that acknowledge and strengthen the location qualities. Each new design strategy is based on developing urban blocks not only as a shelter but embracing its socio-cultural function as well. All of these findings are utilized as guidelines to design three variations of pedestrian movement within the new urban block type in the city of Gothenburg: active street life, community life, and private club life.

CONFIGURATION OF NEW URBAN BLOCK /FRIHAMNEN

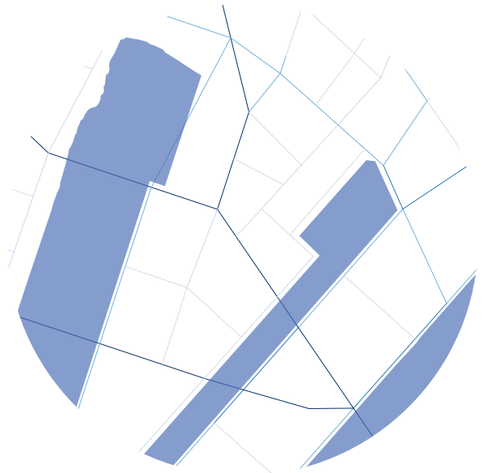
The location chosen is the planned development of the Frihamnen area in the city of Gothenburg. The street network which is proposed by the municipality is still a work in progress. This thesis uses the version of the suggested street grid from 2018 as the main guideline for defining street types and acknowledging the hierarchy in street centralities in the area. Further, within the urban block development, the potential of the location to embrace diverse dynamics of social life is reinforced with the structure of the built environment and the territories it creates by using the identified variables.

The main idea was to synchronize potential and outcome of urban processes through two main steps. First, the space syntax tool is used to identify street types. The streets outside the urban block that overlap movements on different scales and link location to the city-wide scale are assumed to be unchangeable, the constant variable. The other streets that have less influence on city-wide movements but support movements within the blocks are converted through two steps: local streets are modified by making more turns and changes in direction while background streets are attached as a semi-static one-way movement. The idea of adjusting movements on the local scale is to strengthen the public life on active streets. Therefore, this conversion of local streets embraces differentiation of urban life of the dynamic exterior movements and safe, calmer interior movements.

The second step was taken in designing an urban block that is structured by using the main characteristics to support this duality between active/dynamic/busy/fast street life for citizens and semi-dynamic/safe/collective/slower community life for residents. The public club life is one more level of goods used by residents to support the identity of the social cluster within the block as a semi-static territory belonging to individuals. The main role of an urban block is not only dividing these contrasting outer and inner flows but creating interfaces between citizens and residents. These interfaces are usually manifested as active ground floors, building entrances, or passages. Interfaces have an important role in creating a connection between local and city-wide scale.

The design proposal for the urban block type that should strengthen the socio-cultural function of the built environment is designed as a conceptual solution. The focus is set on introducing the idea of strong coherence between location and urban block and integrating it with the city-wide scale. The aspect which is embraced with this conceptual solution is thus the spatial-structural perspective of urban blocks.

FRIHAMNEN / MUNICIPALITY'S PROPOSAL. GIS MODEL

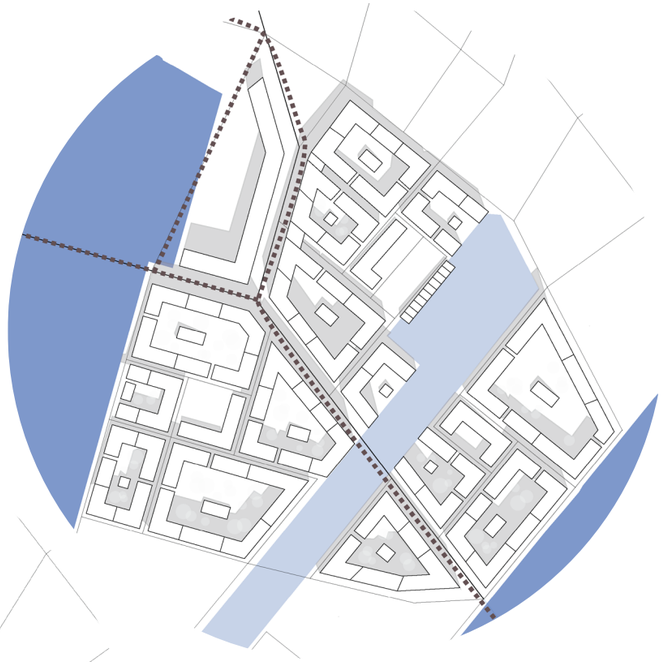


FRIHAMNEN / STREET ANALYSIS, NETWORK BETWEENNESS 3KM. GIS MODEL

COMMON FUNCTIONS PRIVATE CLUB FUNCTIONS ACTIVE GROUND FLOORS

FRIHAMNEN

MOVEMENTS ON THE CITY LEVEL



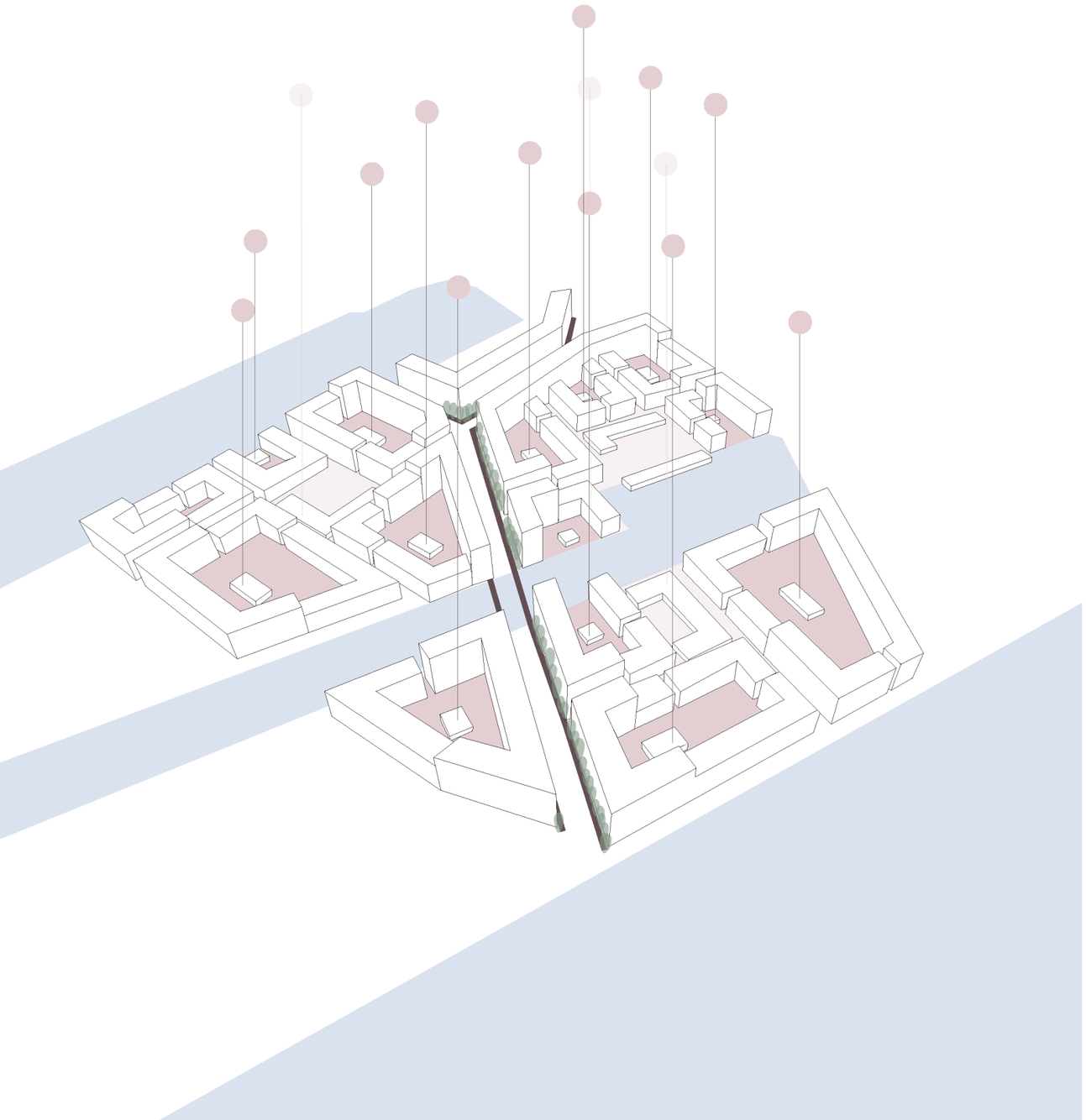
A WALK
'AROUND THE
NEIGHBOURHOOD'

CHILDREN'S SAFE MOVEMENTS

PRIVATE CLUB FUNCTIONS

COMMON FUNCTIONS

ACTIVE GROUND FLOORS



FRIHAMNEN

The main starting point for the design was to choose a location that has preconditions for, on one hand, busy street life and on the other hand, quality to develop community life. The blocks are built on the idea of creating a 'superblock', such as Zaanhof from Amsterdam discussed in the first chapter, that consists of fewer islands and local streets and is therefore spacious enough to embody community and private club life.

Based on the new street grid as part of the future development of Frihamnen, the site has quite a central position in the urban tissue and is developed in-between water canals. Those two water elements that differ in size are accordingly treated as the public waterfront – the bigger canal and the private waterfront – the smaller one. This variance is made based on the potential of surrounding streets of the smaller canal to link it as part of the urban block and integrate it with the community territory. Reversed to that, the potential of the urban street could be even more embraced by treating the bigger canal as an attraction for public life where as well Jubileum Parken is located, a park aiming to attract citizens from whole Gothenburg.

The whole design process was seeking to embrace the capacity of two dualities. On one hand, the site is placed in a potentially well-integrated, dynamic area. On the other hand, the function of a housing block that requires calm and safe life qualities is planned to be placed in this urban buzz. Once the movement is shifted inside the urban block from the main spine, the idea is to create a structure of local streets that will slow down and reduce the busy urban life. Using the space syntax logic of making a transition from fast (intense) to slower (less intense) movements, local streets are broken in more turns which expanded both metric and topological distance. The streets that are not straight but rather have more shifting spots won't be attractive for high number of citizens to enter the interior of the urban block. The purpose for making a transition from long continuous spaces of the busy street to shifting space of calmer streets is to define the social cluster within the urban block. Consequently, by enhancing movements that primarily includes residents, social identity is stronger in common spaces.

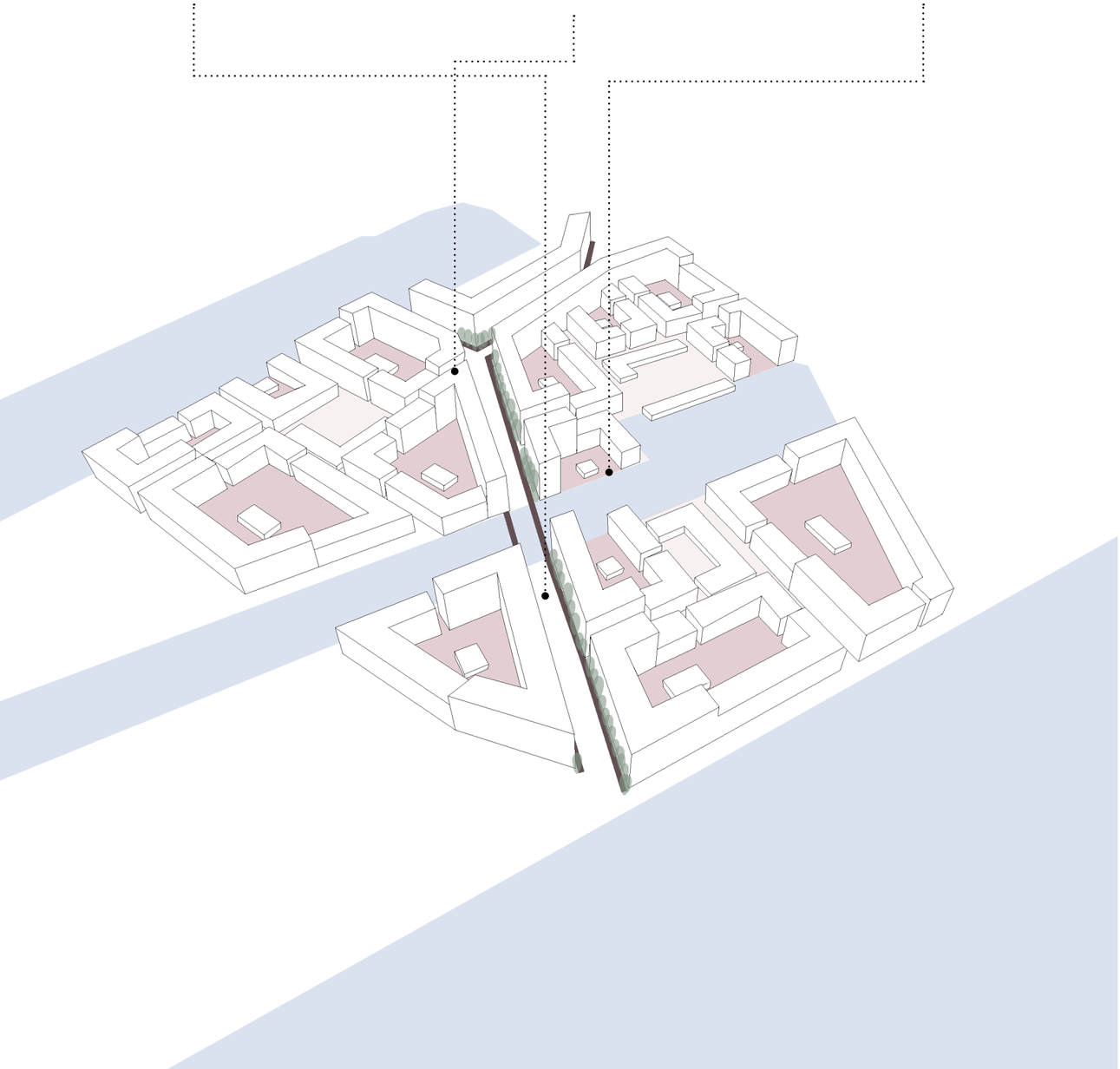
The transition from dynamic to semi-dynamic to semi-static is achieved with the structural organization of both streets and urban blocks. Once the street structure is clarified the main variables of the urban block should be used to shape the structure of buildings that will further strengthen the three variations of movement and conversion of urban life qualities.

Additional support to this variation in movements can be given by different functions that create interfaces where the transition occurs. For example, the function of small club buildings like repair stores or washing places in the private club good makes an interface for residents from the same building. Or perhaps, the common functions like kindergartens or food production spaces creates an interface between residents of different buildings within the same superblock. Further, the building entrances along the street create an interface between residents and citizens. Comparably, on an urban street, the active ground floors will create an interface between strangers passing by and the ones temporarily using the location (as Minoura calls them store-occupants). Creating territories where people meet and interact is what ties up parts to a whole.

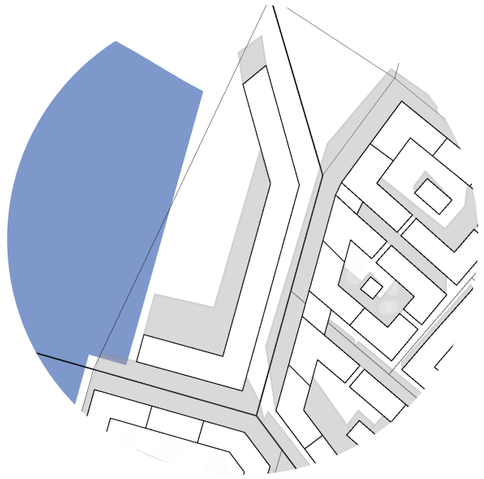
ACTIVE STREET LIFE

INTERFACE BETWEEN ACTIVE STREET AND COMMUNITY LIFE

PRIVATE LIFE



In parallel to this, one can assume that the function of interacting on the urban block level, from private club space to common yard, then to active street life, expends to interactions of pedestrians between urban blocks within one neighborhood. Therefore, the public buildings (like local market places, high schools or other educational institutions, etc.) have a role in creating meeting spots between residents of different urban blocks and strangers. Thus, public buildings play an important role in integrating locations on the city-wide scale by strengthening the desirable urban life on the dynamic spine of the area. To perform as interfaces between movements on a neighborhood scale, they should be positioned on the intersection of dynamic streets.



PUBLIC BUILDING

CONCLUSION AND COMPARISON

The municipality's proposal of urban blocks for this area is structured from closed solid blocks that fit the urban islands inside the proposed street pattern. What is noticeably missing with this proposal is the diversity of urban life qualities. Even though the area as a whole is quite central, the urban block structures shouldn't be treated the same everywhere. The lack of diversity when it comes to main urban block characteristics is revealing the undeveloped potential of likely diverse intensity of pedestrian movement. The function of housing blocks requires territories for retreat and common interaction creating community and social cohesion. Thus, strictly following a potentially dynamic street grid and not making variations between what could be active street life, what could be community life, and what could be private club life, creates unintelligible territories.

This thesis' conceptual proposal sets a focus on assuring that diverse movements on different levels are integrated with likely dynamic areas. Therefore, there is a spatial-configurational logic of who uses the space and how. Residents' needs for a private retreat in this likely dynamic area with overlapping movements on different scales could be successfully supported by providing a shift of movement intensities within an urban block: dynamic / semi-dynamic / semi-static. The concept is based on the idea to increase the quality of pubic, common, and private life by integrating those pieces through structuring the layers within the urban block and manifesting interfaces between territories.

PRIVATE CLUB FUNCTIONS

COMMON FUNCTIONS

ACTIVE GROUND FLOORS

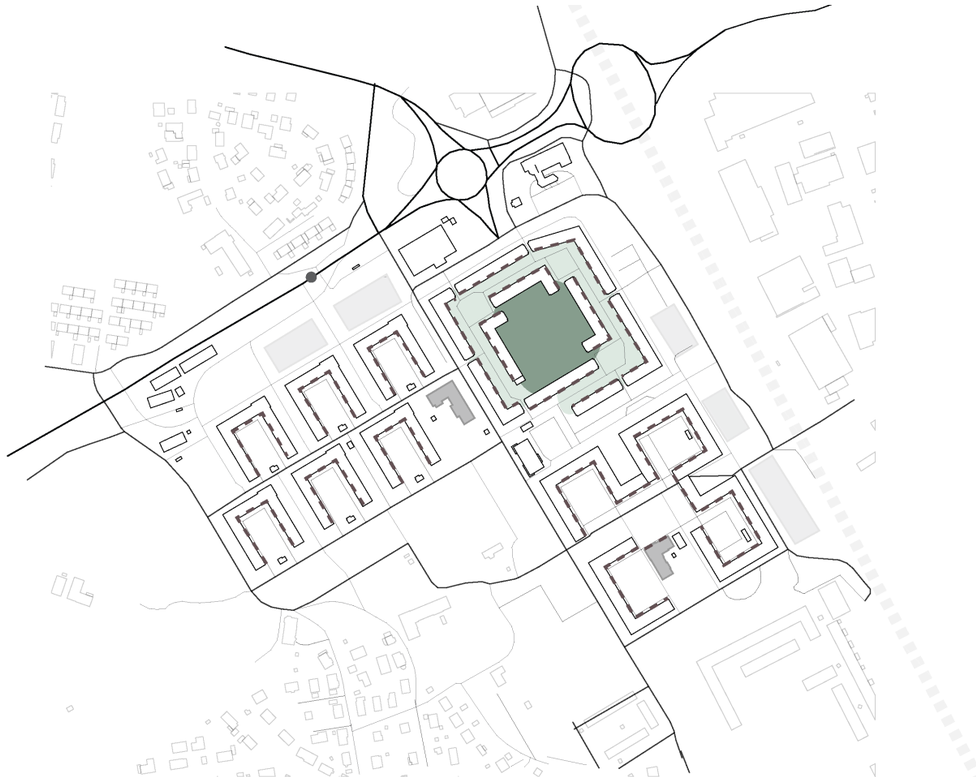
RECONFIGURATION OF EXISTING URBAN BLOCK / FRÖLUNDA

In this second part of the chapter ‘A proof of concepts’, the conceptual design solution of urban block type adopted for the location at Frihamnen is now examined in the existing neighborhood of Frölunda. This specific site design proposal aims to investigate how the newly presented urban block type for the city of Gothenburg could be used in an existing built area.

The site in Frölunda is a modernistic suburban area. The neighborhood is currently detached from the city street. An 80 meter wide area with parking lots is used as a buffer to reduce noise levels in the buildings, but also create a gap between the busy street and the urban block. The lack of density to support the city street’s potential buzzing life is evident. As a result, the urban blocks are rather treated as local things, completely detached from one another.

The misfit in location-urban block relation is explained through two aspects. On one hand, movements from the dynamic spine are not modified to decrease speed inside the urban block, and, on the other hand, misuse of main characteristics: building frontage and enclosure, building’s height, building’s position, accessibility, and interfaces (building entrances, active ground floors, passages) resulted in developing inefficient urban block structures.

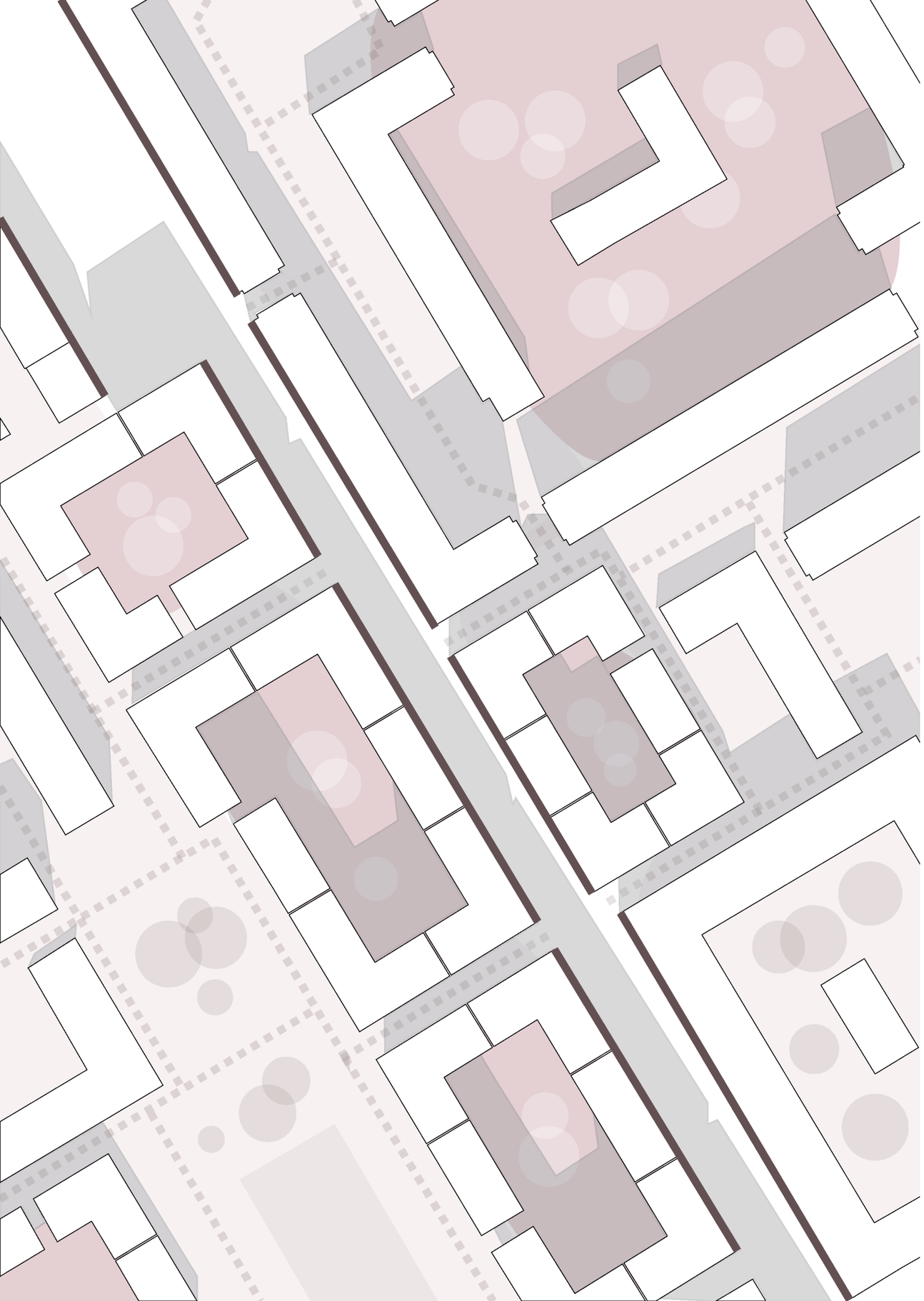
For example, the urban block in the right bottom part of the area has well-developed conditions for common and private club yards. However, the likely dynamic neighborhood street is passing through the block. Further, the buildings are not positioned to fully enclose this common ground from the potentially dynamic flow. Consequently, this case requires further densification and modification of local flows.



COMMON FUNCTIONS

PRIVATE CLUB FUNCTIONS

ACTIVE GROUND FLOORS



FRÖLUNDA

The current structure of this neighborhood is divided into few urban blocks. The residential buildings and two kindergartens are not forming a strong social cluster. The feeling of community is lost because, on the one hand, a weak territorial integration of common and private club life qualities, and, on the other hand, unused capacity for active public life on urban streets in the area. Therefore, the area is shattered into pieces that are not consolidated in one functioning structure that links to the city-wide scale.

The problem that is present in the area, observing from a spatial-structural perspective, is the misfit of territories and functions. The private club good is interrupted with entrances, which are placed on background streets. This leads to the mixing of residents and strangers in the private club good where movements are supposed to be calm and safe. Likewise, the territory of the kindergarten, which is supposed to be part of the common good, faces public flows, and children's safety is threatened.

Further, the building entrances are not put along urban streets and therefore the public buzz is not supported with interfaces and different variations of movements. This results in quiet and empty streets. Whit all this said, the structure of urban blocks is not fully developed and not used to create diverse preconditioned qualities of the location as part of the bigger scale.

The design process progressed through two parts. First, the quality of the area was analyzed by using space syntax tools and by identifying street types. After acknowledging which are the urban streets that overlap different radii of movements, they were used as central guidelines for the further development of the area. Next, the existing urban block structure was analyzed. The efficiency of the territories is recognized based on the movements that these clusters embody. The gradient between likely dynamic / semi-dynamic / semi-static territories and movements is not supported. Therefore, the structure is defined as inefficient to support the location-urban block relation in the current situation.

In the second part, the design process is progressing in structuring the space that is evolving around three layers of movements: active street life, community life, and private club life. Here the same logic is used as in the first part of this chapter. The neighborhood street that connects to city-wide movements is recognized as a potential spine of the neighborhood. It is a linear, continuous space that is intelligible for dynamic pedestrian movement through the area. Further, the local streets are modified to fracture the movement from the dynamic spine. Once the paths become the interior of the urban block, the intensity of movement should shift from dynamic to semi-dynamic and then even to semi-static. This sets a ground for developing built structures to strengthen the transition of social territories.

PRIVATE CLUB FUNCTIONS

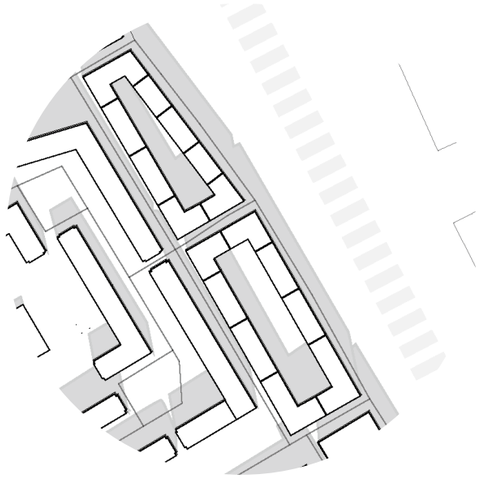
COMMON FUNCTIONS

ACTIVE GROUND FLOORS

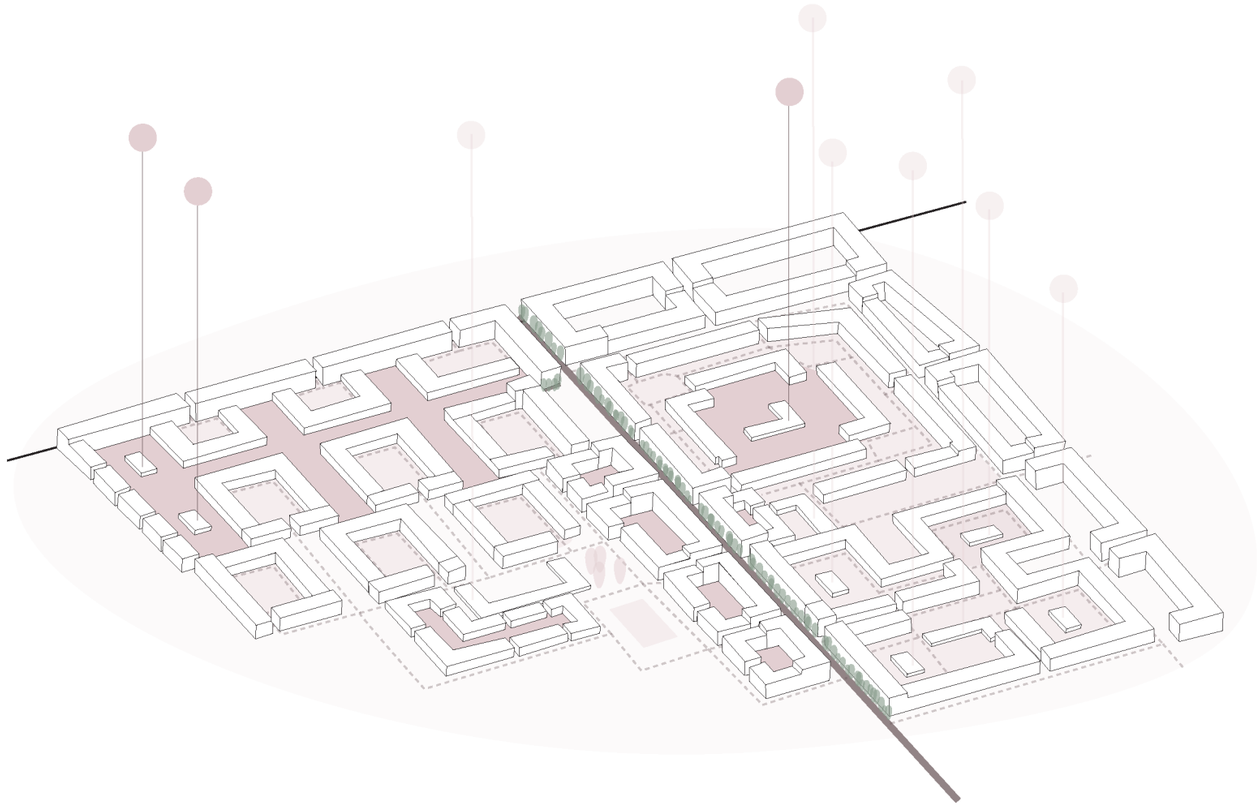
FRÖLUNDA

The approach of strengthening the parts to a whole was achieved with the newly-proposed solution by making a transition of accessibility and usage of territories while still connecting diverse goods through the interfaces.

The spatial structure of the urban block and the movement intensity is strengthened by the three functions introduced in the previous case: small club buildings on a private club level, kindergartens on a community level, and active ground floors on a public level. What is specific for this site is the motorway that passes next to the neighborhood. Therefore, the function of administrative buildings is placed as a barrier for noise pollution from this motorway which is not distributing pedestrian movement. Administrative buildings are proposed on the edge of the area along the neighborhood street that connects it to the dynamic spine.



ADMINISTRATIVE BUILDINGS



PRIVATE CLUB FUNCTIONS

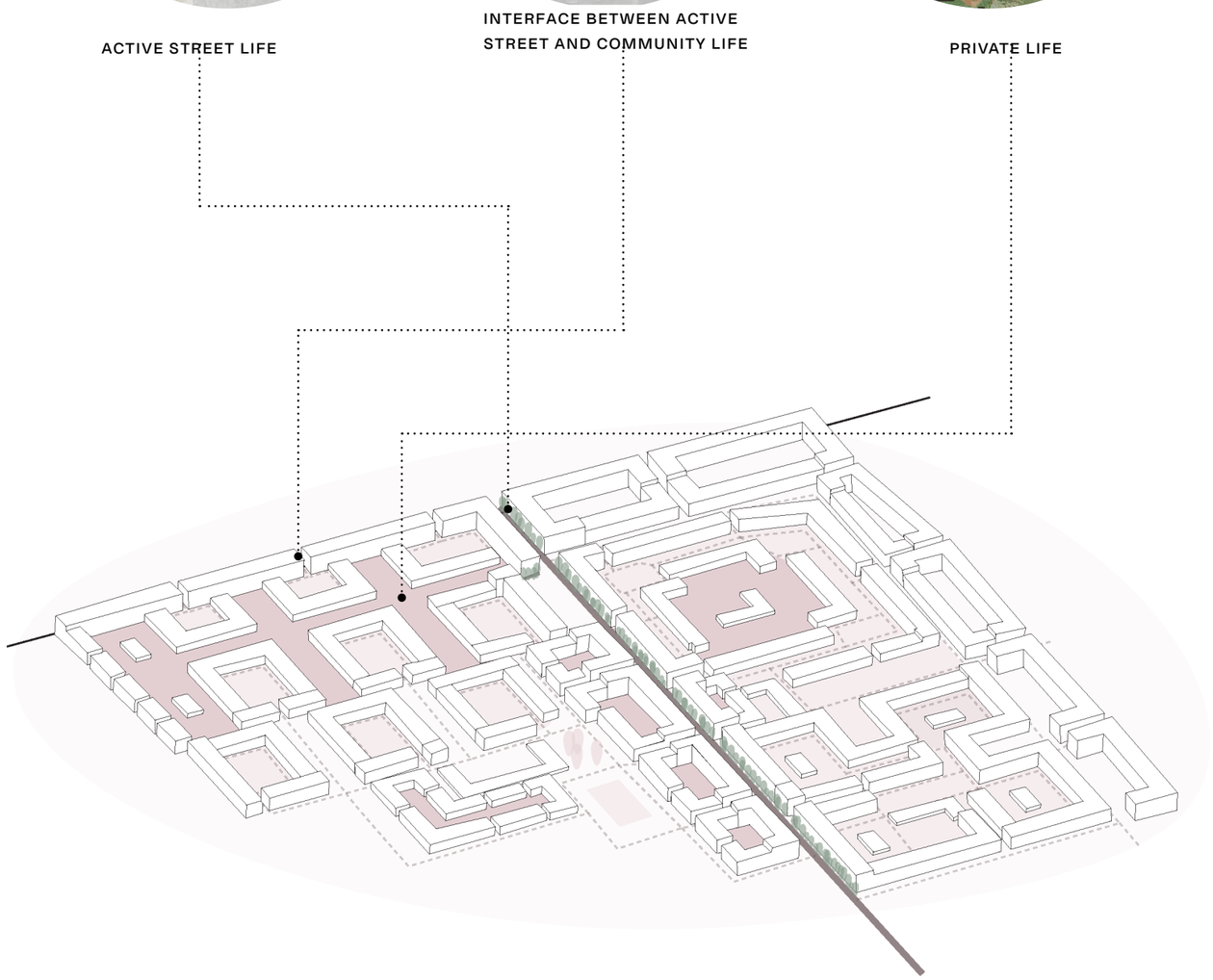
COMMON FUNCTIONS

ACTIVE GROUND FLOORS

ACTIVE STREET LIFE

INTERFACE BETWEEN ACTIVE
STREET AND COMMUNITY LIFE

PRIVATE LIFE



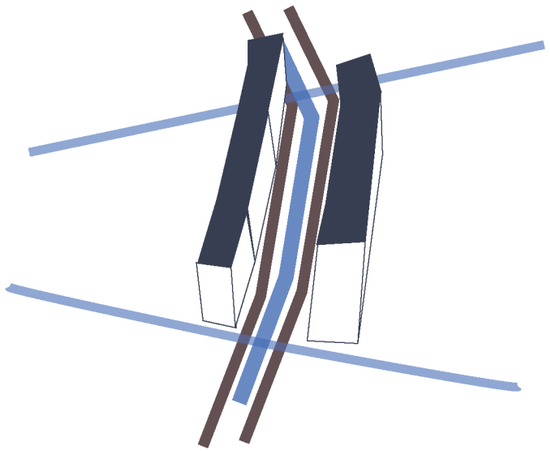
PRIVATE CLUB FUNCTIONS

COMMON FUNCTIONS

ACTIVE GROUND FLOORS

NEW DESIGN STRATEGIES IN GOTHENBURG

01



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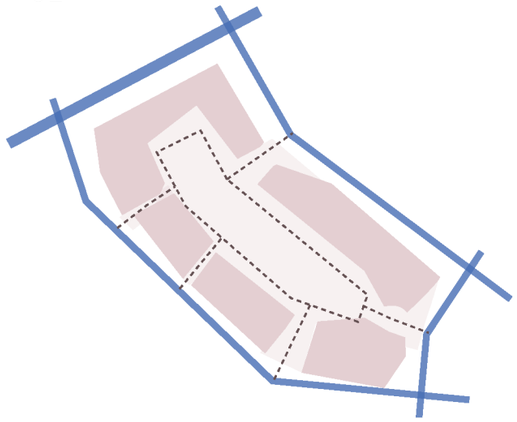

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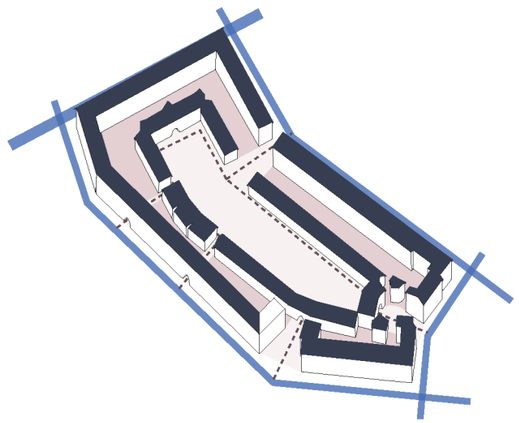
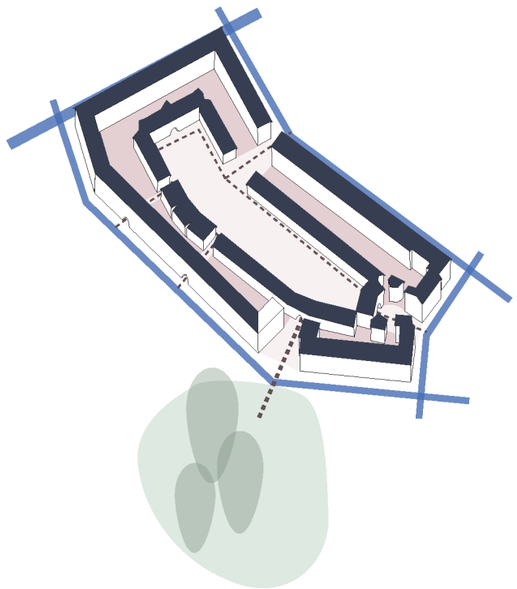


04



01

SUPPORTING ACTIVE STREET LIFE WITH URBAN BLOCK'S STRUCTURE.

BUILDING FRONTAGE AND ENCLOSURE AND BUILDING'S POSITION ALONG THE STREET TO FRAME AND DEFINE THE EXTERIOR AND INTERIOR OF THE URBAN BLOCK. GSI IN COMBINATION WITH BUILDING HIGHT (AND THUS FSI) IS USED TO ENHANCE THE POTENTIAL DENSITY OF PEDESTRIANS ON THE URBAN STREET. BUILDING HIGHT ACTS AS A NOISE BARRIER AS WELL. FURTHER, BY CREATING INTERFACES (ACTIVE GROUND FLOORS, ENTRANCES AND PASSAGES) ALONG THE STREET THERE ARE CREATED MEETING SPOTS BETWEEN RESIDENTS AND CITIZENS.

02

EMBRACING SOCIAL INTERACTIONS BY DEVELOPING DIFFERENT TERRITORIES.

WHILE THE URBAN BLOCK SHOULD ENHANCE THE PUBLIC/DYNAMIC STREET LIFE ON THE OUTSIDE, INSIDE THE BLOCK, TERRITORIES SHOULD AIM TO CREATE TRANSITION TO COMMON/SEMI-DYNAMIC LIFE AND FURTHER EVEN TO PRIVATE CLUB/ SEMI-STATIC GROUND AND THUS EMBRACE THE SOCIAL CLUSTER WITHIN THE BLOCK..

03

STRUCTURING AN URBAN BLOCK IN A CONCIOUS RATHER THAN RANDOM MANNER.

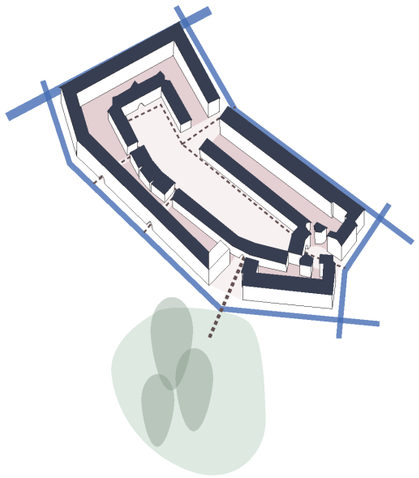
ONCE THE MOVEMENT IS SHIFTED FROM CONTINIOUS/DYNAMIC STREET, THE STRUCTURE OF THE URBAN BLOCK SHOULD DECREASE THE INTENSITY OF PEDESTRIAN MOVEMENT. LOCAL STREET SHOULD BE EMBRACED THROUGH MORE TURNS AND THUS EMBODY SEMI-DYNAMIC MOVEMENTS.

04

CREATING INTERFACES BETWEEN RESIDENTS AND CITIZENS.

AS PARKS AND WATER ARE TEMPTING ATTRACTIONS FOR CITIZENSAND AND ARE THUS PUBLIC TERRITORIES, RESIDENTS SHOULD BE PART OF THESE PUBLIC SPACES THROUGH THE INTELLIGIBLE CONNCETIONS LEADING FROM THE INTERIOR OF THE BLOCK TO THIS PUBLIC ATTRACTION ON THE OUTSIDE OF THE URBAN BLOCK.

05



CONCLUSION

This thesis was structured from the starting point of acknowledging urban block as a faster-changing variable in the city's street system. Therefore, it should be guided by the street grid that is considered as a slower changing variable and a foundation for movement and thus, for many other urban processes.

The examination of the location-urban block relation started by linking theoretical findings to the thesis question: 'How to design location-based urban block?'. The central guidelines extracted from this part were street types and territories.

The thesis further progressed to link these two guidelines through the concious developemnt of three variations of urban life through the structure of a superblock and use of its main characteristics: building's frontage and enclosure, building's height, building's position, accessibility, and interfaces (building entrances, active ground floors, passages).

The design strategies extracted from Gothenburg's existing urban block cases served to set a ground understanding of common problems that occur in current design solutions. This all provided a set of strategies to develop a more intelligible urban block structures for the urban tissue of Gothenburg.

CONCLUSION

After wrapping up all the findings and developing a new urban block type in the chapter 'A proof of concepts', the following conclusions are made. To support location's quality is not to unconditionally follow street grid's configuration. The base of all further design decisions is understanding what is the main street that acts like a spine in the city's network. As explained in the thesis, this city street likely resumes a high amount of pedestrians, while neighborhood streets can expect a lower intensity of movement flow. Both types act as important distributors of likely dynamic movements on different scales. The structure of these streets has to be a linear continuous space that is easily perceived from the pedestrian's point of view.

Next, this potential dynamic life can be further supported by attracting citizens to move along this intelligible space with concious use of the superblock's characteristics. The likely dense movement on the street is intensified with the number of floors.

Building's position should frame the street, and building frontage guides the movements along the street and to clarify the boundaries between this public life and the interior of the urban block, the enclosure plays an important role. The accessibility between this public space and community life on the inside of the block has to exclude strangers from entering the social cluster of residents.

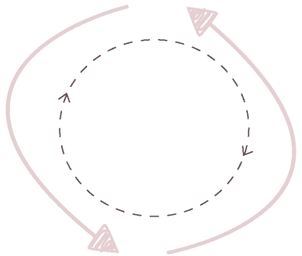
However, the whole concept of location-urban block relation is broken if the urban block is treated as a local thing and thus completly cuts connection to the dynamic spine. This is why interfaces play an important role in conecting location to city-wide scale. This is achieved by placing building's entrances along the urban street and creating meeting spots for residents and strangers. Further, active ground floors manifest connection between urban block and dynamic street. Strangers moving along the spine temporarly occupy these spaces that have a role in embrasing urban buzz and attracting movement.

Once the effect of the dynamic spine on the urban block is realized, the urban block's structure should embrace the urban life's qualities within the block's interior. The structure on the inside should be carefully developed to shift and differ from publicness and dynamic on the outside. This is achieved by breaking the linear connection of local streets into more turns and thus reducing the attraction of non-residents movements. This modification of local flows affects the support of location-urban block relation and manifests the desirable spatial integration through two aspects – by setting the dynamic focus on the public spine and by developing a functional housing urban block on the inside. As stated before, those two dualities have to be necessarily linked through interfaces and through structuring a common semi-dynamic movements that embrace social interactions.

The territories on the inside embrace occupation of the semi-dynamic community and seamy-static private club life. As the focus is set on providing quality living for residents, the territories aim to strengthen the identity of individuals through social cluster interactions. Here, the main functions for creating interfaces are kindergartens or similar functions used in a common yard and repair stores for generating private club relations or other functions that can be shared by the residents.

The thesis develops a conceptual design solution aiming to explain how to design the location based urban block. The main logic which should be followed along the more detailed, architectural design is the manifestation of three variations of movement: ACTIVE STREET LIFE, COMMUNITY LIFE, AND PRIVATE CLUB LIFE.

06



REFERENCE LIST

REFERENCE LIST

BERGHAUSER PONT, M. HAUPT, P. (2010). SPACEMATRIX

BERGHAUSER PONT, M. STAVROULAKI, G. AND MARCUS, L. (2019). DEVELOPMENT OF URBAN TYPES BASED ON NETWORK CENTRALITY, BUILT DENSITY AND THEIR IMPACT ON PEDESTRIAN MOVEMENT.

BOBKOVA, E. MARCUS, L. BERGHAUSER PONT, M. (2017). PLOT SYSTEMS AND PROPERTY RIGHTS: MORPHOLOGICAL, JURIDICAL AND ECONOMIC ASPECTS.

MINOURA, E. (2016). UNCOMMON GROUND.

HERNÁNDEZ, D. (2018). 79&PARK / BIG. HTTPS://WWW.ARCHDAILY.COM/905534/79-AND-PARK-BIG

HILLIER B. (1996) SPACE IS THE MACHINE.

ROMICE, O. PORTA, S. FELICIOTTI, A. (2020). MASTER PLANNING FOR CHANGE. DESIGNING THE RESILIENT CITY.

STAVROULAKI, G. BERGHAUSER PONT, M. MARCUS, L. (2017). REPRESENTATIONS OF STREET NETWORKS IN SPACE SYNTAX: TOWARDS FLEXIBLE MAPS AND MULTIPLE GRAPHS.

PHOTOGRAPHS

FIGURE 02 ZAANHOF EXTERIOR
KÜTING, B. ZAANHOF, AMSTERDAM. HTTPS://UPLOAD.WIKIMEDIA.ORG/WIKIPEDIA/COMMONS/B/B9/AMSTERDAM-ZAANHOFIII.JPG

FIGURE 03 ZAANHOF INTERIOR
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FIGURE 04 SPAARNDAMMERSCHOOL
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FIGURE 05 SPAARNDAMMERSCHOOL EXTERIOR
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FIGURE 06 SPAARNDAMMERSCHOOL INTERIOR

FIGURE 06 SPAARNDAMMERSCHOOL INTERIOR
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FIGURE 06 SPAARNDAMMERSCHOOL INTERIOR
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FIGURE 06 SPAARNDAMMERSCHOOL INTERIOR

FIGURE 08 FUNENPARK EXTERIOR
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FIGURE 08 FUNENPARK INTERIOR
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FIGURE 10 79 & PARK
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FIGURE 11 79 & PARK EXTERIOR
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FIGURE 12 79 & PARK INTERIOR
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