BRIDGING INDOOR AND OUTDOOR

- An exploration of balconies in residential buildings

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Bridging Indoor and Outdoor - An exploration of balconies in residential buildings
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Illustration of facade with cantilever balconies.

ABSTRACT

The thesis aims to investigate the balcony and the related indoor spaces of the home, focusing on the relationship between indoor and outdoor spaces. The purpose is to explore the use of the balcony, what qualities the balcony provides and how the design can improve the living environment for the residents.

The research questions investigate the functional, aesthetic and social qualities of private balconies in residential buildings and how the design of the interface between indoors and outdoors and the balcony can contribute to housing qualities.

The methodological approach is divided into three main phases. The first phase focuses on finding a theoretical framework, focusing on housing qualities, balcony use and design. In the second phase an analysing tool is developed based on theory. The analysing tool is used to study qualities of several types of balconies. Selected built projects are analysed and surveys and interviews with residents are conducted.

The final design proposal is presented in the third phase. Here, the theoretical framework and analysis made are combined to create a base that is used to develop two redesign proposals of balconies in an existing building with focus on the balcony and the related indoor spaces. The final design proposal is a redesign of a residential building in Kungsbacka in Sweden. The proposals aim to create housing qualities and to explore different kinds of experiences of balconies by redesigning the interface.

The identified balcony qualities are categorised into four main categories: The border zone, Experience, Usage and Material and detail. The analyses reveal both common and varying qualities within balcony typologies, depending on specific projects and factors such as apartment design and surroundings. The thesis explores how balcony design influences the dwelling and the interaction between indoor and outdoor environments, focusing on aspects such as views, light, privacy and social interaction. In conclusion, balconies are important for enhancing the physical and mental well-being of residents by providing access to nature, promoting social interaction and creating a sense of spaciousness.

Keywords

Balcony, private outdoor space, facade, housing qualities, dwelling

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INTRODUCTION

PROBLEM DESCRIPTION

According to real estate agents a balcony is something necessary to make an apartment attractive on the market. Frequently the balcony gets overlooked during the design phase, treated more as an afterthought rather than being incorporated from the start (Smektala & Baborska-Narozny, 2022). The existence of balconies in new apartments is dependent on the buyer's will and ability to pay, which leads to the balcony often not being prioritised in small and affordable apartments while it is considered a necessity in new condominiums (Granath, 2020). A survey has been made to investigate what Swedish residents desire in their dwelling. According to the survey a large majority, 97%, think a private outdoor space is important. For 75% of the participants the balcony is decisive in their choice of apartment (Skanska, 2014).

Balconies are important for both recreation and urban enrichment. Balconies should be well-designed and well-placed to contribute positively to the home, building and public space. How balconies are integrated with the building's volume greatly affects how the building is perceived in the street scene. Along streets and in courtyards, balconies break the boundary between private and public, which can increase interaction and perceived safety (Stockholms stad, 2023).

Peters and Masoudinejad (2022) argue that in residential buildings, the well-being of residents is largely dependent on having private outdoor spaces. These spaces offer access to nature, views, and have a positive impact on the health and well-being of residents. Morichetto (2019) emphasises the importance of creating environments that provide diverse sensory experiences and encourage social interaction, highlighting their potential to positively influence people's health and well-being.

In order to create high quality dwellings that contribute to people's well-being, it is important to understand what qualities balconies provide and how they are used. Therefore, this thesis will aim to contribute an addition to today's discussion about balconies and the importance of the relationship between outdoor and indoor spaces.

AIM AND PURPOSE

The aim of this thesis is to investigate the balcony and the related indoor spaces of the home, focusing on the relationship between indoor and outdoor spaces.

The purpose is to explore what qualities the balcony provides and how the design can improve the living environment for the residents. The research will focus on the relationship between indoor and outdoor, the design and appearance, as well as the qualities and use of the balcony.

RESEARCH QUESTIONS

What are the functional, aesthetic and social qualities of private balconies in apartment buildings?

How can the interplay between the indoor and outdoor space be implemented into balcony designs to elevate the overall quality of residences?

DELIMITATIONS

This thesis is set in a contemporary Swedish context and the case studies are situated in Sweden and the main references used are applicable in the Swedish context.

The design proposal covers the design of balconies in a residential building and the purpose is to show a practical example of the theoretical findings, not to cover all aspects in a construction project. The financial aspect, the detailed plan and the Swedish building laws and regulations are not considered in the design proposal.

Due to the time limit of one term, the scope of the thesis is precise and has a specific main focus on balconies and the interplay between indoor and outdoor spaces of the home. This leaves room for more topics and a more comprehensive investigation for further developments in the future.

TERMINOLOGY

BYA (Byggyta)
The area that the building occupies on the ground and the projection of the building elements that affect the use of the underlying land (Svenska institutet för standarder [SIS], 2020).

The border zone
The interface between the interior rooms of the home and the balcony. The meeting between indoors and outdoors.

METHOD

The thesis was developed by an iterative process where some methods were used parallelly. The methods could be divided into three main phases.

The first phase focused on finding a theoretical framework and gaining a greater understanding of the subject by literature studies. Subjects that were studied included balcony design, the interplay of indoor and outdoor spaces and spatial use.

In the second phase selected built projects were studied and analysed. An analysing tool was created based on theory gathered in phase one. The analysing tool aims to increase knowledge of balcony qualities and enable comparisons between balcony typologies and individual projects. The tool was used to analyse selected built projects with various typologies and layouts.

Surveys and interviews with residents from a selected reference project were conducted to create an understanding of the balconies' use and qualities. The survey was sent to all members of Bergskroken housing association in Mölndal. The reference project was chosen considering the large size of the glazed balconies. A total of 18 people (from 17 households) responded. The survey was designed to be straightforward and easy to answer to minimise the risk of misunderstanding. All households responding to the survey were offered the opportunity to participate in an interview study. Out of the 17 households approached, five households, consisting of six people in total (three women and three men), participated in the study. The questions were designed to minimise the impact of the answers while leaving room for respondents to elaborate on their answers.

The third phase combined the theory from phase one and the findings from phase two to establish a foundation for developing design strategies that was used to design two proposals of balconies. The final design proposals were redesigns of an existing building block in Kungsbacka, with focus on the balcony and the related indoor spaces. One proposal focused on designing balconies with social qualities, while the other one aimed to enhance the balconies' private qualities.

One proposal focused on creating opportunities for social interaction and one proposal aimed to create a private feeling on the balcony. Architectural drawings, illustrations and physical models were produced to display the project.

BACKGROUND

HISTORY OF THE BALCONY

1800 - 1880

Residential balconies were introduced in the early 19th century, providing the opportunity to go outside. The balcony became a formative element in the design of facades. The starting point for the shape at that time was the symmetrical, balanced and hierarchical division of the Italian Renaissance palace (Stockholms stad, 2023).

1880 - 1900

At this time, balconies were mainly found in luxurious buildings. The positioning and shape of the balcony was primarily intended to reinforce the design and rhythm of the street facades, but also to emphasise the social hierarchy of the building (Stockholms stad, 2023). In the late 19th century, the balcony established itself as a building element open to new uses: a status symbol, a decorative element on the facade or as a utility balcony facing the courtyard (Ebner et al., 2010).

1900 - 1940

In the first decades of the 20th century, hygiene, health, light and air were established topics when discussing residential architecture. Balconies continued to be built for middle-class housing in the 1930s. They were built both as status symbols facing the street and as utility balconies facing courtyards. This allows for different uses of the balconies, increasing their functional value (Ebner et al., 2010). At this time, the balconies became larger and more common as well. The balcony continued to be an essential part of the facade composition (Stockholms stad, 2023).

1940 - 1980

The older balcony principles were further developed, and a variety of design expressions emerged, especially for different balcony fronts. Initially, wrought iron and sinusoidal corrugated sheet metal dominated, but in the 1950s new materials were tried, such as eternit and concrete panels (Stockholms stad, 2023). As housing quality began to improve during the 1950s, balconies became a common feature in new buildings and were increasingly added when older buildings were renovated (Ebner et al., 2010).

1980 - 2000

These years brought a wide range of designs, materials and colours. Balconies became mostly cantilever. In the city centre, balconies were highly prevalent towards courtyards but were less common towards the street. In environments outside the city centre, balconies were often a prominent feature of the street image. The balconies were manufactured primarily with standard details. The dimensions of balcony slabs and railings increased (Stockholms stad, 2023).

2000 - Today

Today the balcony is an important part of the home and it is common with several large balconies in greater apartments. The architecture is characterised by a variety of expressions (Stockholms stad, 2023). The design of the balcony is made with the same care for spatial qualities as the interior spaces. The balcony has multiple functions, it is a private outdoor space for the resident, a design element that shapes the facade and a connection between inside and outside (Granath, 2020).

Illustration of balcony regulations.

REGULATIONS

According to the Göteborgs stad (n.d.) the street environment should be designed for good safety, accessibility, pedestrians, cyclists and different types of vehicles. For example, sanitation and snow removal vehicles need to be able to access without obstacles. This entails requirements for both clear heights and widths in the street space. The minimum clear height above the carriageway is 4.7 metres, while the minimum clear height above the footpath and cycle path is 3.5 metres.

Stockholms stad (2023) describes that when balconies are placed facing a street or courtyard in the dense inner city, balconies should not protrude more than one metre from the facade and be placed, with the lowest balcony, at least two floors above the ground floor.

When calculating BYA, the projection of a cantilevered building part shall be included, such as a balcony that significantly affects the use of the underlying land. The projection of the building element is measurable if the lowest point of the building element is located lower than 3.00 metres above the ground and its horizontal depth is more than 0.50 metres. The projection is also measurable if the lowest point of the building element is located between 3.00 metres and 5.00 metres above the ground and its front edge is more than 1.50 metres beyond the underlying facade line (Svenska institutet för standarder [SIS], 2020).

Balconies should be accessible and usable by people with reduced mobility according to Boverkets byggregler - föreskrifter och allmänna råd, avsnitt 3:146 Tillgänglighet och användbarhet i enskilda bostäder i ett plan (BBR-BFS 2011:6). Stockholms stad (2023) explains that since a new balcony must be accessible according to Boverket's building regulations, the balcony must fulfil certain dimensions in terms of size, free passage and height of the threshold. There must be at least 0.8 metres of free passage (Svenska institutet för standarder [SIS], 2006) between the dwelling and the balcony. For the balcony to be accessible, the threshold between outside and inside must not be an obstacle and there must be no difference in level between the floor of the apartment and the balcony slab. The minimum depth of a balcony is determined based on being able to use a wheelchair on the balcony (Stockholms stad, 2023).

In Boverkets byggregler - föreskrifter och allmänna råd, avsnitt 8:2321 Räcken (BBR-BFS 2011:6), it is explained that balconies that are not enclosed by walls must have railings that limit the risk of injury from falls. The railing needs to be 1.1 metres high but depending on the use of the terrace or balcony it might need to be higher. The general advice from Boverket describes that railings on balconies should, up to a height of 0.8 metres, be designed so that they cannot be climbed on. Vertical openings should be a maximum of 100 mm wide. In addition, horizontal openings above the balcony front should be designed so that children cannot get their heads stuck and therefore openings in the range of 110-230 mm should be avoided. The free dimension between the lower edge of the balcony railing and the balcony slab should be a maximum of 50 mm.

SCANDINAVIAN CLIMATE

According to the Swedish Meteorological and Hydrological Institute (SMHI, 2024) Sweden is located in the 'west wind belt', where south-westerly or westerly winds predominate. In the west wind belt, low pressure moves along zones, mainly the polar front, which separate warm air from cold air. Most of the country has a cold-temperate climate with proper snowy winters.

In Sweden, the temperature varies significantly depending on, among other things, which side of the polar front zone we are located. The average temperature for the normal period 1991-2020 in January is 1-2°C on the coasts of Götaland, while Lapland has -15°C. The average temperature in July for the normal period 1991-2020 is around 18°C in many parts of Götaland and southern Svealand. In Lapland, the average temperature during the same period is 8°C (SMHI, 2024).

Rainfall occurs all year around but is most intense during summer and autumn. As much of the low pressure moves in from the west or south-west, most of the rainfall ends up in the western parts of the country (SMHI, 2024).

Average monthly temperature

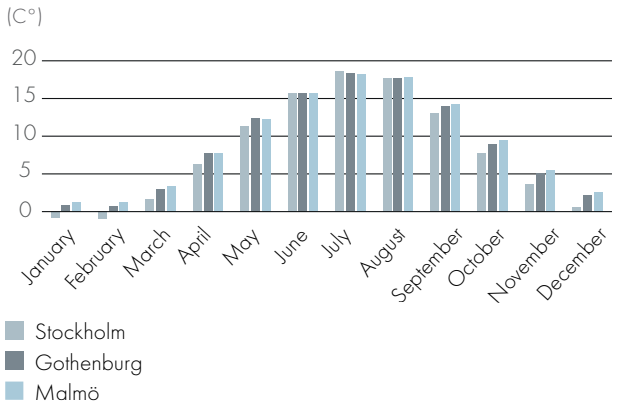


Fig. 1. Average monthly temperature in Sockholm, Gothenburg and Malmö between 1991-2020 period. Data from SMHI (n.d.).

Average normal rainfall

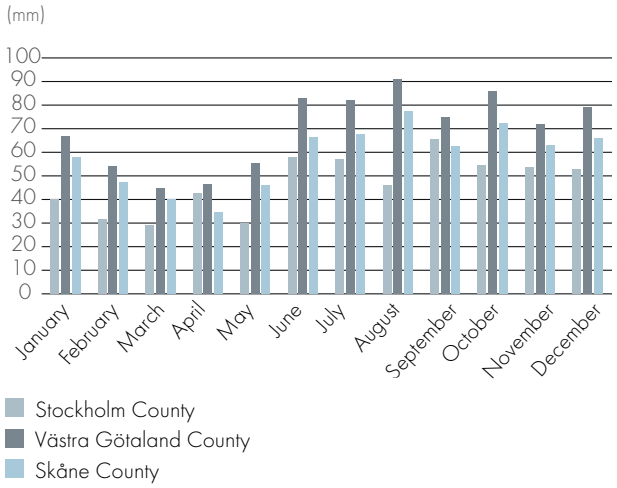


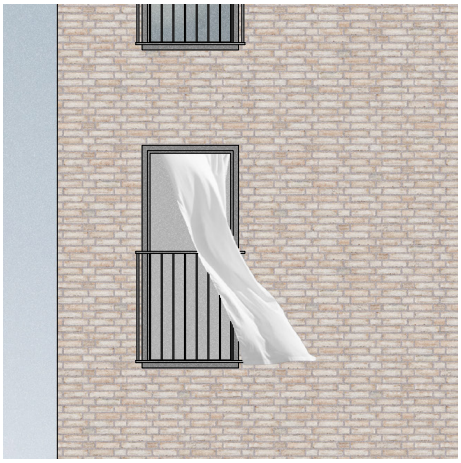
Fig. 2. Average rainfall in Stockholm, Västra Götaland and Skåne County, 1991-2020 period. Data from SMHI (2023).

SOCIAL SUSTAINABILITY

Social sustainability addresses living in a way that is healthy and fulfilling for people and can therefore be sustained. Focusing more on sustainability and well-being is needed for future development and to meet challenges in social and environmental fields. This means sustainability should include meeting people's physical, emotional and social needs (Rogers et al., 2012).

The physical environment is important to human health (Morichetto, 2019). For people's well-being it is important to have a private outdoor space with access to fresh air, natural light and community interactions (Grigoriadou, 2021). How we design the meeting between indoors and outdoors can affect how we feel in our private home. The design of the border zone between a home and its surroundings influences the sense of freedom, spaciousness and stimulation which can increase people's well-being (Morichetto, 2019).

Balcony - Slab with railing, often protruding from the surface of the wall (SS 21054:2020).



Left: French balcony, Spanish balcony.
Right: Cantilever balcony, recessed balcony and semi-recessed balcony.

BALCONY TYPOLOGIES

French Balcony

According to Stockholm stad (2023) a French balcony consists of a balcony door directly from the room but without a balcony slab. A railing is attached to the facade. Glazed balcony doors down to the floor provide light into the apartment and an extensive view down to the street or courtyard. The French balcony is a good option when street or courtyard spaces are narrow and do not allow for protruding balconies.

Spanish Balcony

A balcony with a shallow balcony slab providing space for a stool or some flowerpots is called a Spanish balcony. This balcony typology offers the opportunity to take a step out and get a view past the facade and towards the surroundings (Stockholm stad, 2023).

Cantilever Balcony

A cantilever balcony is a horizontal platform projecting from the facade. It is open on three sides and surrounded by a railing (Ebner et al., 2010).

Recessed Balcony

The recessed balcony is surrounded by the outer walls of the building, usually on three sides. However, the balcony can extend around a corner and in this case it is only surrounded by walls on two sides. The typology does not project beyond the facade of the building and therefore blends in with the appearance of the facade (Ebner et al., 2010).

Semi-recessed Balcony

A semi-recessed balcony combines a recessed part with a section that is cantilevered. This balcony typology allows the balcony to be spacious without dominating the public street (Stockholm stad, 2023).

THEORY

HOUSING QUALITIES

There are different approaches to housing qualities. According to Peters and Masoudinejad (2022) there are two fundamental needs in apartment buildings related to the residents' wellbeing. These are, the private outdoor space and the apartment's ability to adapt to varied activities and multiple functions. The private outdoor space provides access to nature, restorative views and positive impact on the residents' health and wellbeing.

There is a growing understanding that the physical environment, especially the built environment, is important for human health. Morichetto (2019) describes in her doctoral thesis Residential Architecture and Enriched Environments the concept of enriched environments as

Adaptability

Concepts of residential adaptability often consider the border zone as a layer that can be changed or adapted. According to Peters and Masoudinejad (2022) the balcony can contribute more to the home environment than expanding the space, the balcony can affect the experience of existing spaces by varying thermal comfort, views and light.

Peters and Masoudinejad (2022) suggest that the balcony shall be seen as a part of the apartment's adaptability as it can be measured by how well the balcony can adapt to the demands of its user, and at the same time facilitate the indoor-outdoor relationship.

In the report made by Peters and Masoudinejad (2022) they describe the concept of an active and passive balcony. The classification is based on how effortlessly the resident can adapt their balcony as their needs change. An active balcony is defined as a balcony with a high level of adaptability and convertibility. Furthermore, the passive balcony is described as a space with a low degree of adaptability. This affects the frequency on how often the balcony would be re-designed by the resident as changes would be impractical and expensive. Active balconies can easily modify the level of enclosure to meet different needs. Peters and Masoudinejad (2022) describe the active balcony as an outdoor space that can become an extension of the indoor living space. Different elements allow the inhabitants to open or close the space to meet their own thermal comfort, this could for instance be sliding doors.

Peters and Masoudinejad (2022) argue that convertible balconies relate to the level of change of enclosure. With different elements the residents have the opportunity to adjust the openness and closeness of their balcony thereby the balcony is a part of the living spaces and not as a separate non-integrated facade element. According to the authors the convertible balcony will provide a varied relationship between indoor-outdoor connectivity depending on season or time of the day.

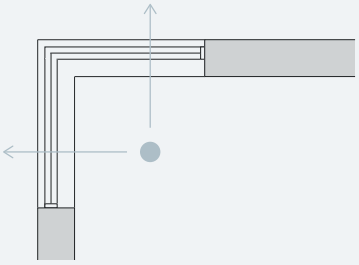
Enclosure

Nylander (1998) defines enclosure as the room's degree of openness or closeness. Enclosed spaces are often perceived as safe and cosy while open spaces receive more daylight. It is not possible to mathematically determine the boundary between open and closed, instead it is the relationship between them that is important. In classical architecture there is often a clear definition between the rooms, while in modernist rooms there is usually an openness between the outer and inner rooms. Open rooms draw attention to the view while closed rooms keep it within the room.

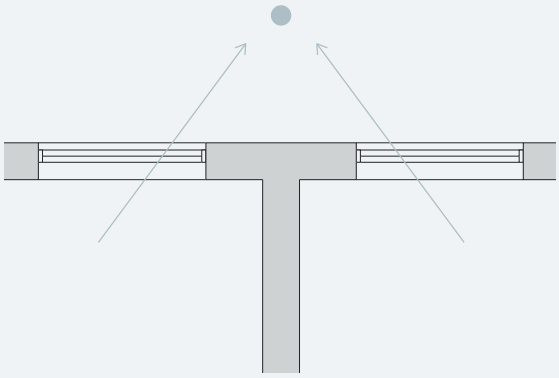
Movement

Awareness of views and axes in dwellings create diversity of movement patterns through designed spatial and geometric organisation. An important part of the movement of the dwelling is the movement between the dwelling and its surroundings. A sense of freedom occurs when having multiple connections from the home to the outside. Diversity of movement is often associated with the villa typology and is a quality that enlarges the dwelling. According to Morichetto (2019) connecting the inside of the home with the outside with movement is an asset. The design of the dwelling's contact with the outside is crucial to how easy and stimulating it is to move around, spend time in and use the border zone of the dwelling in diverse ways.

Morichetto (2019) claims that the number and the design of the connections between inside and outside naturally affect whether a direct movement towards the outside can take place. As well as whether there is a possibility of variation in the movement through the outside.



Diverging view.



Converging view.

Illustrations of views.

Views

The design of the interface between the internal space of the home and the outside environment creates the conditions for a sense of security and control. A key factor to create a sense of space is the views. Outlooks offer opportunities for both views and light. Where the views are directed naturally varies with the environment of the dwelling (Morichetto, 2019).

Nylander (1998) discusses axiality as a quality in dwellings. He describes axiality as a line connecting two points of interest, and the relating spaces. The position of the line and the rooms can affect the relationship between nature and the built environment. It can create an interplay between internal and external spaces but also movements in different directions.

Morichetto (2019) defined diverging views as looking at a number of different scenes or views from a single point in the home. This can be valuable and a source of variety. On the other hand, looking at the same point from different directions and locations in the home, are defined as converging views. The outlooks itself can be designed to affect the perception of space. For example, a bay window needs to utilise large views, otherwise the window loses its most basic function.

The impression of spaciousness is associated with the width of the room relative to the width of the window opening. Alternatively, a series of oblique windows can also create an impression of spaciousness. It constructs an impression that is created as one moves along the facade. Here, views and movement thus work together. The parapetless window is when the window meets the floor. It gives an expression of being able to go outside, a feeling of liberation that is linked to the impression of spaciousness. The vertical extent of the view creates an extension of the floor to the open air, which is essential for the experience. Residents consider rooms with windows in two directions, preferably placed at 90 degrees to each other, as a quality that is important for their well-being. To have views towards several directions is essential and means that light enters the room from more directions than one. The design and the placement of the balcony contribute to an extended view and larger room (Morichetto, 2019).

Nylander (1998) explains that the relationship between the built environment and nature plays a role in how we experience architecture, creating a dialogue between the individual and the rest of the world.

During the interviews with residents in the case study Bergskroken in Mölndal, it became apparent from most residents that they enjoy the view, both towards the city and nature. One of the residents explained that it is appreciated to see traffic and people in motion, it gives a feeling for the surroundings and the closeness to the city. At the same time, it was explained in the same interview that they also appreciate that their second balcony faces the forest. According to the interview participant, this creates a sense of calm and a strong contact with nature “when the trees are in bloom, it’s like being in the countryside” (personal communication, April 19, 2024).

Illustration of the border zone.

THE BORDER ZONE

The spatial organisation of the home refers to the design of the internal private spaces of the home, the external public spaces and the relationship between them. The relationship between dwelling, nature and home is meaningful and the spatial organisation can create conditions for people to create an identity in the urban space (Nylander, 1998).

Morichetto (2019) claims that the balcony room is a space where the city's public and the home's private space intertwine. The balcony becomes a form of protection, a space between the home and the city. Clearly defined balconies contribute to the recognition and definition of the resident's private space from the street. A recessed balcony solution can be a part of the interior space of the home. The conditions create a safe space and a private zone in the public realm that is still spatially connected to the interior.

The border of the dwelling meets the surroundings in a space that creates possibilities for the residents to control the interaction. Depending on the project design there are different approaches to the character of the interface (Morichetto, 2019).

Nylander (1998) describes the border zone as a space located inside the home, but which provides an experience of close contact with the external space. The residents can move between the inner and outer space. The border zone also creates the opportunity to meet other people, it is a space where residents can see and be seen. They can participate in the public space and simultaneously be in the safety of their private spaces. The space makes the dwelling extend towards nature and the outside world.

According to Morichetto (2019) external spaces with varying degrees of privacy allow residents to gradually encounter the public from the private and safe space. The movement through different spatial characters and their sequencing provides the conditions for different degrees of privacy. The character can shift between more public and private and the resident can protect their territory to the extent they wish.

The balcony as part of the public space can contribute to presence, life and security. A well-planned and constructed balcony contributes to a well-designed and beautiful public space. The presence of a balcony not only affects the home, but also enriches the experience of the space of the street. Balconies increase the quality of living while contributing to a more vital street space. The interaction between the street and the home increases and contributes to a more active urban life (Stockholm stad, 2023).

BALCONY USE

Residents can use spaces in different ways and for various activities by changing the furniture layout. The usage of the balcony will differ depending on if it is directly connected to relevant indoor spaces. It does also depend on the ease of access to the balcony, how many steps are needed to get outside. The ability to personalise the space is important for the residents' comfort as well as the usage (Peters & Masoudinejad, 2022).

According to Aydin and Sayar (2020) the use of the balcony does not depend on gender, age, number of residents or how many children that are living in the apartment. In the past, balconies were mostly used in the evening to talk and eat, however, during the Covid-19 pandemic people started using their balconies more during the day.

Smektala and Baborska-Narozny (2022) claim that neighbours' behaviours can affect how we use our own balcony. For instance, cigarette smoking or noise from neighbours decrease the probability of using the balcony.

Peters and Masoudinejad (2022) describe that the location of the balcony together with visual and aural privacy, overlooking others or feeling overlooked impact how often and how the inhabitant uses their balcony. According to Aydin and Sayar (2020) people want the balcony to not be in the visual field from other balconies, preferably it should be towards green areas, and there should not be too much noise.

Stenudd (1989) describes the use of balconies in different climates as
"When we in northern climates go out on the balcony, it's for the sun and the warmth. In the south, the balcony has the opposite function of cooling visitors. In both cases, the home is extended with an outdoor room." (p.110).

How do you use your balcony?

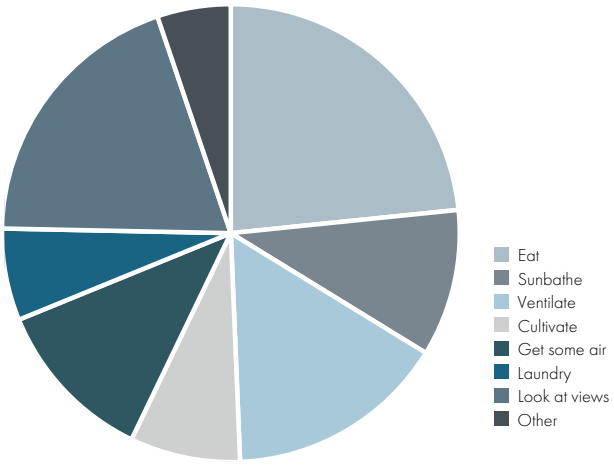


Fig. 3. Residents' use of their balconies, Bergskroken in Mölndal. Data from survey made between 3-20 March 2024.

An interesting observation from the interview responses is that most people choose to have furniture adapted to create a cosy atmosphere on the balcony, indicating that it is a place where they spend a large amount of time and want to feel comfortable. Glazing has also proved to be an advantage in creating a secluded and private atmosphere without sacrificing the view or light. All interviewees have purchased curtains for the balcony to create shade and privacy. Many have also added infrared heaters to extend the season of balcony use (personal communications, April 16-19, 2024).

BALCONY DESIGN

When designing balconies, it is important to take into account different elements of the balcony, considering how they are perceived from different distances and scales. Details, shape and dimensions, affect the experience of the balcony and indicate care and quality, or at worst the opposite (Stockholms stad, 2023).

The elements of the balcony provide opportunities for decorative effects, such as the patterning of the balcony front or curved and moulded railings. The way the railing is attached to the balcony slab and the type of top rail also makes a difference. The technical details are important for the overall impression. The choice of material, colour, design and details affect how the balcony interacts with the building and surrounding buildings (Stockholms stad, 2023).

People want to be able to adapt the balcony according to their own preferences, this can for instance be screens for more privacy or blinds to shade from the sun. These features affect the facade. This is seen as something positive by some people as it creates diversity, however others are more critical towards these modifications thinking they create a mess (Smektala & Baborska-Narozny, 2022).

Facades

The design of the balcony becomes important for the experience of the whole building. This is applicable at all scales, from a far distance, in the neighbourhood, in the street and in the courtyard, down to the detail (Stockholms stad, 2023). The design and the colours of balconies have a significant impact on the building's facade and influences the overall cityscape (Stenudd, 1989). Balconies function as the main design element of the decade and contribute significantly to the character and expression of the building (Stockholms stad, 2023).

Size

The size of the balcony affects the use of it. The dimension of the balcony is important to consider to make it furnishable and well-used (Aydin and Sayar, 2020). Smektala and Baborska-Narozny (2022) conducted interviews to explore residents' wishes regarding potential modifications to their balconies. The most common response showed a desire for larger balconies. Small and affordable apartments often have balconies with limited space, which restricts the activities that can be conducted on the balcony.

Larger balconies are more multifunctional and can be used for different purposes. People with larger balconies appreciated the possibility of dividing the balcony into different zones, allowing it to be used simultaneously in different ways (Smektala and Baborska-Narozny, 2022). During the interviews in Bergskroken, the appreciation for large balconies became evident. The inhabitants' balconies are estimated to be between 24 and 30 square metres. This provides them with a generous outdoor space that can be used in many different ways. Most of the respondents explained that they have zoned the balcony into two different areas, one for a lounge and another for a larger dining set. The large area allows residents to have parallel activities and a variety of uses (personal communications, April 16-19, 2024).

Direction

The usability of the balcony can be influenced by the orientation of the balcony, this can also vary depending on season. The most common assumption, especially among designers and developers, is that most people prefer a balcony towards the south or west. This is mostly based on people's wish for daylight. In the study made by Smektala and Baborska-Narozny (2022) it is revealed that people's preference varies, and some people actually prefer a balcony facing north since it is a place to hide from the sun during summer.

Material and details

The details and materials of the balcony are close to those who use the balcony and affect the experience of care and comfort. For viewers, the details of the balcony have a major impact on the experience. Balconies are often exposed to weather and wind. Therefore, details and materials should be chosen so that they can withstand the exposed position, are beautiful over time and can be easily managed and maintained (Stockholms stad, 2023).

A thoughtful design of details and materials in the home can suggest care and contribute to the residents feeling that they mean something to others, thus increasing self-esteem and serving as confirmation of social dignity. How residents identify themselves through their housing is therefore influenced by the experience of care. Materials that show care, traces of artisanry and attention to detail expresses love, care and are appreciated by people (Nylander, 1998).

Authentic materials can create a context that is understandable, feel recognisable or provide a historical connection. Materials that are perceived as genuine are interpreted as signs of care. Origin, processing and use influences whether a material is perceived as authentic. Furthermore, people want to understand what kind of material it is and therefore do not appreciate materials that hide or try to imitate other materials. It is also valued if the material tells something about the relationship with nature (Nylander, 1998).

According to Morichetto (2019) varied materials, surfaces and even forms interact through different sensory impressions in a total experience. Our perception of materials is based on experiences as well as association. Association is about how we can be positively affected by materials by linking them to significant aspects such as nature. We do also experience the nature of a material through simply looking at it. Therefore, the execution and care in choices of materials as well as the meeting and detailing of materials are essential.

According to residents of Bergskroken, the wooden cladding on the balconies is appreciated. The wood contributes to a warm and pleasant feeling (personal communications, April 16-19, 2024). Nylander (1998) claims that the care in the choice of materials is illustrated by examples such as plank flooring in pine, which is often a valued material. Each plank tells a story about how it was created, giving a sense of authenticity and comprehensibility. The floor also tells a story of care, as you can see how the planks have been incorporated into the rooms. In addition, the planks have been worn and that tell stories of previous use. Morichetto (2019) describes that the colour of wood in the yellow-red spectrum and the degree of complexity, for example the proportion of knots, is important for the perception of wood as a warm, complex and calming material.

Railing

The material of the railing can affect the perceptions of the balcony. Transparent railings are appreciated for letting the light through and giving an open view but can also make people feel as if they are on display. This could lead to people putting up panels to feel more private. Non-transparent railings offer privacy but shade the sun from the interior rooms (Smektala & Baborska-Narozny, 2022). This is supported in the report made by Stockholms stad (2023) that claims that the design of the railing and the choice of materials affect feeling of security, the balance between privacy and views, light transmission and the need for sun protection. A transparent railing gives a neat impression and provides good light conditions in the home. On the other hand, a dense railing can increase privacy and help prevent noise disturbance, while reducing light transmission.

Whether the balcony front is dense, transparent, matt or polished affects the design of the facade and the perception of the street. If the railing is attached on top of or in front of the balcony slab also affects the perception of the design. Stockholms stad (2023) argues that there is an opportunity to vary the railing and to integrate functions into it. It can be a mixture of closed and open, matt and glossy with functions such as plant boxes.

Balcony slab

The design of the underside of the balcony slab is of significant importance as it is clearly visible from the ground and is also the roof of the balcony below. The surface becomes a noticeable and important part of the facade as it is visible from the house, the street and the courtyard. Thoughtful choice of the colour and tone of the slab, as well as the thickness and profiling of the edge and underside, contribute to a useful design and a beautiful long-term result (Stockholms stad, 2023).

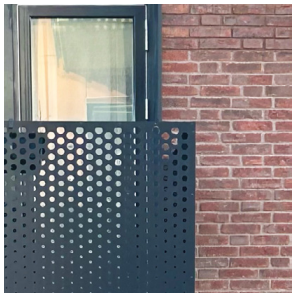


Fig. 4. Balcony railing, Viken.
Fig. 5. Balcony railing, Malmö.
Fig. 6. Balcony slab panelled in wood, Gothenburg.
Fig. 7. Balcony railing and slab, Gothenburg.

Illustration of glazed balconies.

Glazed balconies

Stockholms stad (2023) argues that glazed balconies extend the season for both living and gardening. The light is brought in and wind and cold are kept out. This is confirmed in the interviews with Bergskroken residents (personal communication, 16-19 April 2024), where participants described how they use their glazed balconies. The majority expressed appreciation for the opportunity to use the balcony in different seasons, as it creates an extension of the living space and gives a feeling of an extra room. The glazing has allowed them to use the balcony all year round. This can be anything from eating breakfast and dinner in the warmer months to enjoying fireworks on New Year's Eve. Many of the interviewees also emphasised the importance of being able to ventilate the balcony by opening parts of the glazing to bring fresh air into the balcony.

The glazing of balconies is not always appropriate as it can affect the facade and volume of the building and impact the amount of light entering the dwelling. In cases where glazing is possible, the choice of profiles and fixings is crucial to the result. It is often preferred a type of glazing where the glass panes themselves do not have visible profiles, to make the experience as light and transparent as possible (Stockholms stad, 2023).

According to Stockholms stad (2023) requests for glazed balconies are often received after the building has been completed. In such cases, glazing involves a change to the facade that requires a building permit. Glazing can be done fully or partly and is sometimes a possibility that, in addition to comfort, can solve noise problems.

Since glazing of balconies affects the perception of the building's volume and facade, it is of importance to consider how any future changes and additions may affect the design when planning new buildings. Ideally, the glazed balcony is well planned from the beginning and is a well-integrated part of the building (Stockholms stad, 2023).

ANALYSIS OF BALCONY QUALITIES

INTRODUCTION

The analyses of different balconies help to understand how the design of balconies affects housing qualities and the users' experience of the balcony. By carefully studying and comparing design elements and characteristics of balconies, the strengths, weaknesses and opportunities of each type of balcony can be identified.

The selection of architectural projects for the analyses is based on criteria to achieve a comprehensive study of different balcony typologies.
Criteria of the reference projects:

Geographical accessibility: The projects are located in sites that can be visited in order to explore and analyse the balconies on site.

Variety of apartment sizes: A wide range of apartment sizes are selected to explore how balconies are integrated into diverse types of dwellings.

Size of balconies: The selected projects have balconies of different sizes to investigate how size affects usability.

Materials: The projects should have varied materials and details to give an understanding of how the materials affect the experience.

By selecting projects that fulfil these criteria, a diverse and representative analysis of balcony design in Swedish urban environments can be ensured.

The analysis appendix provides more comprehensive and detailed analyses for a deeper understanding of the topic. All analyses are based on our own interpretations, which implies that the outcome is influenced by our subjective perceptions and judgements.

THE TOOL

The analysis tool is a tool for visualising and comparing different parameters that affect the use and qualities of the balcony. The tool and its parameters are selected based on the findings of the theory.

The tool is divided into four categories:
The border zone - Which focuses on the encounter between the interior space of the dwelling and the exterior.

Experience - Examines the experience of the balcony by analysing privacy and opportunities for social interaction.

Usage - Investigates the furnishability and weather protection.

Material and detail - Analyses the material and details of the balcony and how it is experienced.

The border zone, Experience and Usage, are illustrated through a diagram while Material and design is described through a descriptive text as it is difficult to measure it on a scale. The analysis tool is structured around four steps, which represent different levels of the parameters. These steps are tuned on a scale ranging from zero to three, with each step giving a clear indication of the quality and level achieved.

The different steps are:
0 - Low
1- Medium
2- High
3- Exceptional

The steps create a clear division between the levels of each parameter, in order to allow for comparison between different analysed projects. By analysing and comparing these parameters, the tool can provide an understanding of which balcony typology best meets different requirements and expectations.

Fig. 8. The analysing tool diagram to visualise balcony qualities.

Material and detail

The details and materials of the balcony are important to take into consideration when analysing the experience of the balcony. This parameter is described in a short explaining text to each balcony.

The factors explored: *Material of railing, if the balcony is glazed, the material of the balcony and the material of the facade.*

Material characteristics that are studied are:

- *Display traces of artisanry.*
- *Attention to detail.*
- *Adaptability of the material.*
- *Traces of the past.*
- *The color of the material.*
- *Authenticity.*
- *Relationship with nature.*

The border zone

Connection with the home

The connection between the indoor rooms of the dwelling and the balcony depend on which rooms are connected to the balcony and how the interface between indoors and outdoors is designed.

Factors explored: *Connecting rooms, access points, windows and possibility to expand the indoors out.*

0 - Low level of connection with the home

The balcony has no clear connection to the home and offers no opportunity to expand the interior spaces out or integrate the exterior space into the dwelling.

1 - Medium level of connection with the home

The balcony has a low level of connection to the interior rooms and offers limited opportunity to expand the indoors out or integrate the outdoor space into the home. The connection is not particularly integrated into the structure of the home.

2 - High level of connection with the home

The balcony is integrated into the structure of the home and has a clear connection to the interior rooms. There is an opportunity to expand the indoors out onto the balcony or integrate the outdoor space into the home through, for example, large glass panels or sliding doors.

3 - Exceptional level of connection with the home

The balcony is fully integrated into the design of the home and has a strong connection to the interior rooms. There are excellent opportunities to expand the indoors out onto the balcony or integrate the exterior space into the home, creating a seamless transition between indoor and outdoor spaces.

Views
The views are explored through the balcony from inside the home towards the outside, as well as views from the balcony towards the surroundings.

Factors explored: *Windows placement, balcony position on facade, diverging and converging views and surroundings.*

Light
Light is analysed in two different ways. How much light reaches the balcony as well as the amount of light that enters the related indoor spaces of the home.

Factors explored: *Railing, position on facade, openings, direction and size.*

0 - Low level of view
The balcony has very limited views. There are only views of neighbouring walls, buildings or other obstacles that limit the view of the surroundings. The related interior rooms also have limited or no view through the balcony.

1- Medium level of view
The balcony has a limited view of the surroundings. The view may be partially blocked by neighbouring buildings, trees or other obstacles, limiting the visibility of the view. The related interior rooms have a limited view through the balcony.

2 - High level of view
The balcony has a reasonable view of the surroundings. The view may be partially blocked by some obstacles, but there is still the possibility to enjoy the view. The related interior rooms have equally good moderate views through the balcony.

3 - Exceptional level of views
The balcony has a good view of the surroundings. The view is clear and allows for the enjoyment of the surrounding scenery. The related interior rooms also have a good view through the balcony, which enhances the experience of the surrounding landscape and creates a pleasant atmosphere in the rooms.

0 - Low level of light
The balcony receives no direct or indirect natural lighting. It is completely shaded or blocked from sunlight, resulting in a dark atmosphere.

1- Medium level of light
There is a limited amount of natural light reaching the balcony during certain parts of the day. The level of light is insufficient to properly brighten the area and may limit the usability.

2- High level of light
The balcony receives an appropriate amount of natural light for the majority of the day. The light is sufficient to create a bright and inviting atmosphere on the balcony, although there may be some shaded areas.

3 - Exceptional level of light
The balcony receives plenty of natural light for most of the day. The sun reaches all parts of the balcony, creating a bright and refreshing atmosphere. The light is strong enough to allow for a variety of activities.

Experience

Privacy

The category explores the balcony's degree of privacy and the possibility to feel safe and protected on the balcony.

Factors explored: *Railing, position on facade, surroundings and social control.*

0 - Low level of privacy

The balcony offers no protection from views from the outside. It is completely open and exposed to the environment. The privacy of those using the balcony is minimal or non-existent.

1 - Medium level of privacy

The balcony has some form of shielding, but it is insufficient to provide a sense of privacy. The users may feel relatively exposed but there are some levels of privacy.

2 - High level of privacy

There is some form of enclosure that provides a medium level of privacy. The view is limited to certain parts of the balcony. It is possible to feel partly protected from the view of the surroundings.

3 - Exceptional level of privacy

The balcony is well shielded from the surroundings, providing a high level of privacy. Visibility is limited, and users can feel comfortable without feeling exposed.

Social interaction

The section investigates if the balcony provides the opportunity to interact with the public space, as well as with other residents.

Factors explored: *Railing, position on facade, surroundings and social control.*

0 - Low level of social interaction

The location of the balcony in the facade, the railing, the environment and the possibility of social control limits the opportunities for social interaction. It may be inaccessible, safety concerns may be present, or the environment may be inappropriate for socialising.

1 - Medium level of social interaction

The balcony has basic opportunities for social interaction. The location in the facade, the design of the railing, the environment and the level of social control meets basic requirements for encounters, but there are limitations that affect the opportunities for interaction.

2 - High level of social interaction

The balcony offers medium opportunities for social interaction. The location in the facade, the design of the railing, the environment and level of social control generally support social interaction and allow residents to comfortably interact with the environment and neighbours.

3 - Exceptional level of social interaction

The balcony promotes high social interaction. The location in the facade, the design of the railing, the environment and possibility for social control are optimal to create a welcoming environment for residents to participate in different forms of social interaction.

Usage

Furnishability

The parameter explores how the balcony can be furnished and if there are possibilities for a variation of furniture.

Factors explored: *Size, openings and privacy.*

0 - Low level of furnishability

The balcony is too small or has an inconvenient design that makes it impossible or very difficult to place any furniture on it. There is no proper surface to create a usable outdoor environment.

1- Medium level of furnishability

The balcony has limited space or a design that limits the possibilities of furnishing it. It may be difficult to find suitable furniture or to adapt it to the size and shape of the balcony.

2 - High level of furnishability

The balcony has enough space and a suitable design to furnish it in a functional way. There is enough space to place basic outdoor furniture and create a comfortable environment.

3 - Exceptional level of furnishability

The balcony is well equipped to furnish it in a comfortable and aesthetically attractive way. There is plenty of space to add different types of furniture and decoration to create an attractive outdoor environment.

Weather protection

Weather protection refers to the extent to which it is possible to be protected from different types of weather, like rain and wind, on the balcony. Weather protection can contribute to comfort, safety and preservation of property. The protection can, for instance, be different structural elements such as roofs or walls, or glazing.

Factors explored: *Glazing, protecting walls, roof and direction.*

0 - Low level of weather protection

The balcony is missing any features to protect against weather conditions such as rain, wind or sun. It is completely exposed to the elements without any form of protection.

1 - Medium level of weather protection

There are some limited features on the balcony that provide minimal protection from weather conditions but the protection is not enough to provide a significant level of comfort.

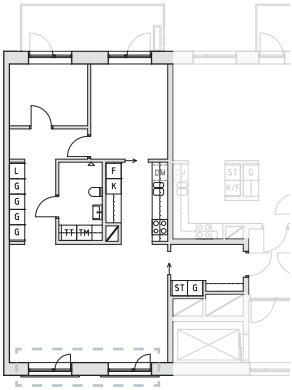
2 - High level of weather protection

The balcony has sufficient features to provide a basic level of protection against rain, wind or sun. It may include a more substantial sunshade or windbreak that provides some degree of protection and comfort for users.

3 - Exceptional level of climate protection

The balcony is well equipped with features that provide significant protection from weather conditions. It can for instance be a solid sunshade or glazed balconies that effectively protect against rain, wind and sun and create a comfortable and protected environment on the balcony.

Cortado



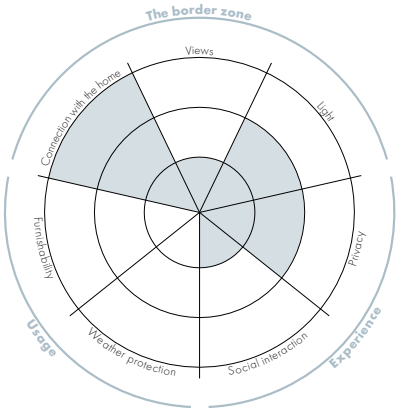
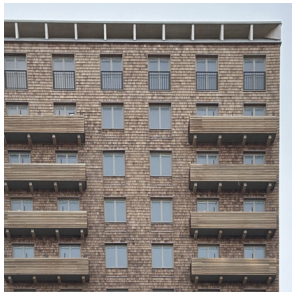
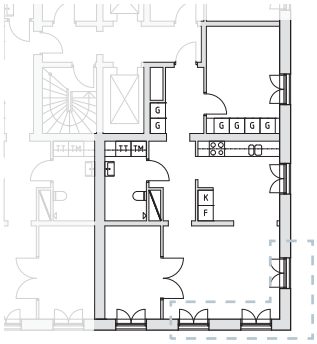


Fig. 9-11. Cortado, Malmö. Krook & Tjäder.

Cederhusen





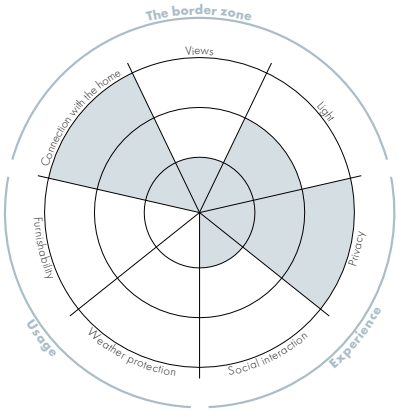
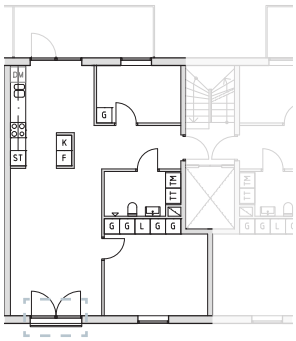


Fig. 12-14. Cederhusen, Stockholm. General Architecture.

Söderstaden



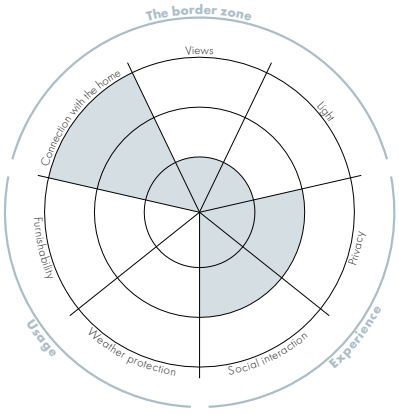


Fig. 15-17. Söderstaden, Kungsbacka. Liljewall.

FRENCH BALCONIES

In all analysed projects, the connection between the French balcony and the home is exceptional. The balconies are located in the centre of the apartment as part of the living rooms.

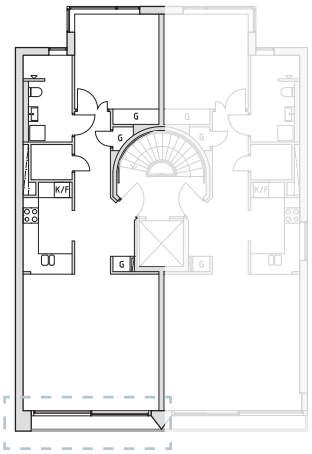
The view from the balconies is medium in all cases, the low score is due to the inability to take a step out onto the balconies. However, the glazed balcony doors provide the opportunity for views from inside the apartments and a feeling of liberation as it offers a connection with the surroundings.

The window doors offer a high level of light in the case studies Cortado and Cederhusen, while Söderstaden has a medium level of light due to the depth of room.

All three projects offer high levels of privacy because of the shielding apartment walls.
What varies is the material of the railings and the size of the window, which are contributing factors to privacy.
A reflection is that French balconies provide a direct contact between the room and the surroundings as there is no slab that can create a barrier in the border zone.
In addition, the openings between home and balcony are often in the form of parapet windows or fully glazed doors, which also strengthens the connection to the outside and allows for social interactions. This is also reinforced by transparent railings.

In terms of use, none of the projects allow furniture or have weather protection making the balconies mostly a possibility for ventilation and a contact with the surroundings.

Nejlikan 2



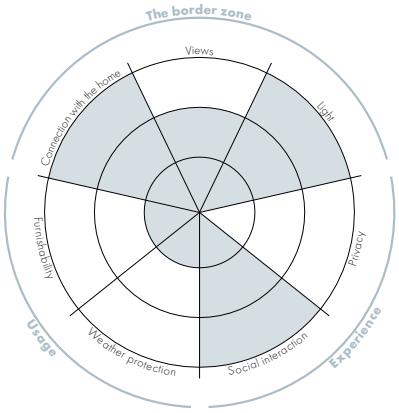
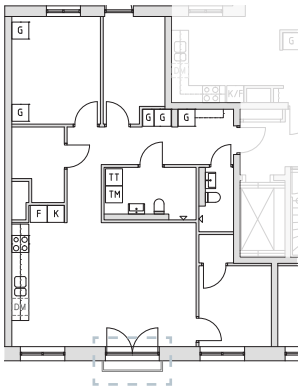


Fig. 18-20. Nejlikan 2, Stockholm. Vera.

Järntorgsgatan x Brogatan



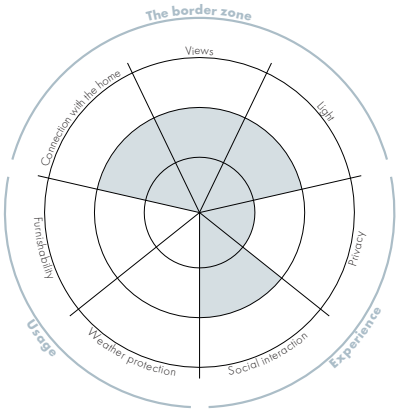
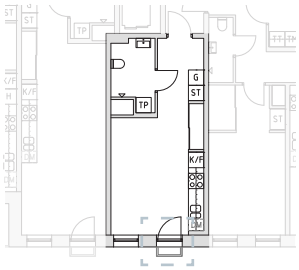


Fig. 21-23. Järntorgsgatan x Brogatan, Göteborg. Semrén & Månsson.

Dirigenten



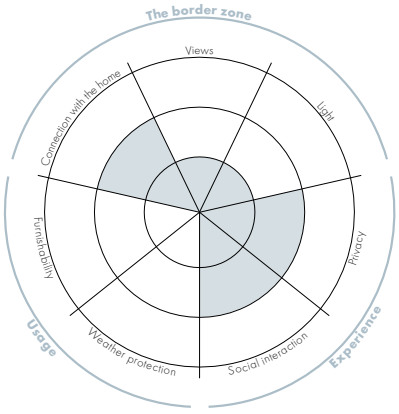


Fig. 24-26. Dirigenten, Lund. Arkitektlaget.

SPANISH BALCONY

Nejlikan's sliding doors provide an excellent connection between indoor and outdoor spaces. Järntorgsgatan x Brogatan's balcony connects to both the kitchen and the living room, although it is not in the sight line from other parts of the apartment, reducing the connection between inside and outside. Dirigenten has a high connection to the home as the balcony connects to the apartment's one room. Although the balcony is small, it is visible throughout the entire home.

Nejlikan and Järntorgsgatan x Brogatan offer expansive views when stepping out onto the balcony. Dirigenten has limited views due to the design of the railing and the width of the opening towards the balcony.

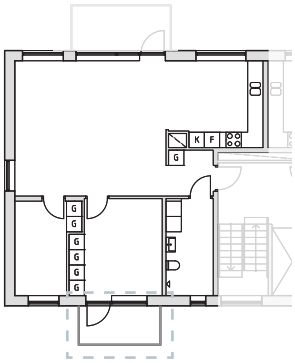
Light is the aspect where the three case studies differ the most. Nejlikan has an exceptional level of light because of its large sliding doors and the width of the windows and the balcony. The other two projects have smaller openings allowing less light to pass through. Dirigenten also has a covering railing that limits the light further.

The opportunities for privacy and social interaction differ between the projects. Nejlikan's transparent railing and lack of protective walls reduce privacy but provide good opportunities for social interaction. Dirigenten and Järntorgsgatan x Brogatan also provide a high level of opportunity for social interaction. The size of the openings and the type of railing also give these projects a degree of privacy.

Nejlikan's balcony offers potential for furnishing and use as an extension of the living room, while Järntorgsgatan x Brogatan and Dirigenten have limited furnishing possibilities and weather protection.

Nejlikan's red-coloured sheet metal balconies and transparent railing create a modern appearance, while Järntorgsgatan x Brogatan's wrought iron railings give a sense of history and authenticity. Dirigenten's use of brick facade and sheet metal adds detail and harmony to the overall design.

Flatås park



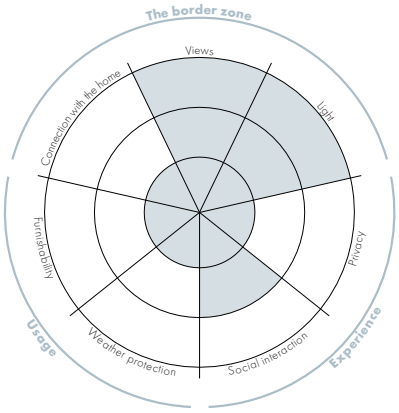
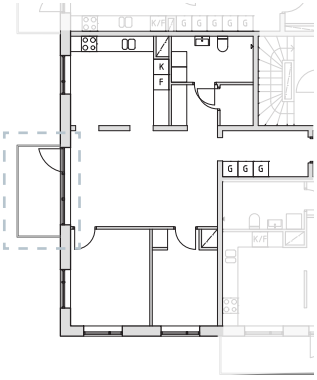


Fig. 27-29. Flatås park, Gothenburg. White arkitekter.

Mejeristen,
Kallebäcks terrasser



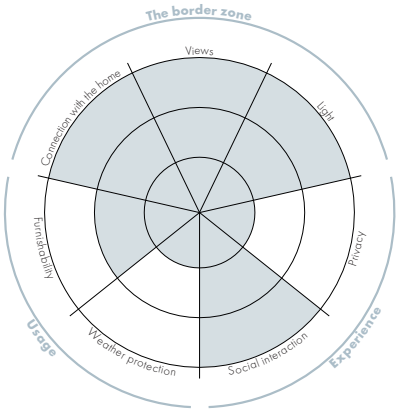
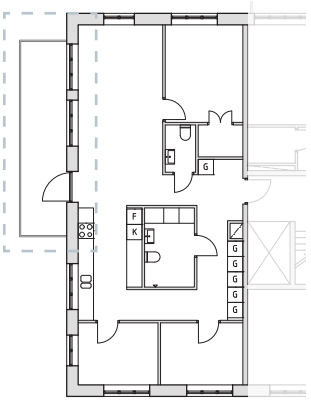


Fig. 30-32. Mejeristen, Gothenburg, Liljewall.

Grönskan



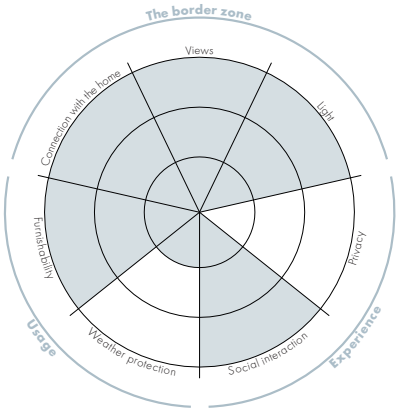


Fig. 33-35. Grönskan, Gothenburg. Liljewall.

CANTILEVER BALCONY

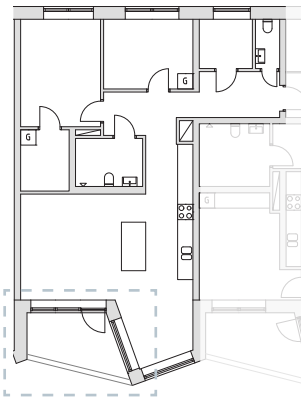
Flatås Park has a medium level of connection between the indoor rooms of the dwelling and the balcony since the balcony is connected to the bedroom. In contrast, the balconies of Grönskan and Mejeristen, which are connected to the living room and have a central position in the home, create an exceptional connection to the home.

All projects offer views in multiple directions both from the balcony itself and from inside the apartment. The three projects also have exceptional levels of light, with plenty of natural light on both the balconies and in the interior spaces.

Flatås Park and Mejeristen have perforated sheet metal railings that provide privacy but still let light through, while Grönskan's transparent railing compromises the privacy protection. The three projects offer good opportunities for social interaction because of the position of the balconies on the facade. The location in the home in Grönskan and Mejeristen adds to the social opportunities.

In terms of use, Grönskan stands out with its highly furnishable balcony, which offers space for different activities. Flatås Park and Mejeristen, on the other hand, have limitations mostly due to their size. The level of weather protection is medium in all three projects, with limited protection provided by balconies above.

Ymer



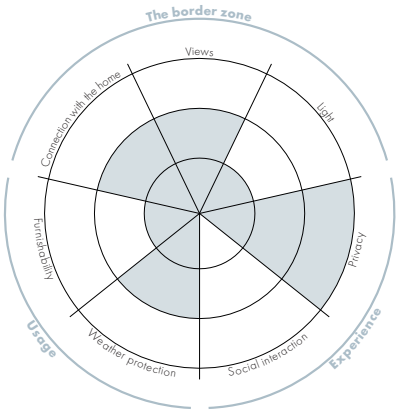
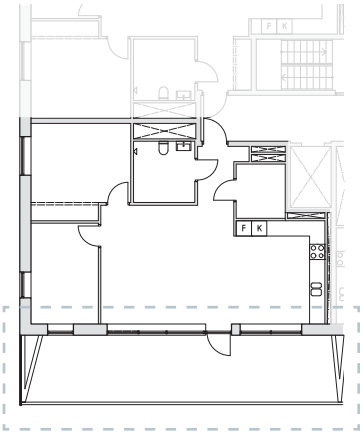


Fig. 36-38. Ymer, Malmö. White arkitekter.

Bergskroken



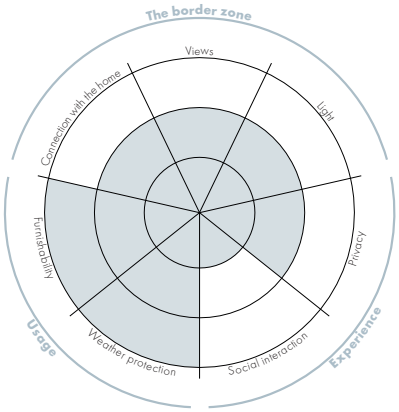
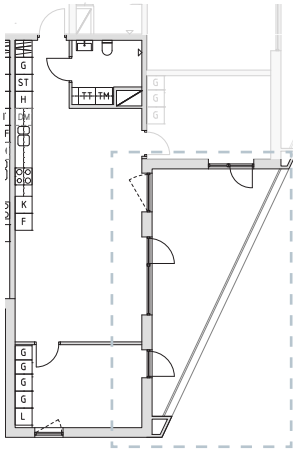


Fig. 39-41. Bergskroken, Mölndal. Wingårdh Arkitektkontor.

Rosendahl



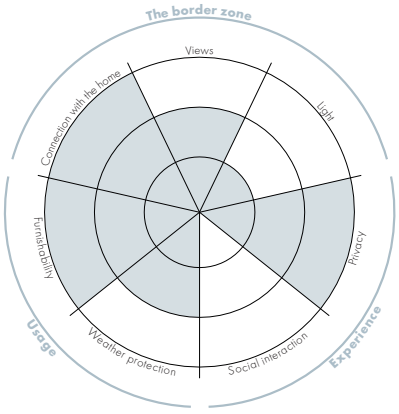


Fig. 42-44. Rosendahl, Mölndal. Arkitema.

RECESSED BALCONY

All three projects show a strong integration between indoor and outdoor spaces, with balconies providing visual contact from multiple rooms. Rosendahl and Bergskroken's centrally located balcony create a sense of continuity throughout the apartment and acts as an additional room with strong visual links into the home. Bergskroken and Ymer's balconies have a visual connection from several rooms but could benefit from more entrances to further strengthen the connection.

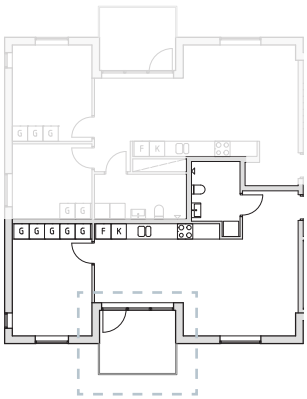
All the projects offer views with large windows, in Rosendahl and Ymer in several directions. The views are limited and directed to some extent by the walls of the balcony. However, all projects emphasise the importance of creating visual connections between the rooms and the balcony.

Rosendahl's semi-covered railing and Ymer's covered railing limit the light from entering the apartments. Bergskroken has a vertical steel railing allowing light to pass through. Rosendahl and Ymer's covered railing provide privacy but limits social interaction. Bergskroken is also perceived as private because of the surrounding walls, although the railing offers opportunities for social interactions.

The possibilities for use also vary, with Rosendahl and Bergskroken offering high furnishability, while Ymer offers limited furnishing possibilities due to its smaller size. Weather protection is considered in all projects because of the balcony's position on the facade. Design elements, such as glazing, create varying degrees of weather protection.

All recessed reference projects have wood panelling on the balcony walls creating a warm and inviting atmosphere, this also contributes to a sense of thoughtful design. In Bergskroken and Rosendal the roof of the balcony is also panelled in wood, displaying even more care for detail.

Stapelbädden



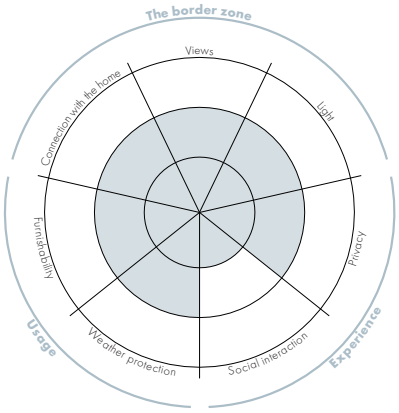
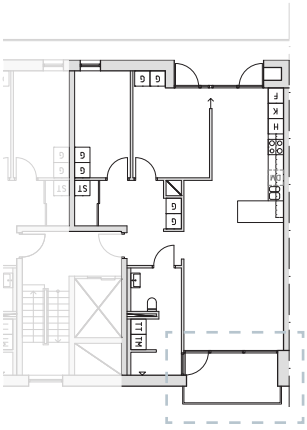


Fig. 45-47. Stapelbädden, Gothenburg. Liljewall.

HSB Studio 2



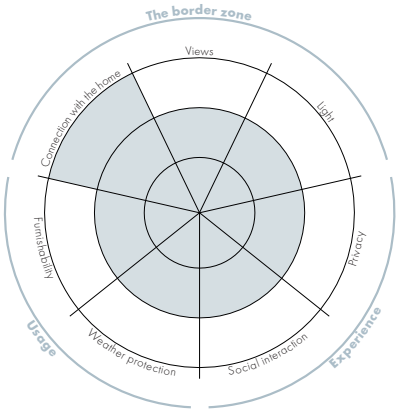
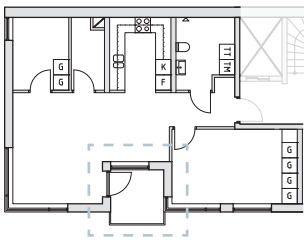


Fig. 48-50. HSB studio 2, Gothenburg. Malmström Edström.

Allmänna vägen



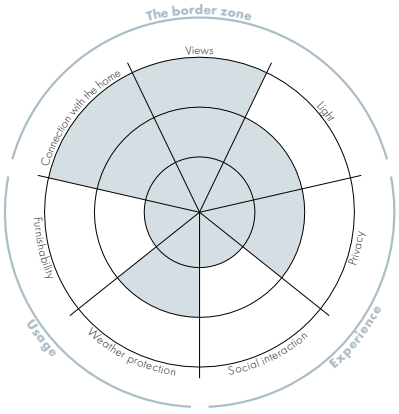


Fig. 51-53. Allmänna vägen, Gothenburg. Liljewall.

SEMI-RECESSED BALCONY

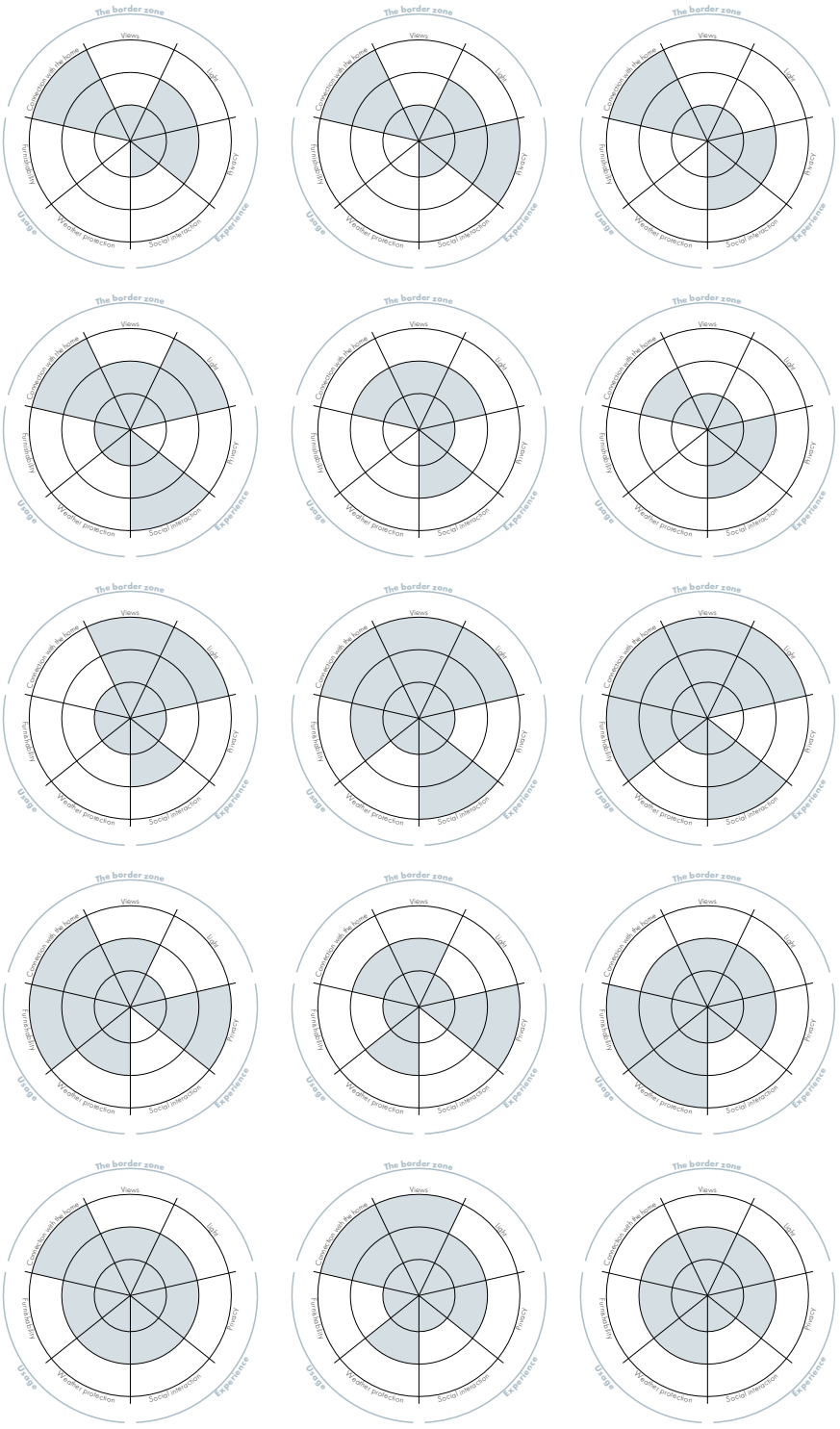
All three projects show a strong integration between indoor and outdoor spaces. Stapelbädden's balcony has a central location to the kitchen and living room. Studio 2 and Allmänna vägen's semi-recessed balconies offer exceptional connections to the home by having visual connection from multiple rooms.

All three projects have a recessed part that limits the view, while the cantilevered part of the balcony allows extensive views. This also applies to light, where the projecting part of the balcony has a lot of light while the recessed part has surrounding walls that reduces the light in the apartment and on the balcony.

All projects have a high degree of privacy because of the protective walls on the sides. The opportunities for social interaction vary, with Studio 2 having slightly more social opportunities due to its size and design.

All projects offer a high level of furnishability, Allmänna vägen offers slightly less furnishability due to the size and shape of the balcony. The location and design of the balconies provide a high degree of protection from the weather.

Stapelbädden's grey plaster facade and perforated sheet metal railing creates a harmonious and light expression, while Studio 2's brick facade and wooden balcony walls show a connection to nature. Allmänna vägen's black-painted wood facade and glass railing contribute to a modern design.



French balcony
Cortado
Cederhusen
Söderstaden

Spanish balcony
Nejlikan 2
Järntorgsgatan x Brogatan
Dirigenten

Cantilever balcony
Flatås park
Mejeristen, Kallebäcks terrasser
Grönskan

Recessed balcony
Ymer
Bergskroken
Rosendahl

Recessed balcony
Stapelbädden
HSB Studio 2
Allmänna vägen

Fig. 54. Analysing diagrams of case studies showing balcony qualities.

REFLECTION - CASE STUDIES

The border zone

The connection to the home is influenced by which rooms the balcony is connected to. An exceptional connection between the balcony and the home is created if the balcony can be accessed from several rooms or from social rather than private rooms. The connection is also influenced by the design of the openings on the facade. For example, a seamless transition between the inner and outer rooms can be created through sliding doors which allow the room to open and extend outwards.

The views both from the balcony and through the balcony are affected by the design of the interface. The analyses reveal that the different typologies have diverse conditions for views. The cantilever balconies allow views in three directions from the balcony, while French balconies only have a limited view through the opening. The results of the analyses show that the recessed and semi-recessed typologies have good opportunities for views from different rooms and directions towards the balcony. At the same time, the views are limited and directed by the walls of the facade.

Light and views are frequently connected and influenced by similar factors. Both principles are influenced by the design of the openings towards the balcony. Light is also affected by the material and design of the railing. A transparent railing allows light to be transmitted while a more solid and covering railing will block light.

Experience

The analysis demonstrates that both the private and social aspects of balconies often influence each other. In most cases, a balcony with a high degree of privacy has limited opportunities for social interaction, and vice versa. One example is cantilever balconies, where all case studies show high potential for social interaction but low privacy. Similarly, recessed balconies have high levels of privacy but limited opportunities for social interaction.

Recessed balconies and French balconies have the highest levels of privacy. This is due to their location on the facade. Recessed balconies have protective walls on the sides that contribute to the feeling of privacy. The French balconies get a private feeling through the walls of the apartment. The balcony railing also has an important function in the perception of privacy. An enclosed railing provides a sense of privacy but may also reduce light and views.

Social balconies are usually protruding, like cantilever and Spanish balconies. Besides the position on the facade, the degree of social interaction is influenced by the position of the balcony in the apartment. Balconies connected to the living room and kitchen encourage social interaction. Another factor that affects social interaction is the type of balcony railing, a less covered railing encourages contact with the surroundings.

Usage

The use of the balcony is influenced by its furnishability and ability to protect against different weather conditions. The size of the balcony is the most crucial factor for its usability. A larger balcony allows for different types of uses. Small balconies, such as French and Spanish balconies, serve mostly as ventilation and as a link to the surroundings.

The weather protection of the balcony often depends on its position on the facade, with recessed balconies offering protective walls and roofs. Glazed balconies provide good protection from the weather and can allow all year use.

Material and detail

The different case studies offer a variety of design elements and material choices that contribute to different atmospheres and functions such as privacy and social interaction. Wood, a valued material, is used in several locations to create a warm and inviting atmosphere, which together with other details demonstrates thoughtful design.

DESIGN PROPOSAL

THE SITE

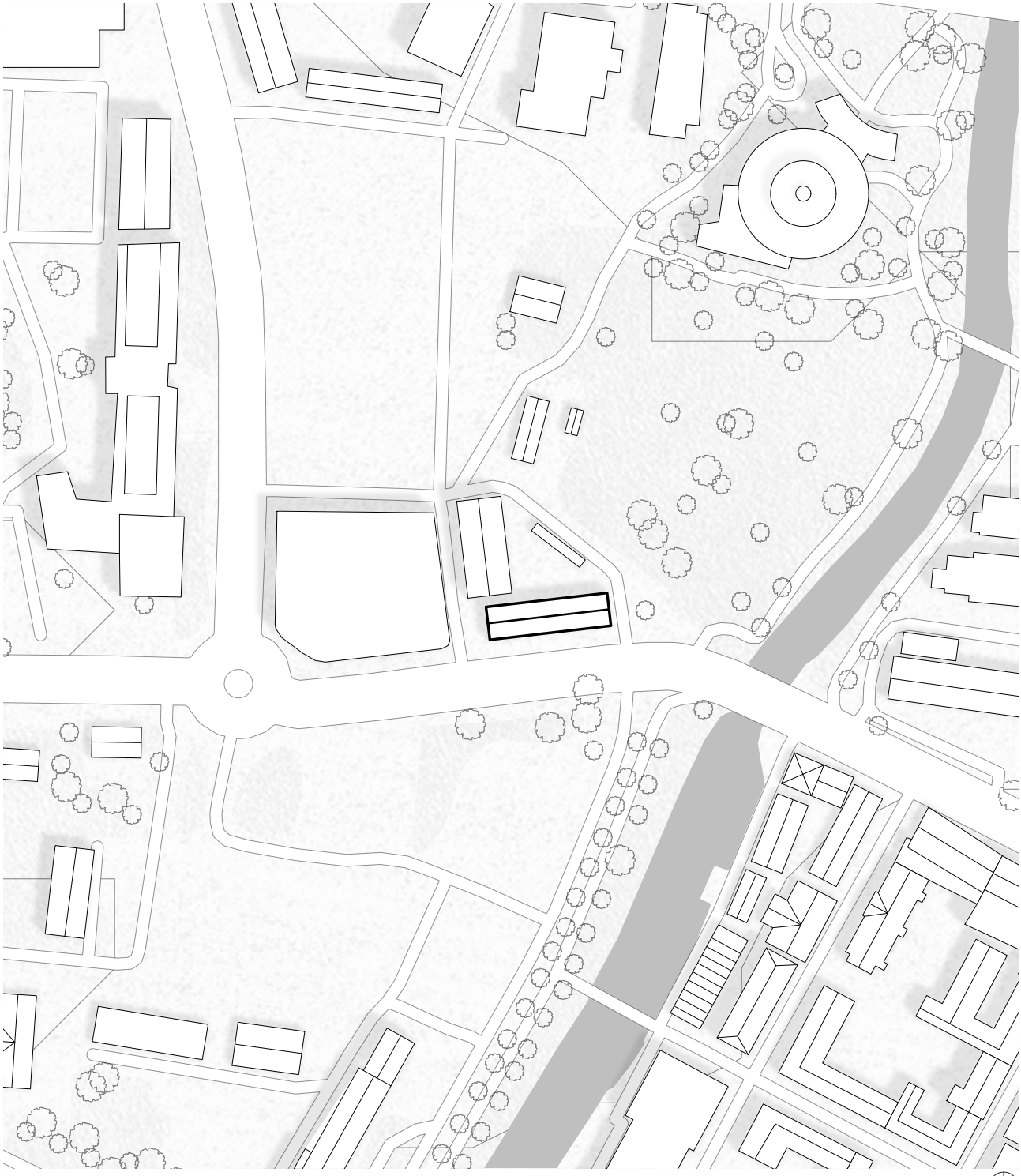
Rebellen

Location: Kungsgatan 2, Kungsbacka
Architect: Liljewall
Year: 2022

We have chosen the block Rebellen in Kungsbacka for our redesign for several reasons. Firstly, it meets our criteria for the project: it has one to two staircases, consists of four to six floors and offers at least one bedroom apartments. In addition, the site faces different types of surroundings, which gives a rich starting point to create a versatile design where different aspects need to be taken into account. The block has two lamellas standing in an L-shape and faces a low-speed but busy street, a pedestrian street and an inviting courtyard.

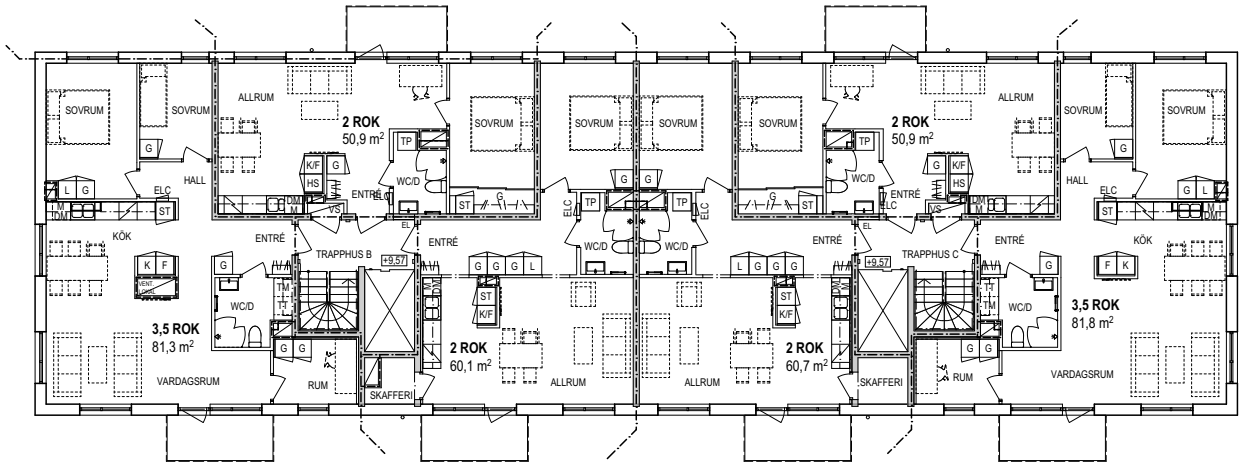
Our focus is on redesigning one of the buildings in the block, the south side of which faces the street while the north side is towards the courtyard. This dynamic presents us with a challenge to create a design that is not only visually appealing but also considers function, harmony with the surroundings and provides residential qualities.

The redesign is not done as a critique of the existing building but to show how quality and function are affected by design strategies and balcony typologies.



Siteplan 1:2000

REBELLEN



Floor 3 1:250
Fig. 55. Original floor plan. (Liljewall, 2022). Reprinted with permission.








Fig. 56-63. Images from the site in Kungsbacka.

North facade 1:250

South facade 1:250

Fig. 64-65. Original facades. (Liljewall, 2022). Reprinted with permission.

The border zone

Connection with the home

Through the placement of windows and balcony doors, the balcony becomes a central part of the home and creates a visual and spatial connection between the indoor and outdoor space. This allows for an increased sense of space and light in the home while allowing for ventilation.

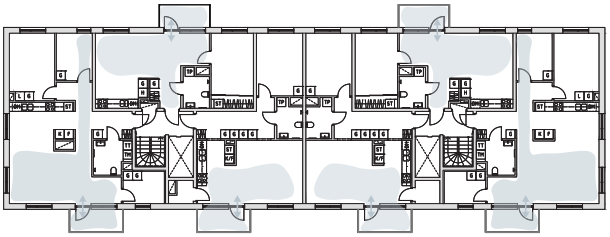


Fig. 66. Analysis, connection with the home.

View

The balcony allows residents to enjoy the view through the adjacent window as well as from the balcony itself. The placement of the balcony on the facade enables a panoramic view of the surroundings and creates a visual link between the indoor and outdoor space. The balcony can offer both divergent and convergent views depending on its location and orientation in relation to the surroundings.

The balconies are positioned outside the facade and provide an extensive view of the surrounding environment. The north-facing balconies provide views towards the courtyard and the neighbouring cemetery, offering a green outlook. The southern balconies are towards the street.

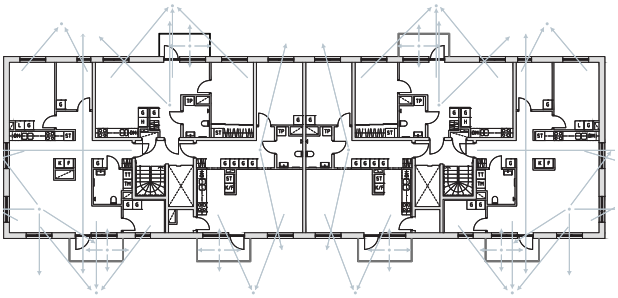


Fig. 67. Analysis, views.

Light

The open railing of the balcony allows for maximum light and views while providing a sense of openness and space. The location of balconies on the facade affects the amount of light reaching the balcony and its usability at different times of the day. As the balconies are relatively small, they do not block much sunlight, and light can still reach the balconies and the interior rooms.

Depending on the orientation of the balcony, the amount and type of light reaching the balcony can vary. South-facing balconies receive more direct sunlight during the day while north-facing balconies receive limited light.

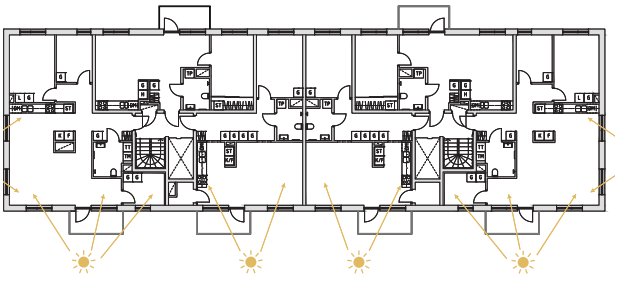


Fig. 68. Analysis, light.

Experience

Privacy

These balconies compromise privacy due to their transparent railings and facade placement, exposing residents to both public view and the views of neighbouring buildings. In addition, the active environment to the south further reduces the sense of privacy. The cantilever placement creates a sense of being visible and not private.

Social interaction

As the balconies are cantilevered and have vertical metal railing, the residents are offered an opportunity for social observation and interaction. The northern balconies are socially positioned to promote meetings with neighbours. The southern balconies extend to the street and provide great opportunities for social interaction. The balcony provides the opportunity to interact with the public space, as well as with other residents.

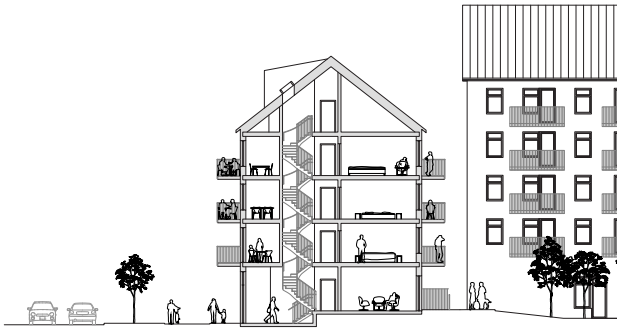


Fig. 69. Analysis, social interaction.

Usage

Furnishability

The size of the balconies provides enough space to place small furniture and create a comfortable seating area. However, parallel activity is not possible and there are limited possibilities for variation in furnishing. Since the balcony is not perceived as private, residents may wish to create alternative solutions such as privacy-protecting plants or screens, which also affects furnishability.

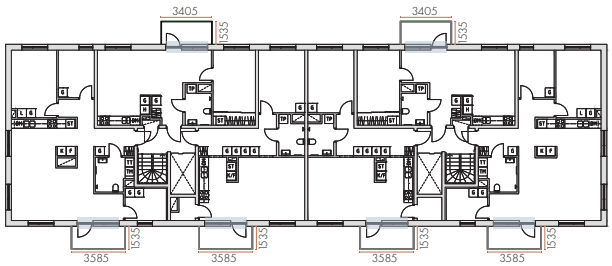


Fig. 70. Analysis, furnishability

Weather protection

As there are balconies located both to the south and north, there may be different impacts of weather conditions. The south balcony is more exposed to the sun than the north balcony. There are no sheltering walls to protect against wind and rain from the sides. Balconies located below a balcony above can receive protection from direct rainfall.

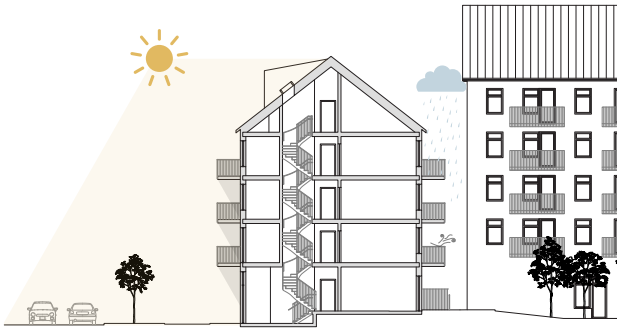


Fig. 71. Analysis, weather protection.

Material and detail

The facade of the building is covered in sheet metal, which has a green-grey colour. The windows are grey harmonises to the green-grey facade while contributing to a coherent and calm atmosphere. The balconies of the building are fitted with vertical metal railings mounted on concrete balcony slabs. This design harmonises well with the rest of the building and creates a unified and well-balanced impression. The facade is clean and characterised by simplicity, without excessive attention to detail.





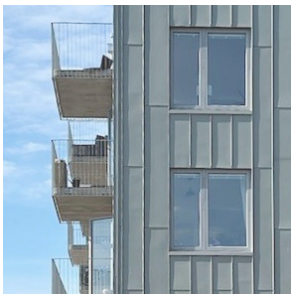



Fig. 72-79. Images material and detail.

BALCONY ANALYSIS

2,5 bedroom apartment

THE BORDER ZONE

Connection with the home

The connection is high since the balcony is connected to the living room and there is a sightline through the apartment and the balcony. Expanding the interior space outward is challenging.

Views

The view opportunities are exceptional, particularly from the balcony, where extensive views in three directions are possible.

Light

The transparent railing allows sunlight from the south to reach both the balcony and the interior rooms without any barriers.

EXPERIENCE

Privacy

The balcony offers no privacy due to its position on the facade and the design of the railing.

Social interaction

The balcony offers high opportunities for interaction with the surroundings. Its position within the apartment is not ideal for encouraging social gatherings.

USAGE

Furnishability

The balcony's size and shape accommodate smaller furniture well, but it lacks adaptability and privacy.

Weather protection

The balcony slab above offers partial weather coverage.

MATERIAL AND DETAIL

The facade, clad in green-grey sheet metal, and grey windows, creates a uniform appearance. The balconies, with vertical metal railings on concrete slabs, contribute to the coherent design, characterised by simplicity.

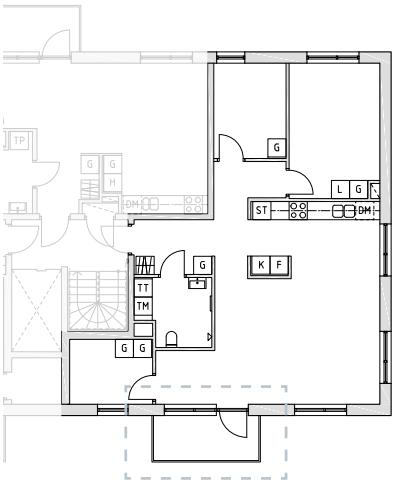
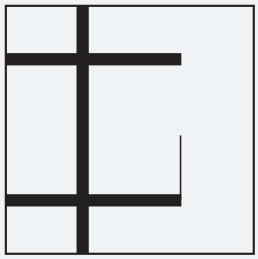
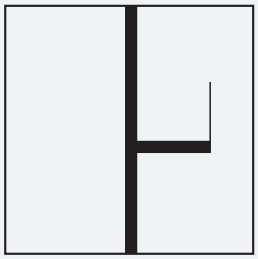


Fig. 81. Existing floor plan, 2,5 bedroom apartment, Rebellen.

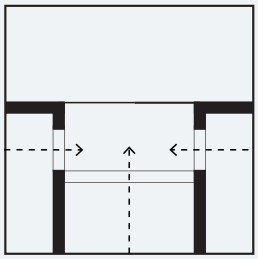
Fig. 82. Analysing diagram of balcony qualities, Rebellen.



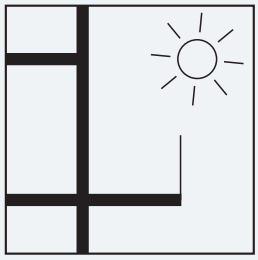
Weather protecting elements



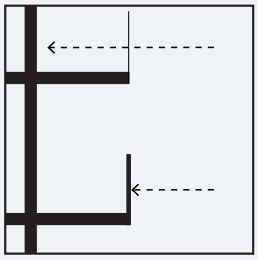
Position on the facade



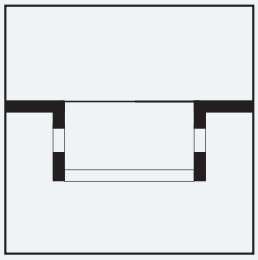
Connecting rooms



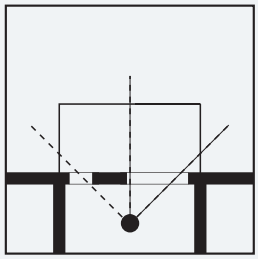
Direction



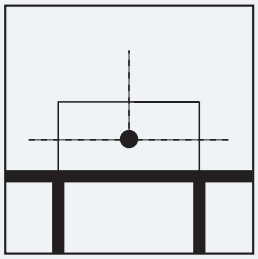
Design of railing



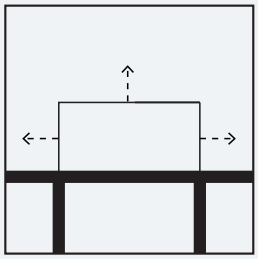
Openings



Views from interior rooms



Views from balcony



Size and shape

Fig. 83. Design strategies.

APPROACH

In order to compare and analyse the experience of balconies, we are developing two redesign proposals for balconies and the interface between inside and outside. The first proposal will focus on giving the balconies private qualities, while the second proposal will aim to provide social qualities. Based on the findings of the analyses, social interaction and privacy are often in contrast with each other. Therefore, there is an intriguing opportunity to develop two design proposals that maintain high housing qualities while offering different experiences. This approach enables a comparison and discussion of various balcony qualities and potential uses.

Both proposals aim to create favourable conditions for qualities such as views, light, connection to the home, furnishability and weather protection. To interpret the theory into design proposals, a set of design strategies has been developed to create a basis for the design. Each design strategy has been evaluated to result in design proposals that emphasise the identified balcony qualities.

Strategies for balcony qualities

Connection with home

Given the importance of the balcony's connection to the interior spaces of the home, the design proposals shall focus on creating strong sight lines between the different spaces. The balcony should be strategically connected to the main living space, ensuring a seamless transition between the indoor and outdoor spaces. Through thoughtfully placed openings in the interface, the connection will be reinforced.

Views

To create a connection with the surroundings, the design proposals will enable multi-directional views from the balcony. If possible, windows should be placed to allow views from the apartment in several directions.

Light

Careful design of window openings and balcony railings can generate good light conditions both in the home and on the balcony. This in order to create a brighter and more pleasant atmosphere.

Furnishability

Size and shape of the balcony is essential to design functional and furnishable balconies. Integrating these strategies with the design of the interface will guarantee that the balconies will be more adaptable and well used.

Weather protection

Design strategies have been developed to ensure high comfort and usability of the balcony. To ensure this there are two design strategies. The first strategy is to work with protecting elements such as roofs and walls. The other strategy is to position the balconies in a way that enhances the possibility for sunlight.

Strategies for social qualities

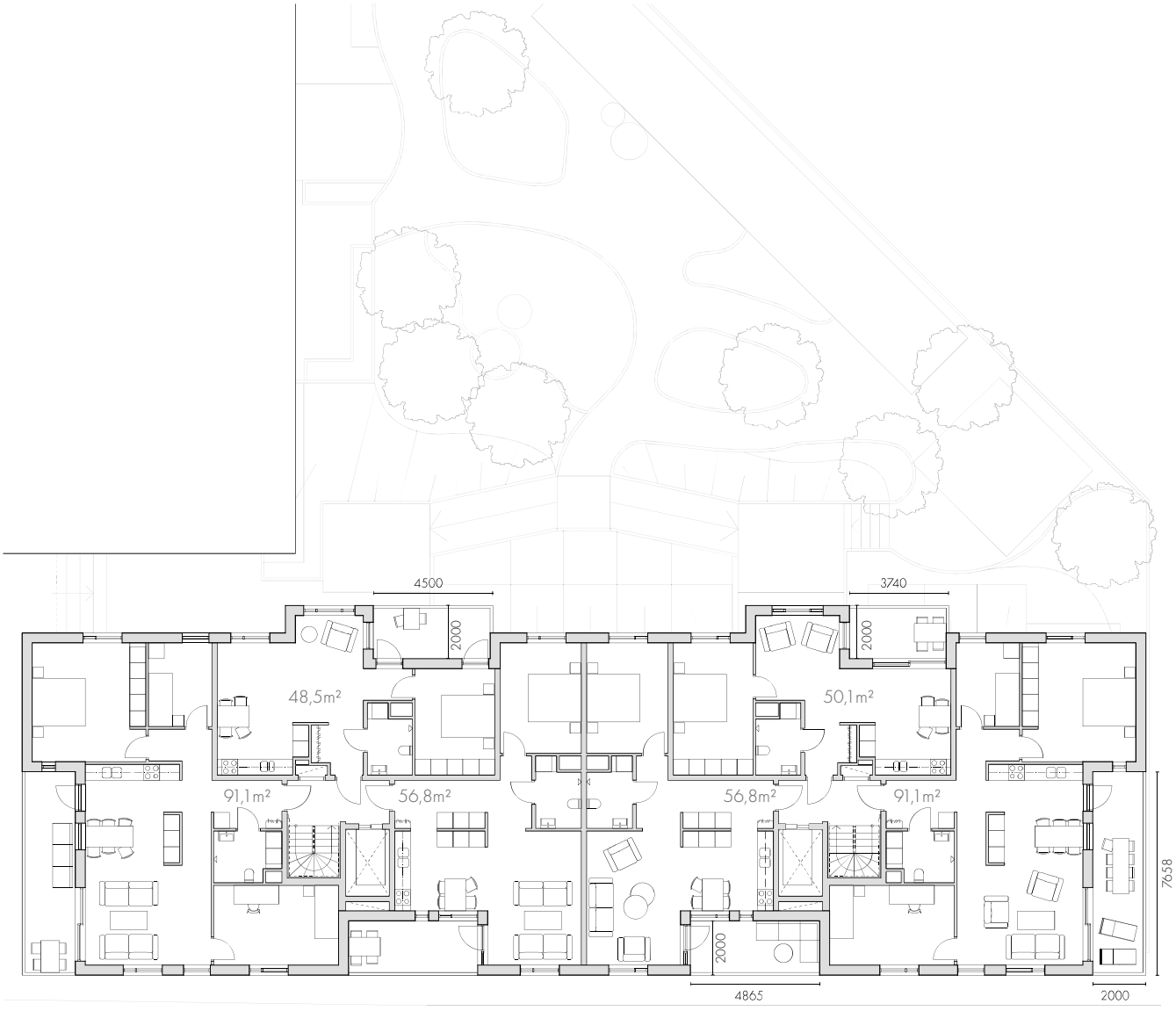
The balcony should be located in a socially appropriate spot in the apartment. A cantilevered balcony together with a transparent railing will create a strong connection to the surroundings, encouraging interaction with neighbours and the neighbourhood.

Strategies for private balconies

The design strategies for the private design proposal are intended to create a safe and enclosed feeling on the balcony. The recessed position of the balcony together with a covering railing will create protection from the surroundings and provide more privacy.

BALCONY PROPOSAL - PRIVATE QUALITIES

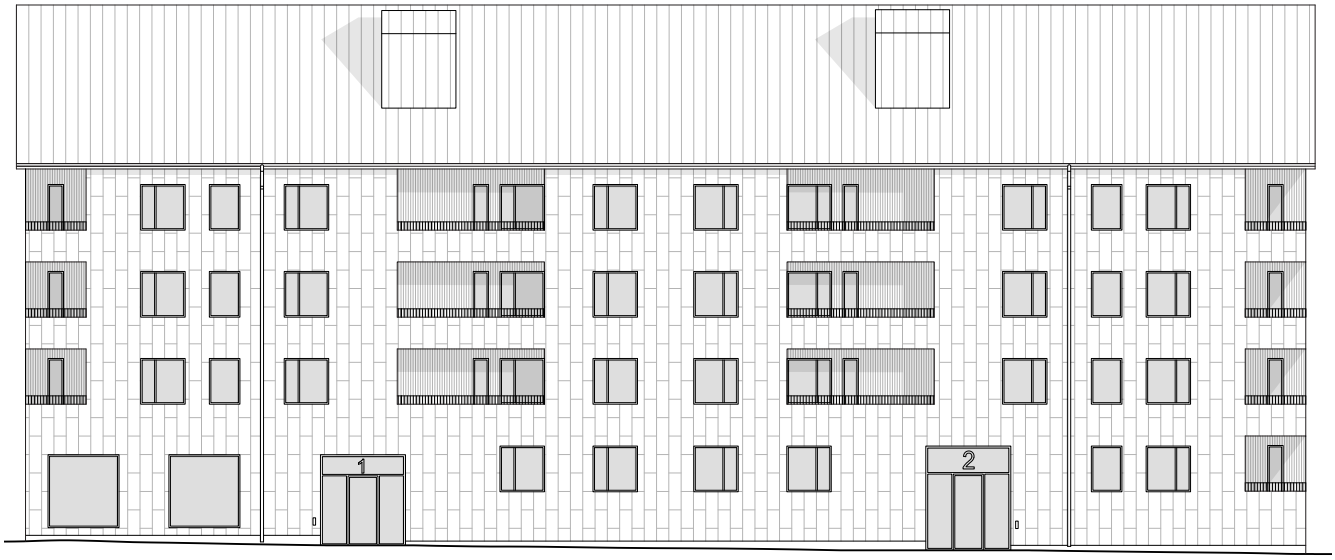
Illustration facade.



General floor plan 1:250

Facade east 1:250

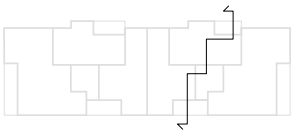
Facade west 1:250



Facade south 1:250

Facade north 1:250

Illustration interface indoor and outdoor.



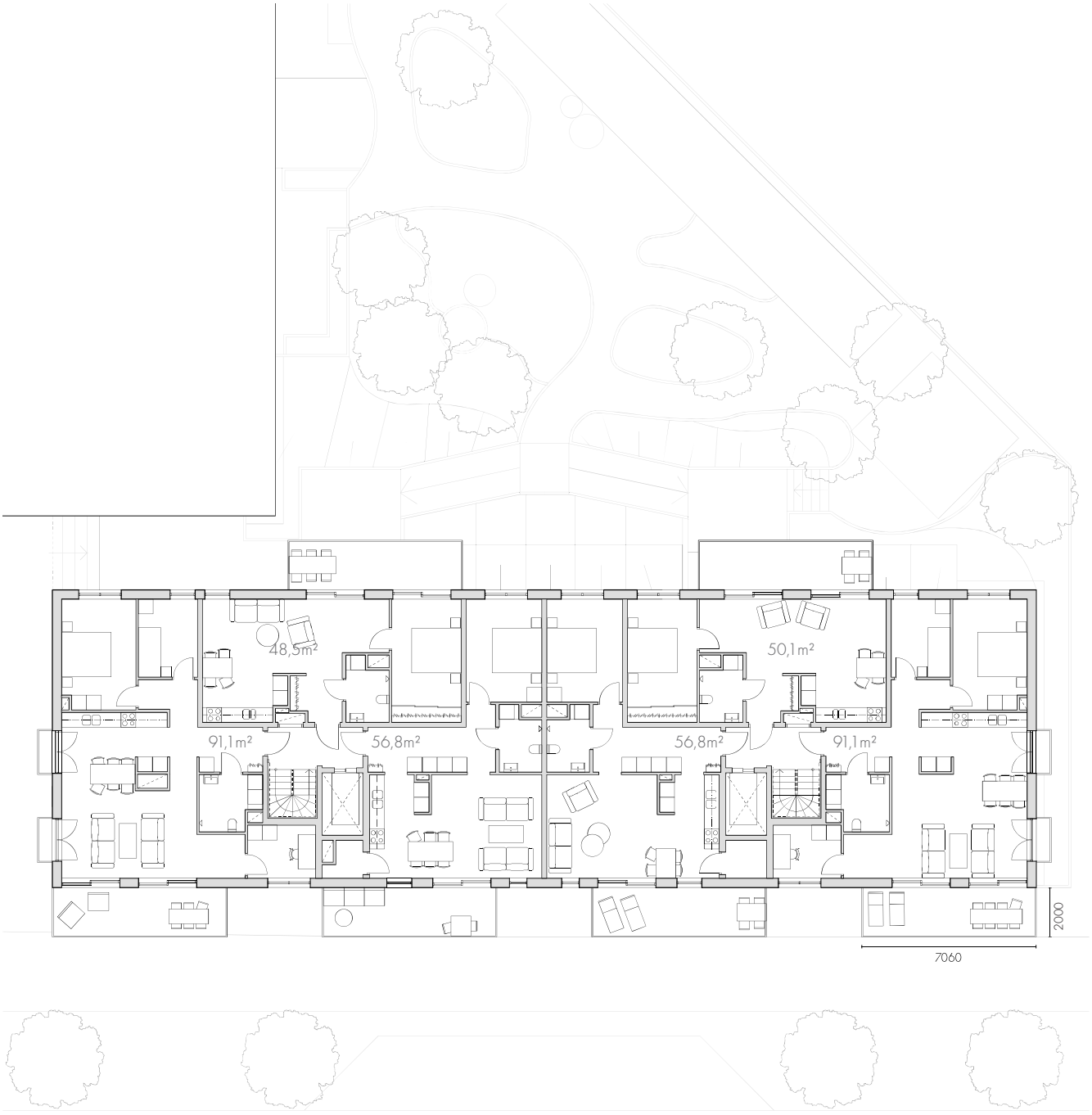
Section 1:250

Illustration corner apartment

Apartment floor plan 1:100

BALCONY PROPOSAL - SOCIAL QUALITIES

Illustration facade.



General floor plan 1:250

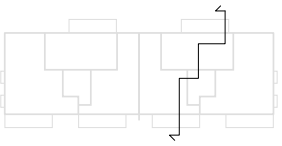
Facade east 1:250

Facade west 1:250

Facade south 1:250

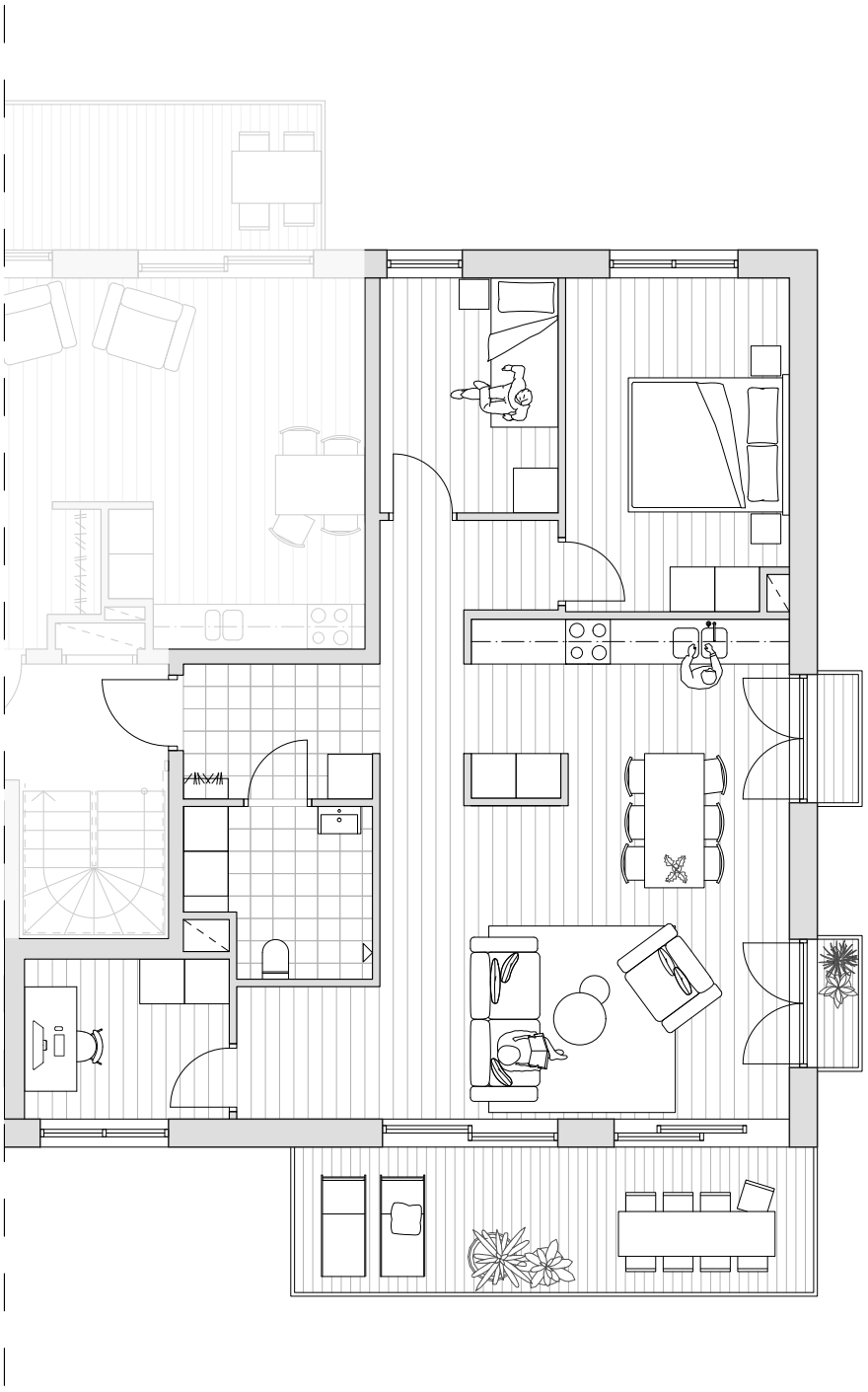
Facade north 1:250

Illustration interface indoor and outdoor.



Section 1:250

Illustration corner apartment



Apartment floor plan 1:100

Existing balcony

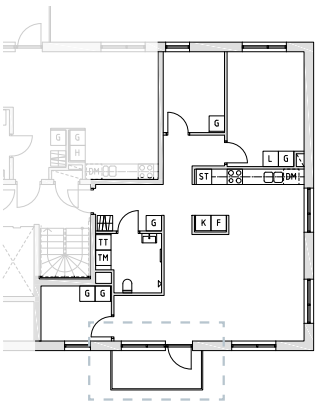
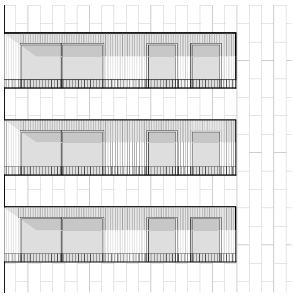


Fig. 84-86. Rebellen, Gothenburg. Liljewall.

Proposal - Private qualities



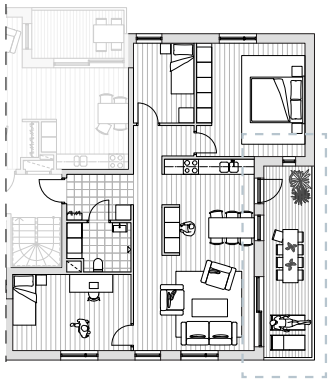
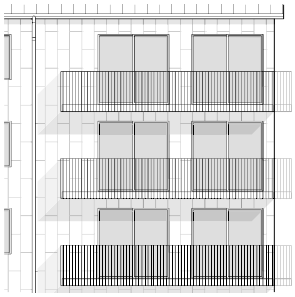
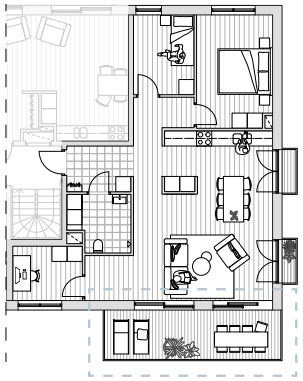


Fig. 87. Analysis diagram proposal with private qualities.

Proposal - Social qualities





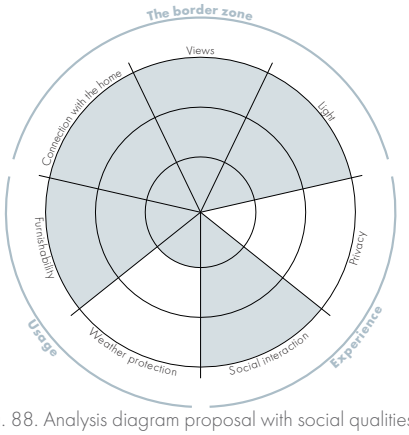


Fig. 88. Analysis diagram proposal with social qualities.

ANALYSIS OF PROPOSALS

In the current design, there is a visual and spatial connection between the indoor and outdoor spaces. The balconies allow for an increased sense of space and light in the home. Through the new design proposals, we aim to improve and enhance existing qualities while incorporating new ones.

For the design proposal focusing on private qualities, we have focused on increasing the sense of safety and privacy on the balcony. The balcony is therefore positioned recessed and equipped with covering railing to create an enclosed feeling. However these design strategies decrease the amount of light entering the balcony and the apartment.

In the proposal providing social qualities, we have focused on maintaining contact with the surroundings as well as increasing the apartments function as a social space within the apartment. Therefore, the balcony is placed in a social location in the dwelling with sliding doors to make it more of an extension of the room. The cantilevered position and transparent railings creates a strong connection to the surroundings and encourages interaction with neighbours.

Comparing the existing building analysis with the new proposals, the furnishability has improved. This is due to the increased size of the balcony which allows for adaptability and parallel use.

Another quality that has improved is the connection with the home, as sliding doors and multiple access points contribute to making the balcony an extension of the interior rooms.

The existing building has a plain facade, covered in grey-green sheet metal. The balconies are equipped with vertical metal railings which blend in well with the rest of the building, creating a coherent and balanced appearance. To enhance the aesthetic quality of the balconies, we have included wooden details as wood is an appreciated material that contributes to a warm and inviting atmosphere.

To conclude, each balcony design offers different benefits and opportunities. The existing option provides a good view and light. The social design option emphasises interaction and community, while the private design proposal focuses on enclosure and privacy. All designs provide diverse qualities and uses.

CONCLUSION

DISCUSSION

This thesis aims to explore the balcony's relationship with indoor spaces in homes, focusing on how its design can improve the living environment. It investigates the qualities provided by balconies, emphasising the connection between indoor and outdoor areas, design, function and usage. This is done through theoretical studies and analyses of reference projects. In order to perform the analyses, we have developed an analysis tool that measures balcony qualities and enables a comparison between different reference projects. The study has resulted in two redesign proposals, one that focuses on creating private qualities and one that emphasises social qualities. The two proposals illustrate how different balcony typologies affect the experience on the balcony and in the dwelling, as well as the impact on the facade.

The qualities defined in the analysis tool are divided into four categories, The border zone, Experience, Usage and Material and detail. The border zone focuses on the qualities that relate to the design of the interface between inside and outside. The qualities defined in this category are views, light and connection with the home. Experience concerns the atmosphere the balcony contributes to, we define these qualities as privacy and social interaction. In Usage we focus on qualities that increase the use of the balcony, these are furnishability and weather protection. Material and detail concerns the aesthetic qualities, such as choice of materials and attention to detail. During the analyses it became clear that the qualities in the categories The border zone, Usage and Material and detail are independent of each other. There are some correlations between them, but they vary between specific projects depending on apartment design, neighbourhood and typology. However, the qualities under Experience relate to the same factors and are therefore contradictory. This means that a balcony cannot get the maximum rating in both privacy and social interaction. We have therefore made two redesign proposals to evaluate how private and social qualities affect the experience and other housing qualities.

In the social balcony proposal, we focus on cantilever balconies because it creates a link to the surroundings and therefore provides great opportunities to meet neighbours and interact with the environment. It becomes an extension of the home, and the meeting between the private home and the social takes place via the balcony. As mentioned by Morichetto (2019), views are a key factor in providing a sense of space and a sense of control, and as the balcony extends in three directions, it provides great opportunities for light and views. The balcony typology often lacks protective elements against rain, wind and visibility. Which increases the risk of feeling exposed. Another challenge with cantilever balconies is that they affect the facade expression as they protrude from the facade. Therefore, there is a concern that large balconies will be perceived as dominating the facade. However, there is also a demand for large balconies to increase the use of the balcony. It is therefore important to aim to achieve a balance between aesthetic and functional qualities.

On the other hand, the private balcony, which in our proposal is recessed and semi-recessed, is integrated more into the building facade. However, the floor plan and the volume are affected as it is placed in the body of the building. In our private design proposal, the volume needs to be modified to maintain the residential qualities of the apartments and create pleasant balconies. Therefore, the building volume is widened and bay windows are added. As the balcony is placed in the building volume, an enclosed and safe feeling is achieved. As Nylander (1998) explains, enclosed spaces are perceived as safe and cosy. This can contribute to increased use. The protective walls provide weather protection, although this might affect views and light. The walls direct and limit the view from the balcony. At the same time providing the opportunity to have views in several directions from the apartment out towards the balcony. The lower part of the railing is covered while the upper part is more transparent. This contributes both to create a private feeling and to let light through, to the

balcony and to the dwelling.

The two most crucial factors we have defined for creating private or social qualities on the balcony are the position of the balcony on the facade and the design of the railing. To create a private experience, it is important to have a dense railing but the risk is that it takes light from the interior rooms. A transparent railing, such as vertical metal railing, allows light to pass through and creates contact with the surroundings but does not contribute to privacy.

The two design proposals explore how the social and private qualities of balconies influence both the design and the experience. By maximising these qualities, clear differences in use can be seen. Balconies with social qualities become extremely public, which can lead to residents feeling observed. In our opinion, balconies designed with a focus on private qualities create more usability, as they become more sheltered and an integral part of the private home.

The design of balconies determines the overall impression of a building and its integration into its surroundings. They function as important design elements that influence the character and expression of the building, both from a distance and up close. Authentic materials, especially wood, contribute to a sense of care and connection to nature that is appreciated by residents. Interviews with residents in Bergskroken revealed that the wooden balcony cladding was appreciated because it indicated architectural care and contributed to a positive experience of the space. The choice of material influences the perceived quality of the balcony and the residents' experience.

To increase the use of balconies, there are two main factors to consider, furnishability and weather protection. In Swedish climatic conditions, glazing is an element that favours increased use of balconies, which was particularly evident in interviews with residents in Bergskroken. In order to make a comparison of all the different qualities and uses between the two design proposals, we decided not to glaze any of the balconies, as this would create different conditions. Especially when it comes to the design of social balconies, it is challenging to use glazing, as the glass can create a barrier between the balcony and its surroundings.

In order for the balcony to contribute to residential qualities and have high usability, the connection with the home is of great importance. The interior rooms to which the balcony connects are important to create a strong connection to the home. A balcony that is connected to the kitchen or living room has a greater connection and becomes more of an extension of the dwelling. As Peters and Masoudinejad (2022) describe, a balcony is used more if it acts as an extension of the home. They also describe that elements such as sliding doors can strengthen the relationship between inside and outside. Another factor that influences the relationship is how the openings in the interface are designed. Sightlines in the apartment towards the balcony strengthen its contact with the home, especially if there are converging views, meaning that it is possible to observe the balcony from several different rooms in the apartment. Therefore, both diverging and converging views as well as sliding doors are included in both design proposals.

Morichetto (2019) describes that enriched environments can contribute to wellbeing and health. Peters and Masoudinejad (2022) discuss that the private outdoor space provides access to nature, restorative views and positive impact on the residents' health and wellbeing. Balconies provide a link with the surrounding environment and access to fresh air without the residents having to leave the comfort of their own home. In addition, balconies provide a space for recreation and social interaction, fostering a sense of community and belonging. The balcony contributes to a sense of space and freedom by providing light and views. In conclusion, balconies are an essential factor in promoting people's physical and mental well-being.

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LIST OF FIGURES

All figures not listed are produced and owned by the authors and therefore not listed in this section.

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ANALYSIS APPENDIX

BRIDGING INDOOR AND OUTDOOR

- An exploration of balconies in residential buildings

INTRODUCTION

The analyses of different balconies help to understand how the design of balconies affects housing qualities and the users' experience of the balcony. By carefully studying and comparing different design elements and characteristics of balconies, the strengths, weaknesses and opportunities of each type of balcony can be identified.

The selection of architectural projects for the analyses is based on criteria to achieve a comprehensive study of different balcony typologies.

Criteria of the reference projects:

Geographical accessibility: The projects are located in sites that can be visited in order to explore and analyse the balconies on site.

Variety of apartment sizes: A wide range of apartment sizes are selected to explore how balconies are integrated into different types of dwellings.

Size of balconies: The selected projects have balconies of different sizes to investigate how size affects usability.

Materials: The projects should have different materials and details to give an understanding of how the materials affect the experience.

By selecting projects that fulfil these criteria, a diverse and representative analysis of balcony design in Swedish urban environments can be ensured.

THE TOOL

The analysis tool is a tool for visualising and comparing different parameters that affect the use and qualities of the balcony. The tool and its parameters are selected based on the findings of the theory.

The tool is divided into four categories:
The border zone - *Which focuses on the encounter between the interior space of the dwelling and the exterior.*

Experience - *Examines the experience of the balcony by analysing privacy and opportunities for social interaction.*

Usage - *Investigates the furnishability and weather protection.*

Material and detail - *Analyses the material and details of the balcony and how it is experienced.*

The border zone, Experience and Usage, are illustrated through a diagram while Material and design is described through a descriptive text as it is difficult to measure it on a scale. The analysis tool is structured around four steps, which represent different levels of the parameters. These steps are tuned on a scale ranging from zero to three, with each step giving a clear indication of the quality and level achieved.

The different steps are:
0 - Low
1- Medium
2- High
3- Exceptional

The steps create a clear division between the levels of each parameter, in order to allow for comparison between different analysed projects. By analysing and comparing these parameters, the tool can provide an understanding of which balcony typology best meets different requirements and expectations.

Fig. 1. Analysing diagram balcony qualities.

THE BORDER ZONE

Connection with the home

The connection between the indoor rooms of the dwelling and the balcony depend on which rooms are connected to the balcony and how the interface between indoors and outdoors is designed.

Factors explored: *Connecting rooms, access points, windows and possibility to expand the indoors out.*

Views

The views are explored through the balcony from inside the home towards the outside, as well as views from the balcony towards the surroundings.

Factors explored: *Windows placement, balcony position on facade, diverging and converging views and surroundings.*

0 - Low level of connection with the home

The balcony has no clear connection to the home and offers no opportunity to expand the interior spaces out or integrate the exterior space into the dwelling.

1 - Medium level of connection with the home

The balcony has a low level of connection to the interior rooms and offers limited opportunity to expand the indoors out or integrate the outdoor space into the home. The connection is not particularly integrated into the structure of the home.

2 - High level of connection with the home

The balcony is integrated into the structure of the home and has a clear connection to the interior rooms. There is an opportunity to expand the indoors out onto the balcony or integrate the outdoor space into the home through, for example, large glass panels or sliding doors.

3 - Exceptional level of connection with the home

The balcony is fully integrated into the design of the home and has a strong connection to the interior rooms. There are excellent opportunities to expand the indoors out onto the balcony or integrate the exterior space into the home, creating a seamless transition between indoor and outdoor spaces.

0 - Low level of view

The balcony has very limited views. There are only views of neighbouring walls, buildings or other obstacles that limit the view of the surroundings. The related interior rooms also have limited or no view through the balcony.

1- Medium level of view

The balcony has a limited view of the surroundings. The view may be partially blocked by neighbouring buildings, trees or other obstacles, limiting the visibility of the view. The related interior rooms have a limited view through the balcony.

2 - High level of view

The balcony has a reasonable view of the surroundings. The view may be partially blocked by some obstacles, but there is still the possibility to enjoy the view. The related interior rooms have equally good moderate views through the balcony.

3 - Exceptional level of views

The balcony has a good view of the surroundings. The view is clear and allows for the enjoyment of the surrounding scenery. The related interior rooms also have a good view through the balcony, which enhances the experience of the surrounding landscape and creates a pleasant atmosphere in the rooms.

Light

Light is analysed in two different ways. How much light reaches the balcony as well as the amount of light that enters the related indoor spaces of the home.

Factors explored: *Railing, position on facade, openings, direction and size.*

0 - Low level of light

The balcony receives no direct or indirect natural lighting. It is completely shaded or blocked from sunlight, resulting in a dark atmosphere.

1- Medium level of light

There is a limited amount of natural light reaching the balcony during certain parts of the day. The level of light is insufficient to properly brighten the area and may limit the usability.

2- High level of light

The balcony receives an appropriate amount of natural light for the majority of the day. The light is sufficient to create a bright and inviting atmosphere on the balcony, although there may be some shaded areas.

3 - Exceptional level of light

The balcony receives plenty of natural light for most of the day. The sun reaches all parts of the balcony, creating a bright and refreshing atmosphere. The light is strong enough to allow for a variety of activities.

EXPERIENCE

Privacy

The category explores the balcony's degree of privacy and the possibility to feel safe and protected on the balcony.

Factors explored: *Railing, position on facade, surroundings and social control.*

0 - Low level of privacy

The balcony offers no protection from views from the outside. It is completely open and exposed to the environment. The privacy of those using the balcony is minimal or non-existent.

1 - Medium level of privacy

The balcony has some form of shielding, but it is insufficient to provide a sense of privacy. The users may feel relatively exposed but there are some levels of privacy.

2 - High level of privacy

There is some form of enclosure that provides a medium level of privacy. The view is limited to certain parts of the balcony. It is possible to feel partly protected from the view of the surroundings.

3 - Exceptional level of privacy

The balcony is well shielded from the surroundings, providing a high level of privacy. Visibility is limited, and users can feel comfortable without feeling exposed.

Social interaction

The section investigates if the balcony provides the opportunity to interact with the public space, as well as with other residents.

Factors explored: *Railing, position on facade, surroundings and social control.*

0 - Low level of social interaction

The location of the balcony in the facade, the railing, the environment and the possibility of social control limits the opportunities for social interaction. It may be inaccessible, safety concerns may be present, or the environment may be inappropriate for socialising.

1 - Medium level of social interaction

The balcony has basic opportunities for social interaction. The location in the facade, the design of the railing, the environment and the level of social control meets basic requirements for encounters, but there are limitations that affect the opportunities for interaction.

2 - High level of social interaction

The balcony offers medium opportunities for social interaction. The location in the facade, the design of the railing, the environment and level of social control generally support social interaction and allow residents to comfortably interact with the environment and neighbours.

3 - Exceptional level of social interaction

The balcony promotes high social interaction. The location in the facade, the design of the railing, the environment and possibility for social control are optimal to create a welcoming environment for residents to participate in different forms of social interaction.

USAGE

Furnishability

The parameter explores how the balcony can be furnished and if there are possibilities for a variation of furniture.

Factors explored: *Size, openings and privacy.*

0 - Low level of furnishability

The balcony is too small or has an inconvenient design that makes it impossible or very difficult to place any furniture on it. There is no proper surface to create a usable outdoor environment.

1- Medium level of furnishability

The balcony has limited space or a design that limits the possibilities of furnishing it. It may be difficult to find suitable furniture or to adapt it to the size and shape of the balcony.

2 - High level of furnishability

The balcony has enough space and a suitable design to furnish it in a functional way. There is enough space to place basic outdoor furniture and create a comfortable environment.

3 - Exceptional level of furnishability

The balcony is well equipped to furnish it in a comfortable and aesthetically attractive way. There is plenty of space to add different types of furniture and decoration to create an attractive outdoor environment.

Weather protection

Weather protection refers to the extent to which it is possible to be protected from different types of weather, like rain and wind, on the balcony. Weather protection can contribute to comfort, safety and preservation of property. The protection can, for instance, be different structural elements such as roofs or walls, or glazing.

Factors explored: *Glazing, protecting walls, roof and direction.*

0 - Low level of weather protection

The balcony is missing any features to protect against weather conditions such as rain, wind or sun. It is completely exposed to the elements without any form of protection.

1 - Medium level of weather protection

There are some limited features on the balcony that provide minimal protection from weather conditions but the protection is not enough to provide a significant level of comfort.

2 - High level of weather protection

The balcony has sufficient features to provide a basic level of protection against rain, wind or sun. It may include a more substantial sunshade or windbreak that provides some degree of protection and comfort for users.

3 - Exceptional level of climate protection

The balcony is well equipped with features that provide significant protection from weather conditions. It can for instance be a solid sunshade or glazed balconies that effectively protect against rain, wind and sun and create a comfortable and protected environment on the balcony.

MATERIAL AND DETAIL

The details and materials of the balcony are important to take into consideration when analysing the experience of the balcony. This parameter is described in a short explaining text to each balcony.

The factors explored: *Material of railing, if the balcony is glazed, the material of the balcony and the material of the facade.*

Material characteristics that are studied are:

- *Display traces of artisanry.*
- *Attention to detail.*
- *Adaptability of the material.*
- *Traces of the past.*
- *The color of the material.*
- *Authenticity.*
- *Relationship with nature.*

CASE STUDIES

SELECTION

The selection of architectural projects for the balcony analyses is based on criteria to achieve a comprehensive study of balcony designs.

Criteria of the reference projects:

Geographical accessibility: The projects are located in sites that can be visited in order to explore and analyse the balconies on site.

Variety of typologies and apartment sizes: A wide range of housing types and apartment sizes are selected to explore how balconies are integrated into different types of dwellings and what impact this has on use and experience.

Size of balconies: The selected projects have balconies of different sizes to investigate how size affects usability.

Materials: The projects should have different materials and details to give an understanding of how the materials affect the experience.

By selecting projects that fulfil these criteria, a diverse and representative analysis of balcony design in Swedish urban environments can be ensured.

FRENCH BALCONIES

CORTADO

Location: Malmö
Architect: Krook & Tjäder
Year: 2019

Project description

Cortado is located in Hyllie, Malmö and is adjacent to the square Allétorget. The building is between five and six storeys high and has some commercial activities on the ground floor. The analysis of the project focuses on the French balconies facing the square. The selected apartment is a two bedroom apartment with a dining area and living room connected to the French balconies. These rooms are therefore a part of the analysis.

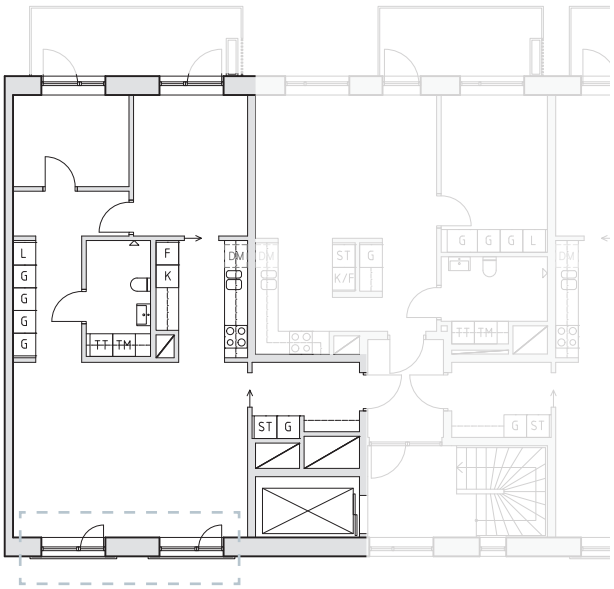


Fig. 2. Floor plan, Cortado.

Fig. 3. Image facade, Cortado.

THE BORDER ZONE

Connection with the home

The connection between the French balcony and the home is strong since it is a part of the room with large windows and door towards the outside. In Brf Cortado there are French balconies both in the living room and the dining area. The balcony expands the feeling of the room out and invites nature in.

Views

The balcony enhances a vertical sight since the openings are without sill height. The sights are limited due to the fact that it is not possible to take a step outside.

Light

The transparent railing let the southeast light through. The large openings also let the sun into the indoor rooms. There are no balconies above that shades the facade.

EXPERIENCE

Privacy

The walls of the home gives an enclosed feeling and adds to the privacy, when opening up the balcony door you are still in the safety of your home, this also gives opportunities for social control. The railing is transparent which limits privacy. The surroundings is a public square which makes it less private.

Social interaction

It is possible to open the balcony up towards the public but since it is not possible to take a step out it does not give many opportunities for social interaction.

USAGE

Furnishability

The French balcony is not possible to furnish more than for instance with flower boxes.

Weather protection

There are no elements that protect the balcony from different weather conditions.

MATERIAL AND DETAIL

The building has a brick facade towards the square. The facade consists of a large amount of French balconies with vertical metal railing. The brick facade shows a fine attention to detail. Different brick colours together with different types of details create variation while enhancing the building's expression. The materials age well and express stability and solid design but are not easy to adapt in the future.

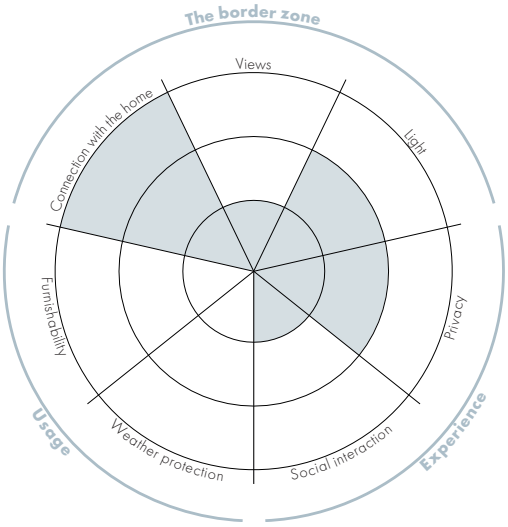


Fig. 4. Analysing diagram, Cortado.

CEDERHUSEN

Location: Stockholm
Architect: General Architecture
Year: 2022

Project description

Located in Vasastan, Cederhusen is Stockholm's first large apartment building in solid wood. The buildings are 6-11 storeys and consist of 245 homes and approximately 21500 square metres. The architects wanted to combine characteristic Stockholm design with modern elements such as elegant balconies and integrated courtyards. The wooden facades are an interpretation of the stone city architecture and contribute to a unique and harmonious urban environment (General Architecture, n.d.). The top floor has French balconies in all windows and provides special conditions with its high location.

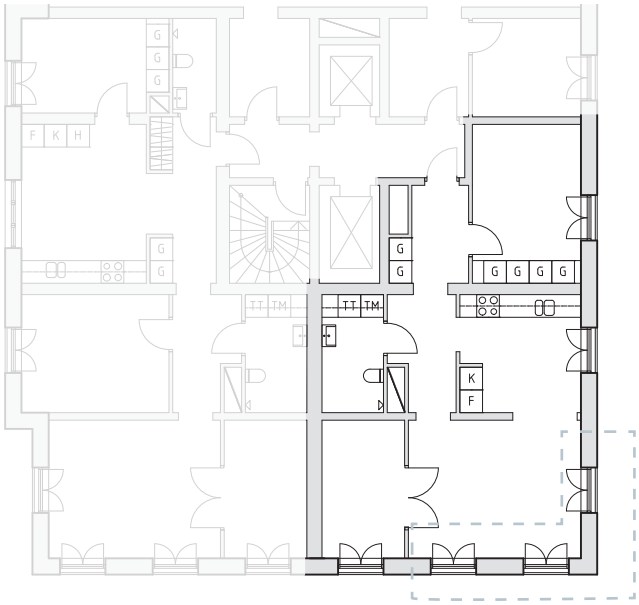


Fig. 5. Floor plan, Cederhusen.

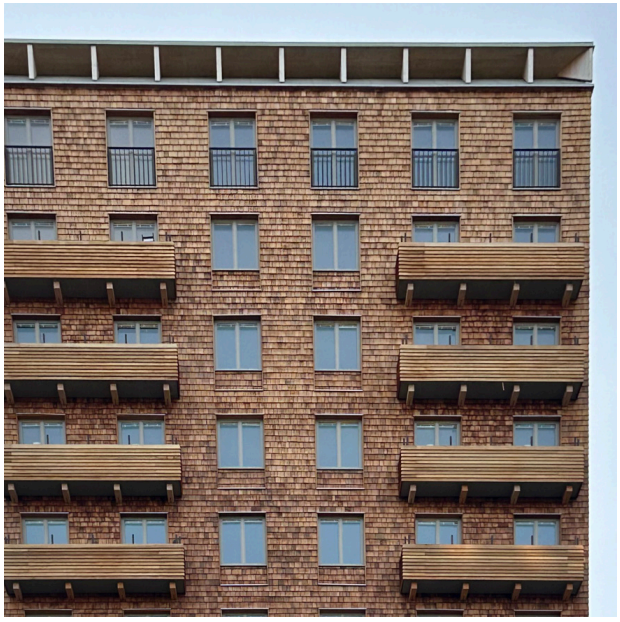


Fig. 6. Image facade, Cederhusen.

THE BORDER ZONE

Connection with the home

The connection to the home is strong because the balcony is integrated into the rooms. By opening up the large windows to the balcony, it is possible to bring nature in and make the connection between indoors and outdoors strong.

Views

There are some opportunities for views as there are French balconies in several directions. But since it is not possible to take a step out, the view is limited.

Light

The windows are large and invite a lot of light in.

EXPERIENCE

Privacy

There is a lot of privacy as the walls of the apartment give an enclosed feeling. The high level of the balcony also contributes to the privacy and limits visibility.

Social interaction

The possibility of social interaction is limited, mainly due to the high altitude of the apartment. The transparent railing and large windows allow for some social interaction.

USAGE

Furnishability

It is not possible to furnish the balcony because of the size.

Weather protection

There is no weather protection on the balcony.

MATERIAL AND DETAIL

The facade of the building is made of wood, which is an appreciated material, the chipboard gives the facade surface a coherent and harmonious appearance. The balcony railing is a vertical steel railing that lets light into the apartment.

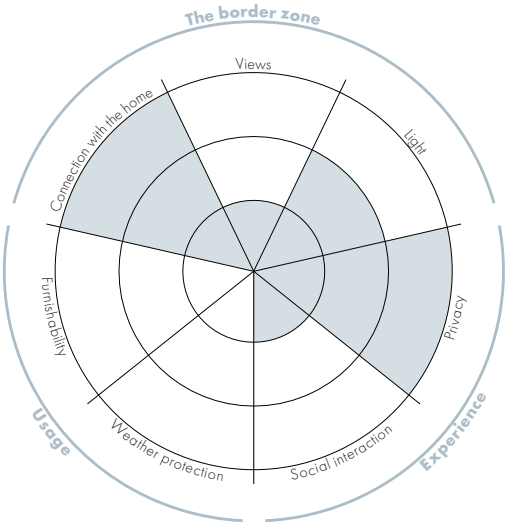


Fig. 7. Analysing diagram, Cederhusen.

SÖDERSTADEN

Location: Kungsbacka
Architect: Liljewall
Year: 2011

Project description

Söderstaden in Kungsbacka is a residential project designed by Liljewalls architects. It contains modern housing and commercial spaces. The apartments we focus on in the analysis have two balconies where we choose to analyse the French balcony facing the street. The balcony connects to the living room.

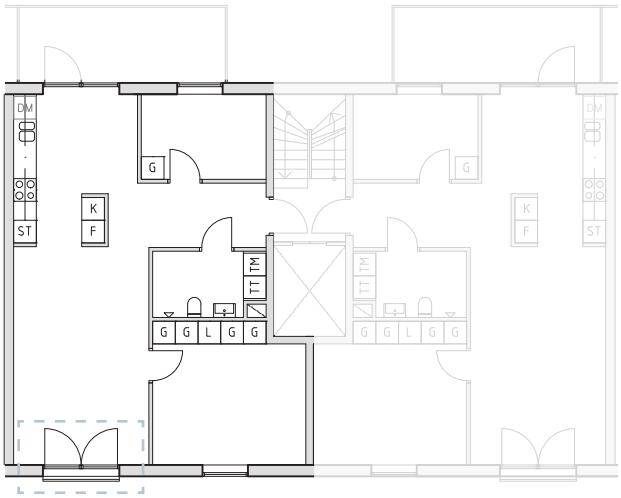


Fig. 8. Floor plan, Söderstaden.

Fig. 9. Image facade, Söderstaden.

THE BORDER ZONE

Connection with the home

The connection to the home is strong as the balcony is placed in the centre of the apartment.

Views

The view is limited because it is not possible to step out onto the balcony and the walls limit the view. However, the windows are large and offer some possibility of a view.

Light

The large windows let in some light, but the depth of the indoor space makes it difficult for light to reach the whole room.

EXPERIENCE

Privacy

The privacy is medium because the walls of the apartment are shielding. But the railing is transparent and the windows are large, allowing people to see inside.

Social interaction

The opportunities for social interaction are medium, the railing and the large doors invite the outdoors and connect the apartment to the street. However, the fact that it is not possible to step out onto the balcony limits social interactions.

USAGE

Furnishability

It is not possible to furnish the balcony.

Weather protection

There is no weather protection.

MATERIAL AND DETAIL

The building has a white plaster facade that provides a uniform and clean appearance. The vertical steel railing lets light into the apartment.

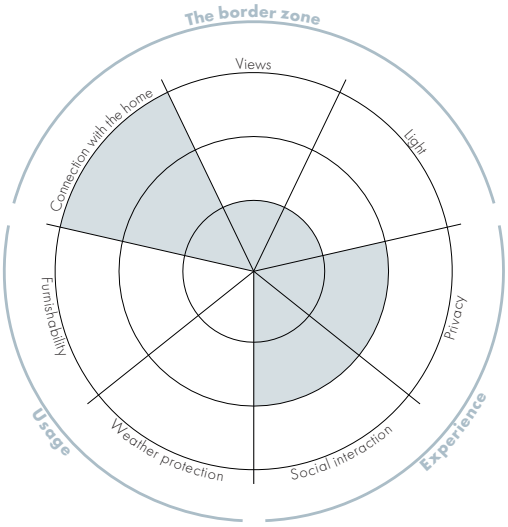
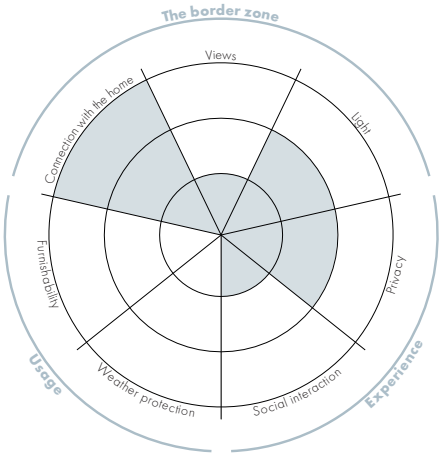
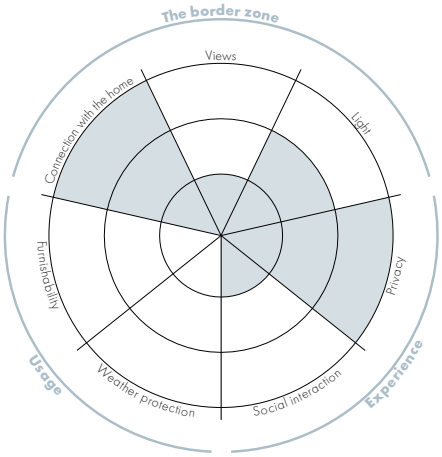


Fig. 10. Analysing diagram, Söderstaden.





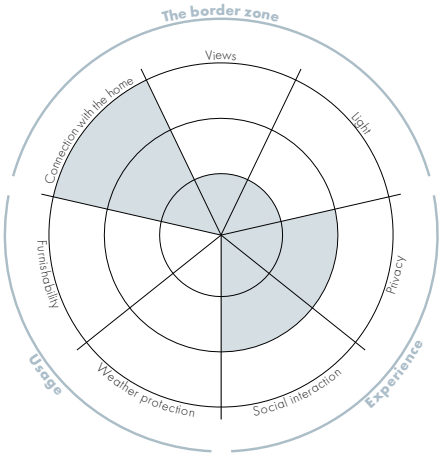


Fig. 11. Analysing diagram, Cortado.
Fig. 12. Analysing diagram, Cederhusen.
Fig.13. Analysing diagram, Söderstaden.

FRENCH BALCONIES

In all analysed projects, the connection between the French balcony and the home is exceptional. The balconies are located in the centre of the apartment as part of the living rooms.

The view from the balconies is medium in all cases, the low score is due to the inability to take a step out onto the balconies. However, the glazed balcony doors provide the opportunity for views from inside the apartments and a feeling of liberation as it offers a connection with the surroundings.

The window doors offer a high level of light in the case studies Cortado and Cederhusen, while Söderstaden has a medium level of light due to the depth of room.

All three projects offer high levels of privacy because of the shielding apartment walls.
What varies is the material of the railings and the size of the window, which are contributing factors to privacy.
A reflection is that French balconies provide a direct contact between the room and the surroundings as there is no slab that can create a barrier in the border zone. In addition, the openings between home and balcony are often in the form of parapet windows or fully glazed doors, which also strengthens the connection to the outside and allows for social interactions. This is also reinforced by transparent railings.

In terms of use, none of the projects allow furniture or have weather protection making the balconies mostly a possibility for ventilation and a contact with the surroundings.

SPANISH BALCONIES

NEJLIKAN 2

Location: Stockholm
Architect: Vera
Year: 2003

Project description

Nejlikan is located on a cross-street in the centre of Stockholm. The building is seven storeys high and has Spanish balconies facing the street. The analysis focuses on the Spanish balconies and the adjacent rooms which in this case are the living room. The analysing apartment is a one-bedroom apartment and represents the general floor plan of the building.

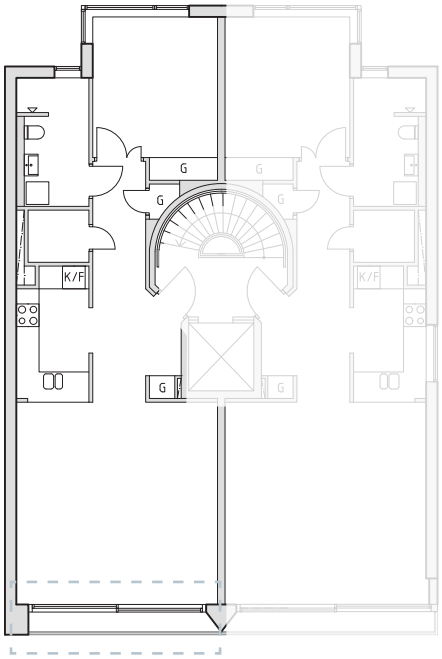


Fig. 14. Floor plan, Nejlikan.

Fig. 15. Image facade, Nejlikan.

THE BORDER ZONE

Connection with the home

There is an excellent connection between the Spanish balcony and the apartment, especially because of sliding doors that give the possibility to expand the room out.

Views

The large windows give the possibility for a lot of views. When taking a step out on the balcony the number of views increases since it is possible to look in multiple directions, although there are small walls separating the balconies and thereby limiting the views.

Light

The transparent railing let the southeast light through and the large openings let the sun into the indoor rooms. There are no large balconies above that shades the facade.

EXPERIENCE

Privacy

There is a lack of privacy because of the transparent railing and the large amount of window. The narrow balcony also limits the possibility to furnish in a way that adds more privacy.

Social interaction

The possibilities for social interaction are large since the facade is transparent, as well as the railing. The possibility to take a step out on the balcony brings the people closer to the street and the social environment.

USAGE

Furnishability

t is a possibility to open up and ventilate and to extend the living room out towards the outdoors. This creates possibilities in how to furnish the indoor room, but also to put some smaller furniture on the balcony.

Weather protection

The fact that the balcony is recessed gives some small elements that protects the balcony from different weathers.

MATERIAL AND DETAIL

The facade of the building consists of larger stone slabs, while the walls of the balconies are made of red coloured sheet metal and have vertical metal railing. The ground floor is in copper sheet metal. Despite the many different types of materials, the building is perceived as well designed and blends in well with the surrounding buildings. The choice of materials ages well and highlights the craftsmanship behind it. The railing lets light into the apartments and creates contact with the street outside.

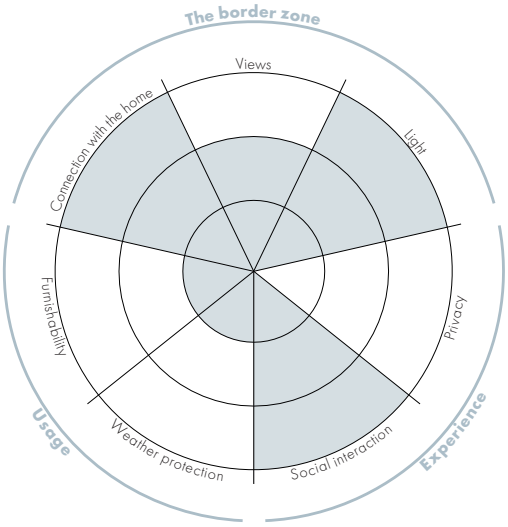


Fig. 16. Analysing diagram, Nejlikan.

JÄRNTORGSGATAN X BROGATAN

Location: Gothenburg
Architect: Semrén & Månsson
Year: 2023

Project description

Järntorgsgatan x Brogatan is a project that integrates 130 new apartments into a building in the historic neighbourhood of the Pustervik area in central Gothenburg. The project has had to take great account of the area's history and cultural heritage. The architect sought to harmonise the modern architecture with the historical heritage of the area through detailed façade design including wrought iron railings around the balconies (Semrén & Månsson, n.d.) We have analysed a five-room apartment with a Spanish balcony in the living room.

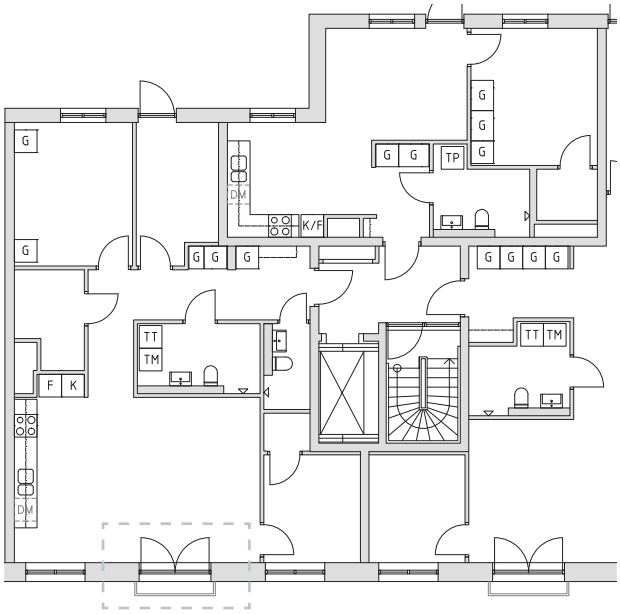


Fig. 17. Floor plan, Järntorgsgatan x Brogatan.

Fig. 18. Image facade, Järntorgsgatan x Brogatan.

THE BORDER ZONE

Connection with the home

The connection to the balcony is quite strong as the balcony connects to both the kitchen and the living room. However, it is not in the line of sight from the entrance or the bedrooms, which weakens the connection.

Views

There are no barriers to the view from the balcony or from the indoor rooms towards the balcony, and it is possible to step out for multi-directional views.

Light

There is a lot of light hitting the balcony and indoor rooms.

EXPERIENCE

Privacy

There is some privacy thanks to the walls of the apartment. At the balcony, however, privacy is limited due to the type of railing and the absence of protective walls.

Social interaction

There are some opportunities for social interaction as the balcony faces a central street and it is possible to open up the dwelling to the surroundings and also to step outside.

USAGE

Furnishability

It is not possible to furnish the balcony.

Weather protection

There is no weather protection.

MATERIAL AND DETAIL

The project has carefully selected materials such as brick, plaster and natural stone to preserve and recreate its authentic, historical atmosphere. The colour scheme is warm and bright. The balcony railing is a wrought iron railing that lets the light through.

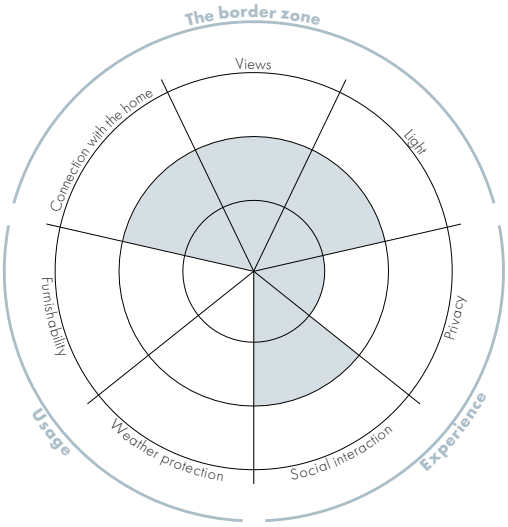


Fig. 19. Analysing diagram, Järntorgsgatan x Brogatan.

DIRIGENTEN

Location: Lund
Architect: Arkitektlaget
Year: 2023

Project description

Dirigenten in Lund, created by Arkitektlaget, is a residential project with many smaller apartments. The use of brick and pattern masonry creates harmony and detail. The project is a U-shaped block with a secluded backyard. We analyse a one-bedroom apartment with a small Spanish balcony facing the street.

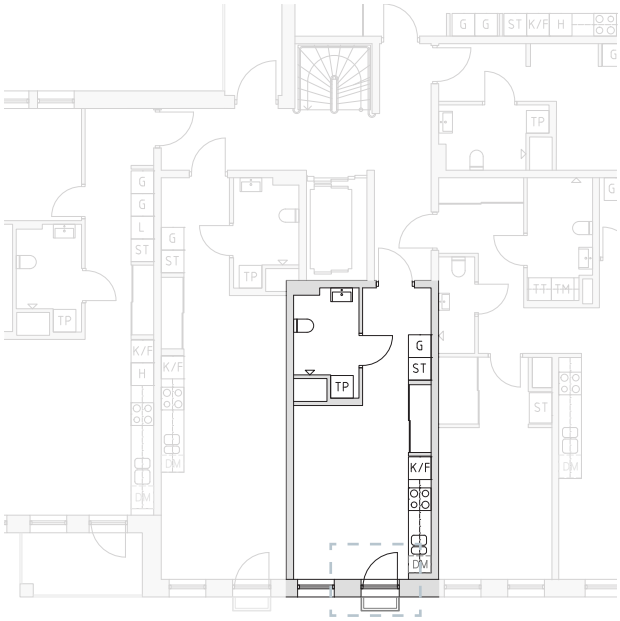


Fig. 20. Floor plan, Dirigenten.

Fig. 21. Image facade, Dirigenten.

THE BORDER ZONE

Connection with the home

The location of the balcony in the apartment makes the connection strong. The door to the balcony is a regular door and there are no other windows out, which reduces the connection to the home.

Views

The view through the balcony is limited because the railing is in perforated sheet metal railing which covers some views, the window out is not so wide.

Light

The light entering the apartment is limited by the railing.

EXPERIENCE

Privacy

The privacy is medium, the walls of the apartment contribute to the privacy as well as the covering railing.

Social interaction

Opportunities for social interaction are also medium as it is possible to step out and interact with the street.

USAGE

Furnishability

Furnishability is very low, it is possible to have a plant but nothing more.

Weather protection

There is no protection against the weather.

MATERIAL AND DETAIL

The facade is a brick facade where the architects have worked with different patterns that show care. The railing is a perforated sheet metal railing that creates privacy. The width of the windows and doors is representative.

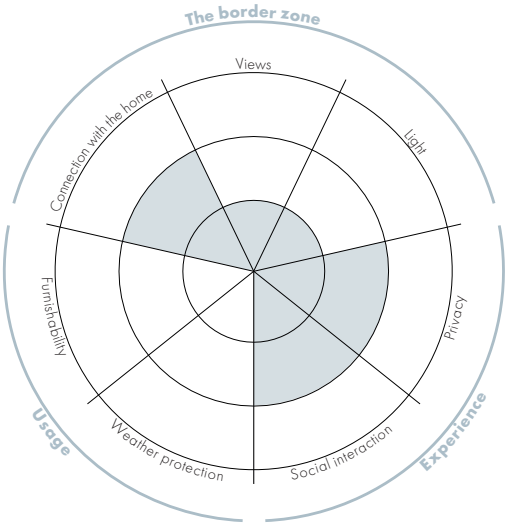
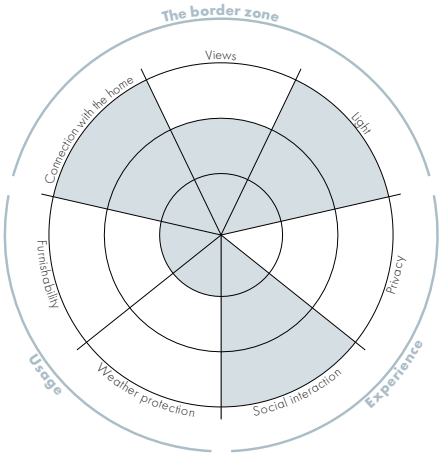
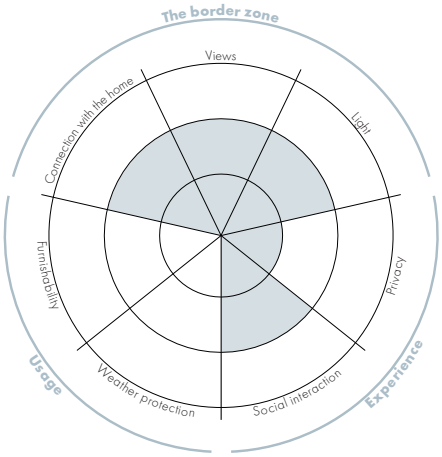


Fig. 22. Analysing diagram, Dirigenten.





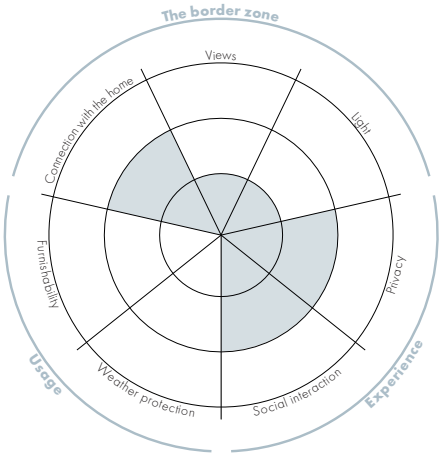


Fig. 23. Analysing diagram, Nejlikan.
Fig. 24. Analysing diagram,
Järntorgsgatan x Brogatan.
Fig. 25. Analysing diagram, Dirigenten.

SPANISH BALCONY

Nejlikan's sliding doors provide an excellent connection between indoor and outdoor spaces. Järntorgsgatan x Brogatan's balcony connects to both the kitchen and the living room, although it is not in the sight line from other parts of the apartment, reducing the connection between inside and outside. Dirigenten has a high connection to the home as the balcony connects to the apartment's one room. Although the balcony is small, it is visible throughout the entire home.

Nejlikan and Järntorgsgatan x Brogatan offer expansive views when stepping out onto the balcony. Dirigenten has limited views due to the design of the railing and the width of the opening towards the balcony.

Light is the aspect where the three case studies differ the most. Nejlikan has an exceptional level of light because of its large sliding doors and the width of the windows and the balcony. The other two projects have smaller openings allowing less light to pass through. Dirigenten also has a covering railing that limits the light further.

The opportunities for privacy and social interaction differ between the projects. Nejlikan's transparent railing and lack of protective walls reduce privacy but provide good opportunities for social interaction. Dirigenten and Järntorgsgatan x Brogatan also provide a high level of opportunity for social interaction. The size of the openings and the type of railing also give these projects a degree of privacy.

Nejlikan's balcony offers potential for furnishing and use as an extension of the living room, while Järntorgsgatan x Brogatan and Dirigenten have limited furnishing possibilities and weather protection.

Nejlikan's red-coloured sheet metal balconies and transparent railing create a modern appearance, while Järntorgsgatan x Brogatan's wrought iron railings give a sense of history and authenticity. Dirigenten's use of brick facade and sheet metal adds detail and harmony to the overall design.

CANTILEVER BALCONIES

FLATÅS PARK

Location Göteborg
Architect: White arkitekter
Year: 2020

Project description

Flatås Park is located in western Gothenburg. It is an area close to the city centre that has nature around the corner. The project consists of three six-storey apartment blocks on Nymilsgatan. A majority of the apartments have two balconies (Robert Dicksons stiftelse, n.d.).

The analysis is based on a two-bedroom apartment. The focus of this analysis is on the balcony facing the street and that is not glazed. The selected balcony connects to the larger bedroom.

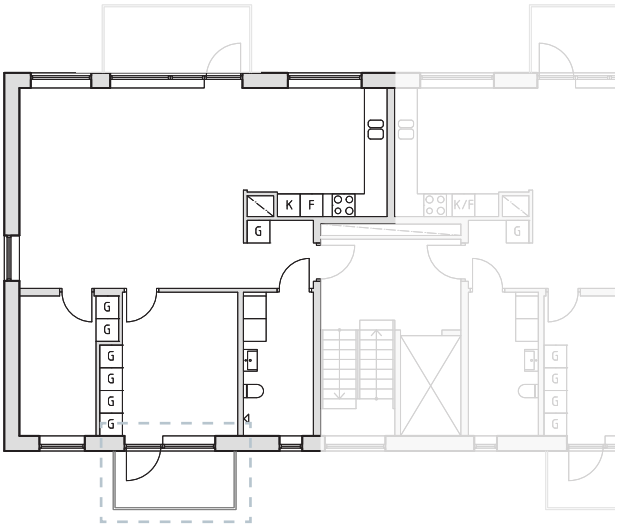


Fig. 26. Floor plan, Flatås park.

Fig. 27. Image facade, Flatås park.

THE BORDER ZONE

Connection with the home

The connection to the home is through the bedroom which makes it more private and less integrated than it would have been if the connection was through a more social room in the dwelling.

Views

There are multiple views in different directions and there is nothing covering the views.

Light

The balcony receives a lot of light throughout the day since there are no walls shadowing.

EXPERIENCE

Privacy

The cantilever balcony gives less privacy since there are no walls protecting. The covering railing strengthens the enclosed feeling and gives some privacy.

Social interaction

The possibilities for social interaction is high and the balcony's placement in the facade creates a lot of contact with the street.

USAGE

Furnishability

The furnishability is limited because of the openings that are hard to place furniture against. The size of the balcony also limits as well as the fact that the connecting room is a bedroom.

Weather protection

There is limited weather protected but the roof of the balcony above can give some protection from rain and sun.

MATERIAL AND DETAIL

The building has a brick facade and the balcony slab is made of concrete. The railing is made of perforated sheet metal which provides some protection and creates more privacy. The materials of the balcony do not show much connection to nature or traces of craftsmanship. There is some attention to detail as the railing provides privacy.

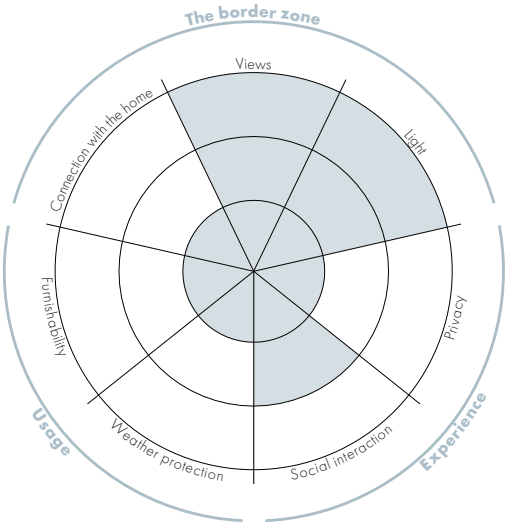


Fig. 28. Analysing diagram, Flatås park.

MEJERISTEN, KALLEBÄCKS TERRASSER

Location: Gothenburg
Architect: Liljewall
Year: 2022

Project description

Mejeristen, with around 270 rental apartments, consists of three tower blocks of 14, 16 and 18 storeys, which climb along the terraces of Lackarebäcksberget and blend in with the edge of the forest. Special care has been taken in the design to create a positive experience both at a distance from the city and in the neighbourhood. The standard floor has apartments with 1-3 rooms and kitchens (Liljewall, n.d.c). The apartment we are analysing is a three-room apartment with an outside balcony in a central location in the residence.

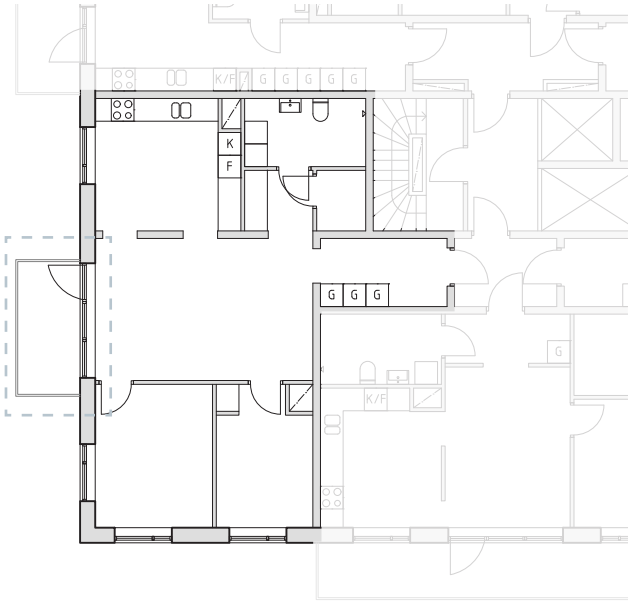


Fig. 29. Floor plan, Mejeristen.

Fig. 30. Image facade, Mejeristen.

THE BORDER ZONE

Connection with the home

The central location of the balcony in the apartment means that the connection between the balcony and the home is strong. There are large windows facing the balcony, which also strengthens the connection.

Views

Since the balcony is cantilevered, it offers multiple views in different directions without any walls covering.

Light

The location in the facade allows a lot of light to enter the balcony and the interior rooms of the apartment.

EXPERIENCE

Privacy

The privacy of the balcony is low, mainly due to the location of the balcony in the facade. The perforated sheet metal railing gives the balcony some privacy.

Social interaction

Opportunities for social interaction are good as the balcony is cantilever and faces the surroundings. The balcony is also close to the neighbour's balcony, making it possible to interact between the balconies.

USAGE

Furnishability

The furnishability of the balcony is medium, it is possible to furnish it with tables and chairs. However, parallel use is not possible and there are not so many options in how to furnish.

Weather protection

There is some weather protection from the balcony above that covers the balcony from rain.

MATERIAL AND DETAIL

Each building has its own character with painted concrete facades and marble plinths. All three towers have yellow detailing which contributes to a cohesive feel. There are carefully selected details such as balcony railings to reinforce the sense of value and pride for the residents. The railing is made of perforated sheet metal to provide some privacy but still let some light through and blend in with the facade.

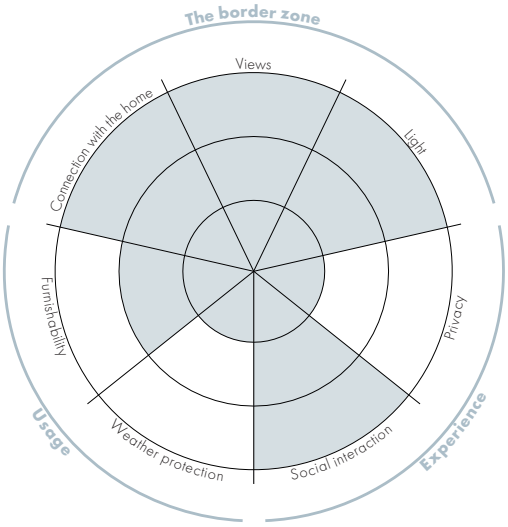


Fig. 31. Analysing diagram, Mejeristen.

GRÖNSKAN

Location: Gothenburg
Architect: Liljewall
Year: 2021

Project description

The Grönskan neighbourhood is located in the Delsjön nature area in Gothenburg designed by Liljewall. It consists of four brick buildings around a sunny courtyard (Liljewall, n.d.b). The apartment analysed is a 4-room apartment. The balcony connects to the living room.

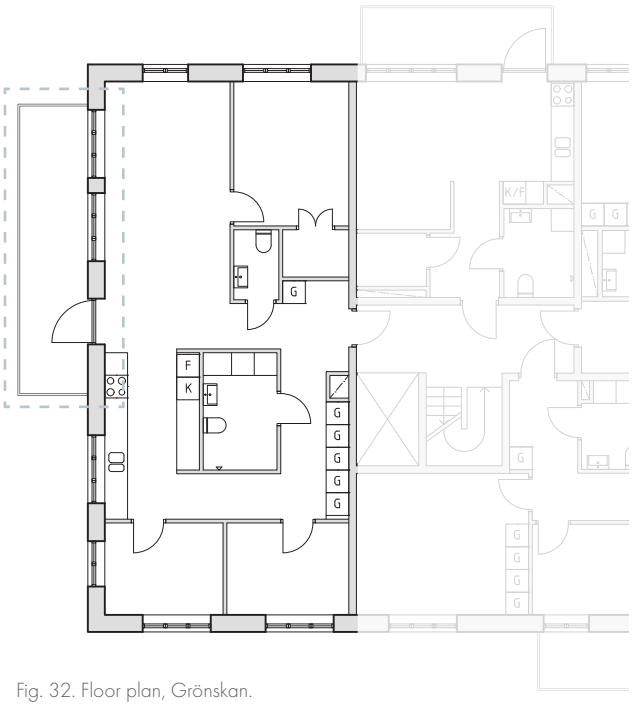


Fig. 32. Floor plan, Grönskan.

Fig. 33. Image facade, Grönskan.

THE BORDER ZONE

Connection with the home

The connection to the home is strong. Immediately upon entering the apartment, there is a line of sight to the balcony and there are several windows facing it.

Views

There are a lot of views from the balcony thanks to its protruding position in the facade. There are also many views from the apartment towards the balcony as there are several windows facing the balcony.

Light

The large number of windows lets a lot of light into the apartment. There is also a lot of light on the balcony thanks to the protruding position of the facade and the railing that lets light through.

EXPERIENCE

Privacy

There is limited privacy on the balcony. The railing is transparent and not protective and there are no sheltering walls.

Social interaction

Social interaction on the balcony is high. The location of the balcony in the apartment invites social activities on the balcony. The placement of the facade and the choice of materials also invite interaction with the surroundings.

USAGE

Furnishability

The balcony is highly furnishable, mainly because of its size and design. There is room for different types of furniture and parallel activity.

Weather protection

The balcony has a low level of weather protection, the balcony above provides some protection to the balcony below.

MATERIAL AND DETAIL

The facades of Grönskan are designed with embedded brick and varying joint colours to create a unique character and cohesion. The ground floors have patterned brickwork reliefs. Roof dormers and folded sheet metal add both character and quality to the upper floors and roofscape. The uniform design of windows and details creates a sense of calm, while the variation in brick and grouting adds dynamism to the buildings. The railing is a vertical steel railing. The attention to detail is often appreciated by residents.

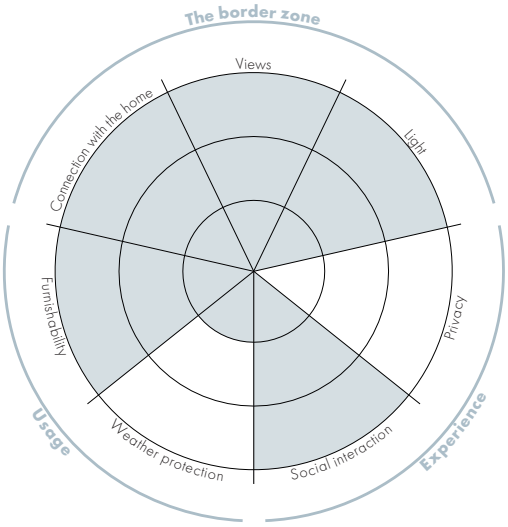
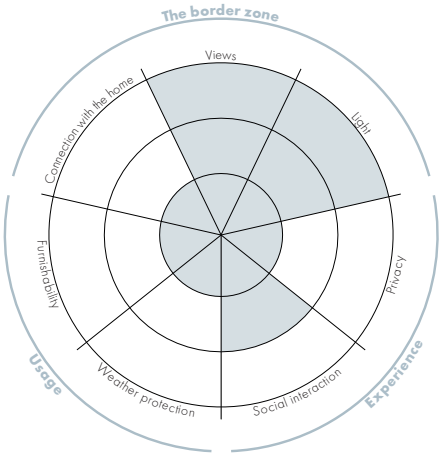
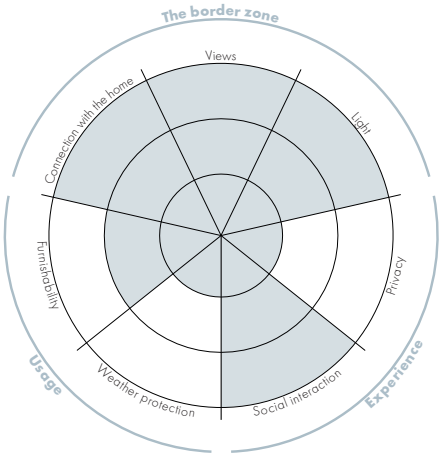


Fig. 34. Analysing diagram, Grönskan.





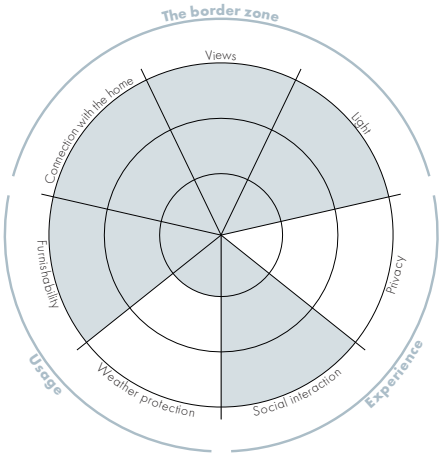


Fig. 35. Analysing diagram, Flatås park.
Fig. 36. Analysing diagram, Mejeristen.
Fig. 37. Analysing diagram, Grönskan.

CANTILEVER BALCONY

Flatås Park has a medium level of connection between the indoor rooms of the dwelling and the balcony since the balcony is connected to the bedroom. In contrast, the balconies of Grönskan and Mejeristen, which are connected to the living room and have a central position in the home, create an exceptional connection to the home.

All projects offer views in multiple directions both from the balcony itself and from inside the apartment. The three projects also have exceptional levels of light, with plenty of natural light on both the balconies and in the interior spaces.

Flatås Park and Mejeristen have perforated sheet metal railings that provide privacy but still let light through, while Grönskan's transparent railing compromises the privacy protection. The three projects offer good opportunities for social interaction because of the position of the balconies on the facade. The location in the home in Grönskan and Mejeristen adds to the social opportunities.

In terms of use, Grönskan stands out with its highly furnishable balcony, which offers space for different activities. Flatås Park and Mejeristen, on the other hand, have limitations mostly due to their size. The level of weather protection is medium in all three projects, with limited protection provided by balconies above.

RECESSED BALCONIES

YMER

Location: Malmö
Architect: White arkitekter
Year: 2019

Project description

The Ymer residential neighbourhood in Hyllie, Malmö, consists of three buildings with different character for each building through varying volumes and materials (White Arkitekter, n.d.).

In the analysis, we focus on the six-storeys brick building facing the park. The facade is folded and the angled bay window creates interesting views and a nice play of light. The apartment analysed is a three-bedroom apartment. The balcony connects to the living room but there are windows towards the balcony from the dining area as well.

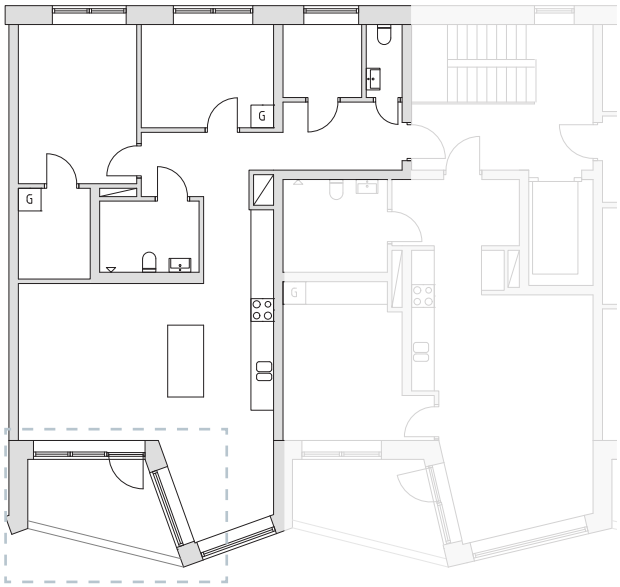


Fig. 38. Floor plan, Ymer.

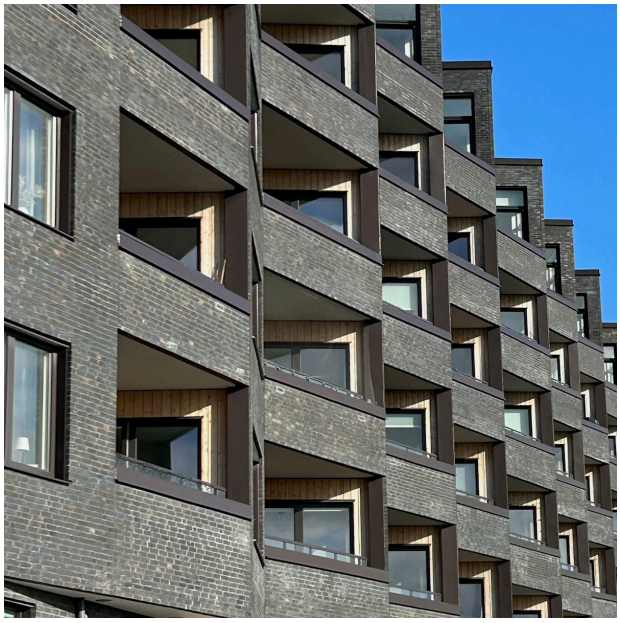


Fig. 39. Image facade, Ymer.

THE BORDER ZONE

Connection with the home

The connection with the home is strong since there are windows from multiple rooms out to the balcony. The connection would be stronger if there were more than one access point to the balcony.

Views

The views from the connecting rooms are possible in multiple directions. The views from the balcony are directed and limited by the surrounding walls.

Light

The balconies are directed towards the south which gives a lot of sunlight, although the railing together with the surrounding walls blocks a lot of sunlight.

EXPERIENCE

Privacy

The privacy of the balcony is excellent, the placement in the facade and the covered railing adds to the private feeling and gives the user a safe and private outdoor space.

Social interaction

The possibility for social interaction is limited because of the balcony's position in the facade and the covered railing.

USAGE

Furnishability

The high level of privacy makes the balcony more furnishable. The balcony is large enough for residents to have dinner. Although the openings and the design of the balcony makes it harder to furnish in different ways.

Weather protection

The recessed position in the building volume creates walls and roof that protects the balcony from different kinds of weather. The south position gives sunlight throughout the day.

MATERIAL AND DETAIL

The building has a brick facade and the walls of the recessed balcony are panelled in wood, which is an appreciated material as it shows authenticity. The lower part of the railing is in the same brick as the facade, creating a private balcony that is protected from the street. The upper part of the railing is made of glass that lets light through to the balcony. The project shows a fine attention of details and materials, creating a thoughtful perception of the building.

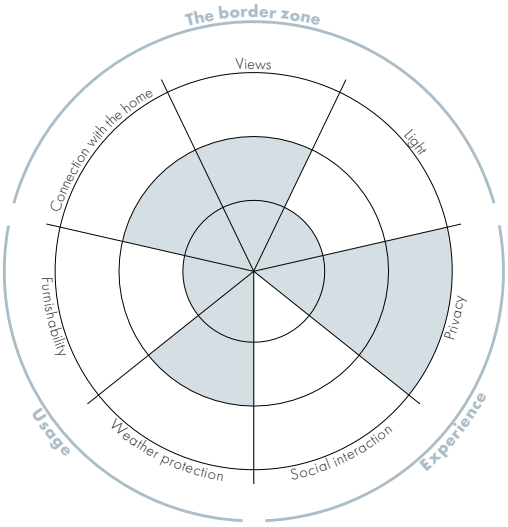


Fig. 40. Analysing diagram, Ymer.

BERGSKROKEN

Location: Krokslättsfabriker Mölndal
Architect: Wingårdh Arkitektkontor
Year: 2019

Project description

Bergskroken in Mölndal represents the large balconies. The six buildings are between seven and nine storeys high and are located in a park environment. The apartment selected for the analysis is a two-bedroom apartment. As the large balconies are the base for the analysis, the connecting rooms in this case are the kitchen, living room and one bedroom.

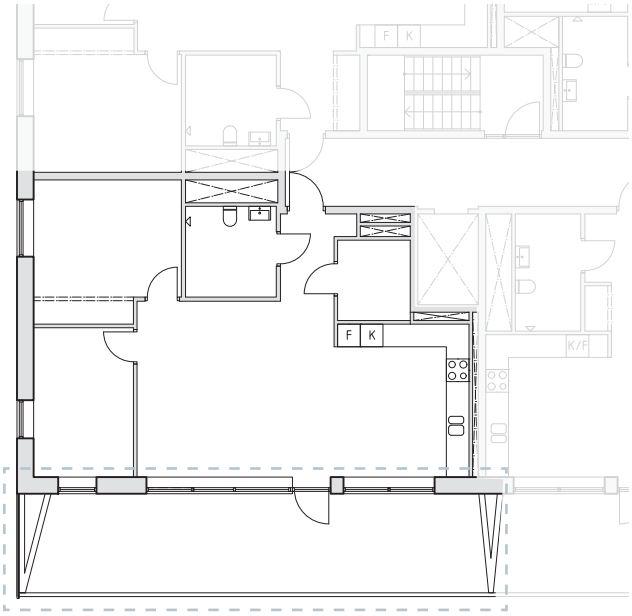


Fig. 41. Floor plan, Bergskroken.

Fig. 42. Image facade, Bergskroken.

THE BORDER ZONE

Connection with the home

The connection between the balcony and the interior rooms is strong. There are multiple large windows from different rooms creating a visual connection. There is only one access point to the balcony through the living room. The large balcony works as an extra room.

Views

The large amount of windows create the opportunity to a wide range of views through different windows. The large size of the balcony, and the fact that it is glazed limits the views from inside the apartment.

Light

The transparent railing lets the southeast sunlight through. Although the windows are multiple and large, the size of the balcony shadows and can limit the light into the apartment.

EXPERIENCE

Privacy

The recessed balcony creates an enclosed feeling and makes it feel as part of the home. This together with a calm surrounding gives possibility for privacy and social control. The glazing adds some extra privacy.

Social interaction

The balcony' position in the facade makes it private and low levels of opportunities for social interaction. The railing is transparent, which opens up for some social interaction between the balcony and its surroundings.

USAGE

Furnishability

The balcony size creates the possibility to furnish in different ways, and it is also possible to with parallell use.

Weather protection

The glazed balcony is well protected from different weather conditions and can be used through a large part of the year.

MATERIAL AND DETAIL

Bergskroken's facade material is stone slabs and there is a consistent attention to detail throughout the building. The balcony's walls and roof is panelled in wood which is an appreciated material and shows care of detail. The wood material together with the recessed placement of the balcony creates a safe feeling. The railing is a vertical steel railing. The residents have the opportunity to glaze the balcony and the balcony analyzed is glazed.

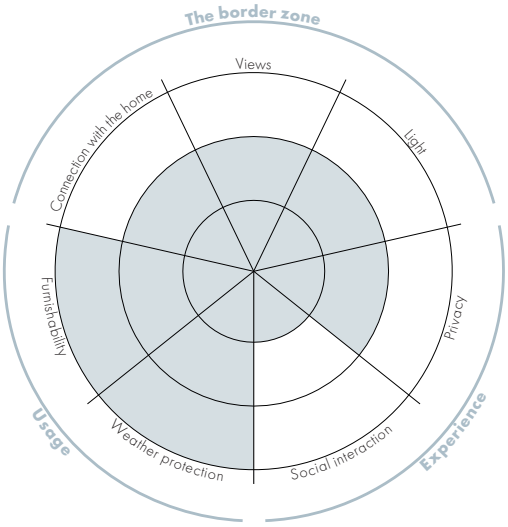


Fig. 43. Analysing diagram, Bergskroken.

ROSENDAHL

Location: Mölndal
Architect: Arkitema
Year: 2018

Project description

Rosendahl is located in Mölndal and consists of two tower blocks with a total of 80 apartments. The apartments are designed around large balconies that the rooms are grouped around (Arkitema, n.d.).

The apartment being analysed is a three-bedroom apartment with a large recessed balcony centrally located between all the interior rooms.

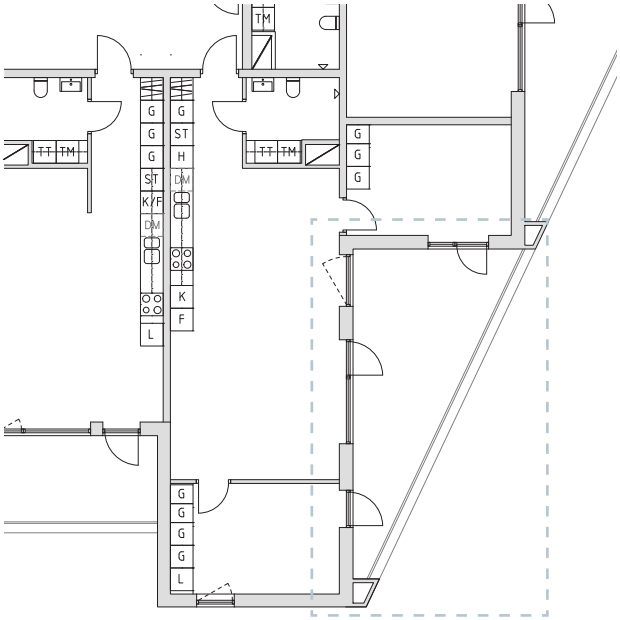


Fig. 44. Floor plan, Rosendahl.

Fig. 45. Image facade, Rosendahl.

THE BORDER ZONE

Connection with the home

The balcony has a strong connection with all rooms in the apartment. There is the possibility to go out on the balcony from all connected rooms. In addition, there are large glass panels that create a visual contact between the balcony and the apartment.

Views

Since there are many openings between the interior rooms and the balcony, views from different directions and from different rooms to the balcony are created. The views from the balconies are directed because of the design and the surrounding balcony walls.

Light

There is a limited amount of natural light reaching the balcony due to its semi-covered railing. The depth and size of the balcony shades and limits the amount of light entering the apartment.

EXPERIENCE

Privacy

The recessed balcony creates an enclosed feeling and its placement between the interior rooms makes it feel like part of the home. This, together with the half-covered railing, allows for privacy and social control.

Social interaction

The location of the balcony in the facade makes the space very private and provides few opportunities for social interaction. The design and layout of the balcony also reduces interaction between neighbours. The glazed part of the railing creates a connection between the balcony and its surroundings.

USAGE

Furnishability

The size of the balcony makes it very furnishable, there is room for different types of furniture and decorations. There is also room for parallel activity and for residents to personalise the space as they wish.

Weather protection

Since the balcony is recessed into the facade, it provides some degree of protection from various weather conditions.

MATERIAL AND DETAIL

The facades consist mainly of light-coloured facade panels but also green metal panels. Inside the balconies, the walls and ceilings are covered with wooden slats, which gives a warm and inviting feeling. The lower part of the balcony railing is an extension of the facade, while the upper part is glazed.

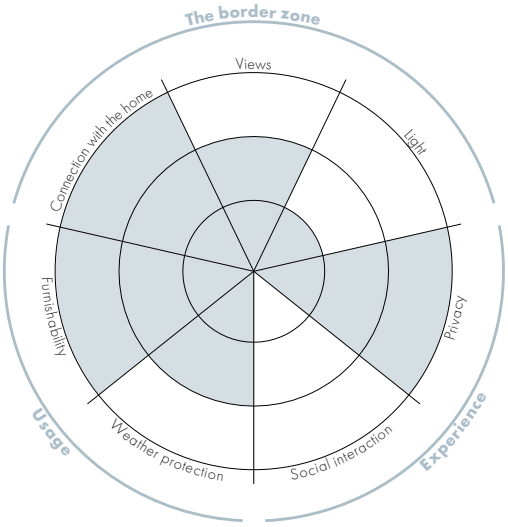
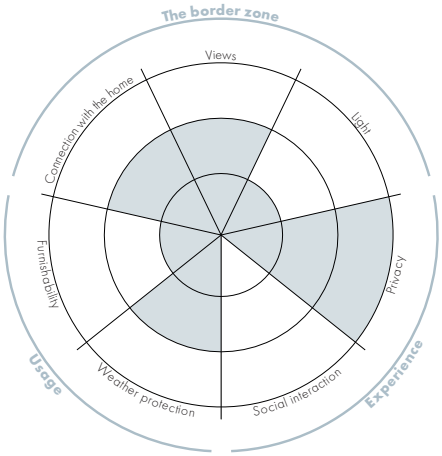
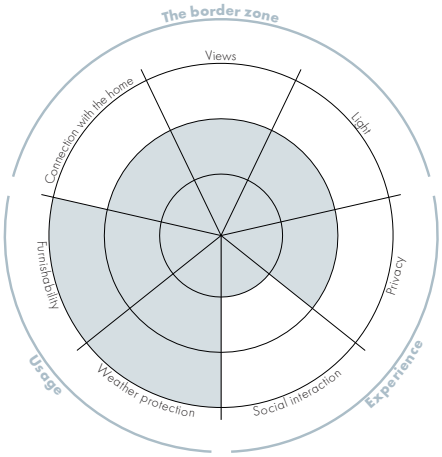


Fig. 46. Analysing diagram, Rosendahl.





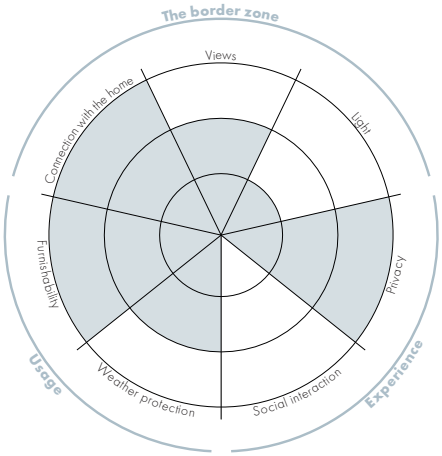


Fig. 47. Analysing diagram, Ymer.
Fig. 48. Analysing diagram, Bergskroken.
Fig. 49. Analysing diagram, Rosendahl.

RECESSED BALCONY

All three projects show a strong integration between indoor and outdoor spaces, with balconies providing visual contact from multiple rooms. Rosendahl and Bergskroken's centrally located balcony create a sense of continuity throughout the apartment and acts as an additional room with strong visual links into the home. Bergskroken and Ymer's balconies have a visual connection from several rooms but could benefit from more entrances to further strengthen the connection.

All the projects offer views with large windows, in Rosendahl and Ymer in several directions. The views are limited and directed to some extent by the walls of the balcony. However, all projects emphasise the importance of creating visual connections between the rooms and the balcony.

Rosendahl's semi-covered railing and Ymer's covered railing limit the light from entering the apartments. Bergskroken has a vertical steel railing allowing light to pass through. Rosendahl and Ymer's covered railing provide privacy but limits social interaction. Bergskroken is also perceived as private because of the surrounding walls, although the railing offers opportunities for social interactions.

The possibilities for use also vary, with Rosendahl and Bergskroken offering high furnishability, while Ymer offers limited furnishing possibilities due to its smaller size. Weather protection is considered in all projects because of the balcony's position on the facade. Design elements, such as glazing, create varying degrees of weather protection.

All recessed reference projects have wood panelling on the balcony walls creating a warm and inviting atmosphere, this also contributes to a sense of thoughtful design. In Bergskroken and Rosendal the roof of the balcony is also panelled in wood, displaying even more care for detail.

SEMI-RECESSED BALCONIES

STAPELBÄDDEN

Location: Göteborg
Architect: Liljewall
Year: 2011

Project description

Stapelbädden is situated at Lindholmen in Gothenburg. It is a neighbourhood close to the river and with a variety of typologies (Liljewall, n.d.d).

The apartment analysed is a one-bedroom apartment with a semi-recessed balcony that connects to the kitchen area, since it is an open-plan living the balcony connects with the living room as well.

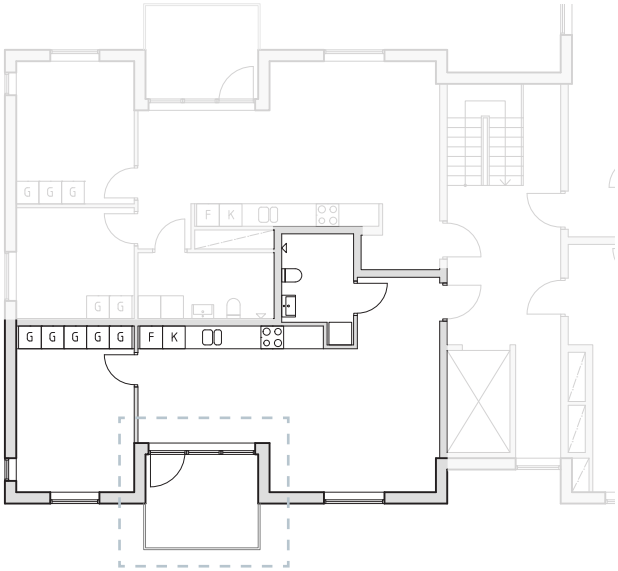


Fig. 50. Floor plan, Stapelbädden.

Fig. 51. Image facade, Stapelbädden.

THE BORDER ZONE

Connection with the home

The connection to the home is by the kitchen which is located in the centre of the apartment. Large openings between the indoor and the outdoor spaces of the home creates a visual connection.

Views

The recessed part of the balcony limits and directs the views from inside of the apartment. Meanwhile the cantilever part offers multiple views in different directions.

Light

The balcony is directed towards the east and lets the morning sun into the kitchen. The railing together with the cantilever part allow the balcony to receive sunlight. At the same time, the light in the apartment is reduced due to the recessed part and shading from the balcony above.

EXPERIENCE

Privacy

The balcony is to a high degree enclosed and private. The walls and the railing provide a private and safe space, while the cantilever makes the balcony less private.

Social interaction

The recessed part of the balcony is more private and has limited opportunities for social interactions. Although the cantilever part of the balcony offers some possibility for social interaction.

USAGE

Furnishability

The furnishability of the balcony is limited by the large openings and the size of the balcony. There is enough space for residents to have a dining table and some plants. The private feeling increases the usability.

Weather protection

The recessed part of the balcony together with the slab of the balcony above provides some degree of protection from the weather.

MATERIAL AND DETAIL

The material of the building analysed is white plaster. The railing is in tinted glass creating a cover from the street. The expression of the facade is harmonised and light. The materials used are mostly harder materials without traces of nature, craftsmanship or authenticity. Despite that, there is a coherent concept throughout the building.

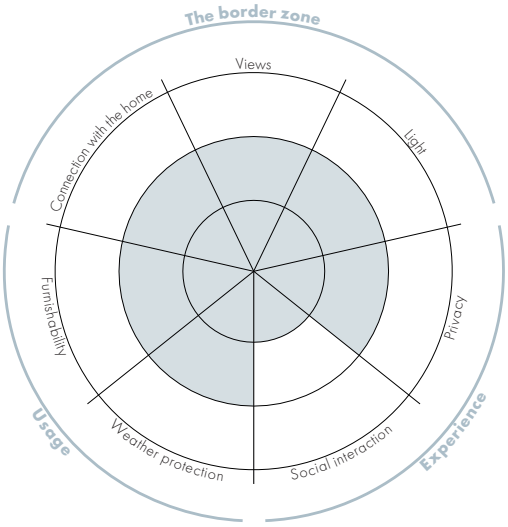


Fig. 52. Analysing diagram, Stapelbädden.

HSB STUDIO 2

Location: Gothenurg
Architect: Malmström Edström Arkitekter Ingenjörer
Year: 2017

Project description

Studio 2 is located in the Örgryte Torp neighbourhood in Gothenburg and consists of four multi-storey buildings with a total of 96 apartments (Malmström Edström, n.d.). The apartment analysed from this project is a three bedroom apartment. The semi-recessed balcony that is analysed is the one that is located adjacent to the living room and the bathroom.

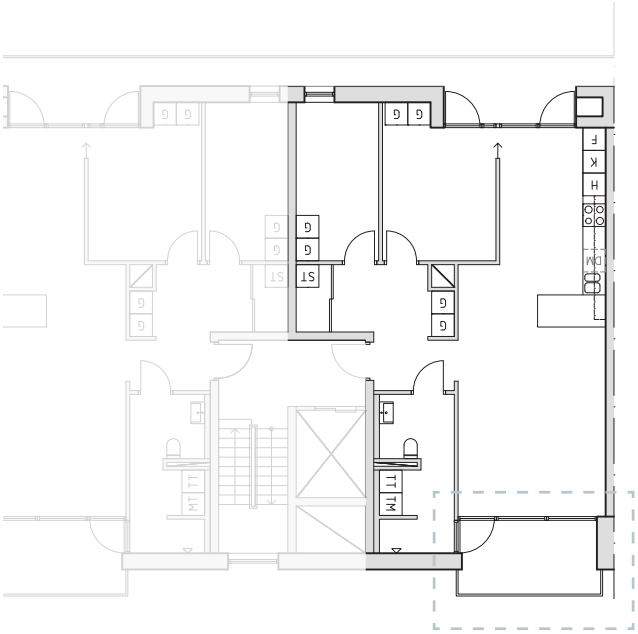


Fig. 53. Floor plan, HSB studio 2.

Fig. 54. Image facade, HSB studio 2.

THE BORDER ZONE

Connection with the home

The semi-recessed balcony has a strong connection with the dwelling. There are windows facing the balcony from several directions and from different rooms. Floor-to-ceiling window openings provide a strong sense of openness between the home and the balcony.

Views

The large windows allow for great views towards and through the balcony. The recessed part of the balcony directs and limits the views from the apartment, while the cantilever part enables views in several directions.

Light

The recessed part of the balcony can affect the amount of light that enters the apartment. However, the large openings in the facade allow for light to enter the living room. The railing allows light to reach the balcony as well.

EXPERIENCE

Privacy

The balcony can be perceived as relatively private, mainly due to the recessed part of the balcony. The cantilever part reduces the privacy and the enclosed feeling.

Social interaction

There are opportunities for social interaction on the balcony, especially on the cantilever part. The recessed part of the balcony is more enclosed and reduces the number of social interactions.

USAGE

Furnishability

The size of the balcony allows for different types of furnishing arrangement, but there is no room for parallel activity. The large window sections can also limit the possibilities for furnishing.

Weather protection

The balcony is relatively weatherproof, the recessed part is enclosed and protects against many weather conditions. The cantilever part is more affected by different weather conditions. There is also a possibility to glaze the balcony for those who want to.

MATERIAL AND DETAIL

Studio 2 has appreciated materials and details. The majority of the facade is brick but the balcony walls are made of wood. The balcony railings are vertical steel railing. The materials are tastefully selected and show thoughtfulness and a connection to nature.

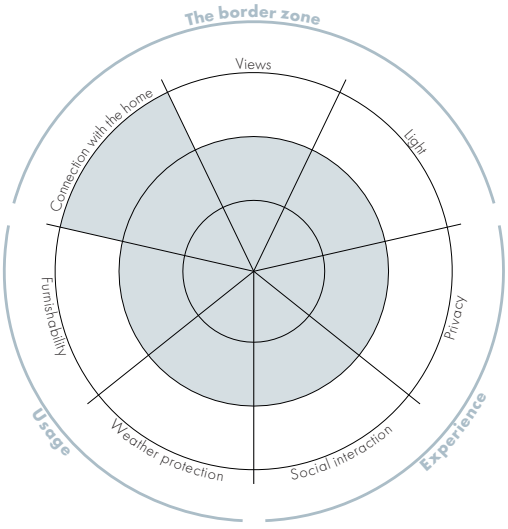


Fig. 55. Analysing diagram, HSB studio 2.

ALLMÄNNA VÄGEN

Location: Gothenburg
Architect: Liljewall
Year: 2016

Project description

Allmänna vägen is located in Majorna, Gothenburg. The modern buildings are surrounded by older governor's houses (Liljewall, n.d.a). The apartment analysed is a 3 bedroom apartment with a semi-recessed balcony. The balcony is adjacent to the living room and has visual contact from one of the bedrooms.

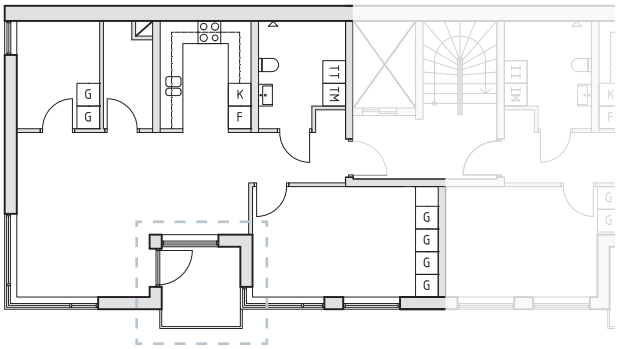


Fig. 56. Floor plan, Allmänna vägen.

Fig. 57. Image facade, Allmänna vägen.

THE BORDER ZONE

Connection with the home

The balcony's connection with home is very strong, particularly because of its central location in the apartment. From the living room there is both a door and a window towards the balcony, also one of the bedrooms has a window facing the balcony. This means that there is contact with the balcony from several directions and multiple rooms.

Views

The many openings to the balcony create views from different parts of the home to the balcony, but also through the balcony to the surrounding area. On the cantilever part of the balcony, there are free views in three directions, while the recessed part limits and directs the views.

Light

The glass railing of the balcony together with the cantilevered part allows the balcony to receive sunlight. The recessed part of the balcony blocks some light and thereby reduces the light in the apartment.

EXPERIENCE

Privacy

The balcony is relatively private as the placement in the facade contributes to an enclosed feeling. Nevertheless, the transparent railing together with the cantilever part makes the balcony feel less private.

Social interaction

The projecting part of the balcony offers some opportunity for social interaction. On the other hand, the recessed part of the balcony is more private and therefore provides limited opportunities for social interaction.

USAGE

Furnishability

The furnishability of the balcony is limited due to its size and the many openings in the facade. However, there is room for smaller balcony furniture.

Weather protection

The recessed part of the balcony is weatherproof and the upper balcony protects the lower one against some weather conditions. However, the projecting part is more affected by the weather as it is not as protected.

MATERIAL AND DETAIL

The building on which the analysis is based has black-painted wood shingles as the facade material. The balcony walls are as well covered in black-painted wood shingles. The cantilever part of the balcony is enclosed by a glass railing, which creates a strong contact between the balcony and the surroundings.

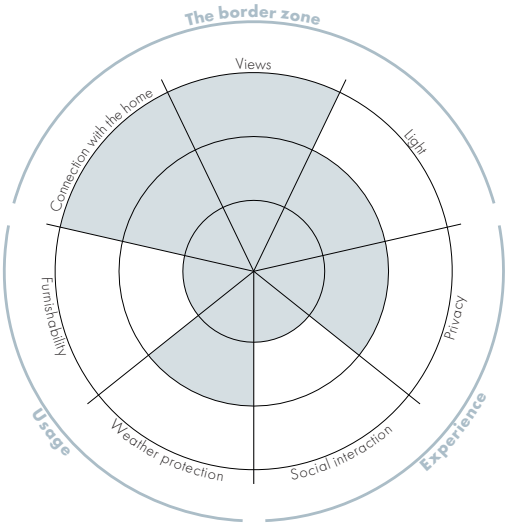
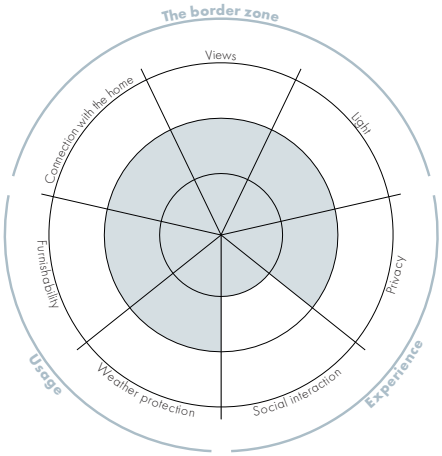
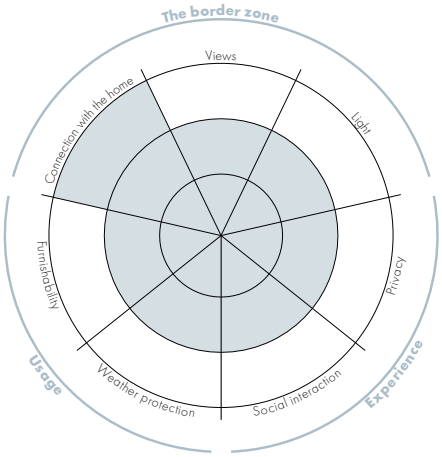


Fig. 58. Analysing diagram, Allmänna vägen.





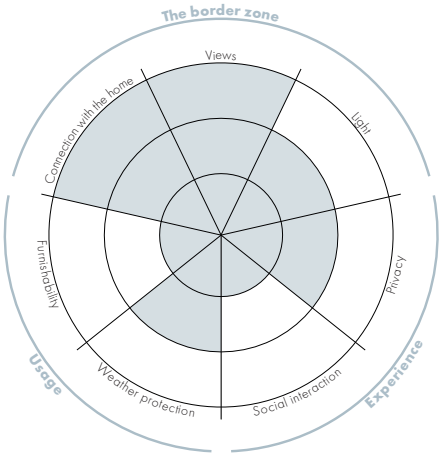


Fig. 59. Analysing diagram, Stapelbädden.
Fig. 60. Analysing diagram, HSB studio 2.
Fig. 61. Analysing diagram, Allmänna vägen.

SEMI-RECESSED BALCONY

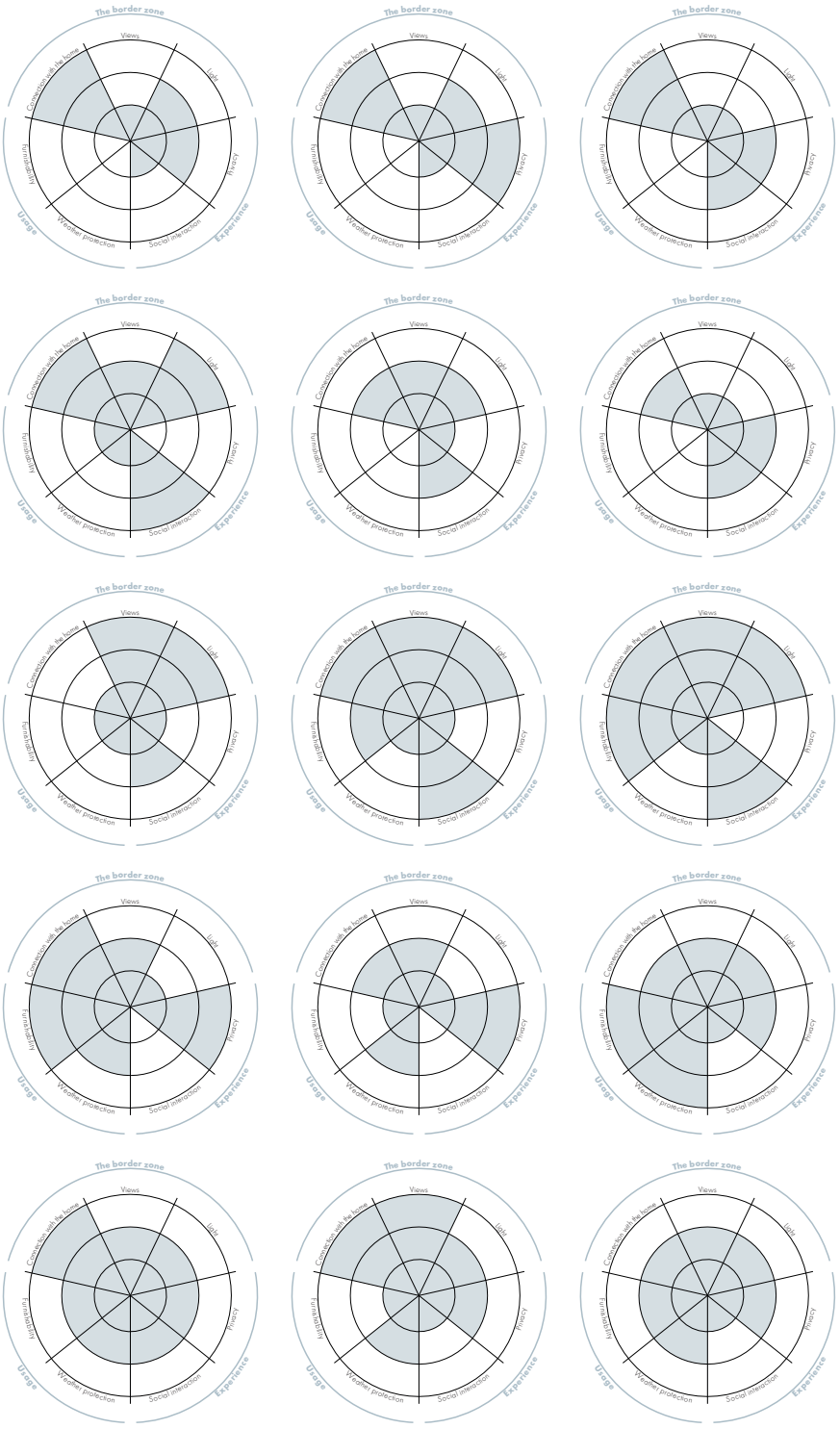
All three projects show a strong integration between indoor and outdoor spaces. Stapelbädden's balcony has a central location to the kitchen and living room. Studio 2 and Allmänna vägen's semi-recessed balconies offer exceptional connections to the home by having visual connection from multiple rooms.

All three projects have a recessed part that limits the view, while the cantilevered part of the balcony allows extensive views. This also applies to light, where the projecting part of the balcony has a lot of light while the recessed part has surrounding walls that reduces the light in the apartment and on the balcony.

All projects have a high degree of privacy because of the protective walls on the sides. The opportunities for social interaction vary, with Studio 2 having slightly more social opportunities due to its size and design.

All projects offer a high level of furnishability, Allmänna vägen offers slightly less furnishability due to the size and shape of the balcony. The location and design of the balconies provide a high degree of protection from the weather.

Stapelbädden's grey plaster facade and perforated sheet metal railing creates a harmonious and light expression, while Studio 2's brick facade and wooden balcony walls show a connection to nature. Allmänna vägen's black-painted wood facade and glass railing contribute to a modern design.



French balcony
Cortado
Cederhusen
Söderstaden

Spanish balcony
Nejlikan 2
Järntorgsgatan x Brogatan
Dirigenten

Cantilever balcony
Flatås park
Mejeristen, Kallebäcks terrasser
Grönskan

Recessed balcony
Ymer
Bergskroken
Rosendahl

Recessed balcony
Stapelbädden
HSB Studio 2
Allmänna vägen

Fig. 62. Analysing diagrams of case studies showing balcony qualities.

REFLECTION - CASE STUDIES

The border zone

The connection to the home is influenced by which rooms the balcony is connected to. An exceptional connection between the balcony and the home is created if the balcony can be accessed from several rooms or from social rather than private rooms. The connection is also influenced by the design of the openings on the facade. For example, a seamless transition between the inner and outer rooms can be created through sliding doors which allow the room to open and extend outwards.

The views both from the balcony and through the balcony are affected by the design of the interface. The analyses reveal that the different typologies have diverse conditions for views. The cantilever balconies allow views in three directions from the balcony, while French balconies only have a limited view through the opening. The results of the analyses show that the recessed and semi-recessed typologies have good opportunities for views from different rooms and directions towards the balcony. At the same time, the views are limited and directed by the walls of the facade.

Light and views are frequently connected and influenced by similar factors. Both principles are influenced by the design of the openings towards the balcony. Light is also affected by the material and design of the railing. A transparent railing allows light to be transmitted while a more solid and covering railing will block light.

Experience

The analysis demonstrates that both the private and social aspects of balconies often influence each other. In most cases, a balcony with a high degree of privacy has limited opportunities for social interaction, and vice versa. One example is cantilever balconies, where all case studies show high potential for social interaction but low privacy. Similarly, recessed balconies have high levels of privacy but limited opportunities for social interaction.

Recessed balconies and French balconies have the highest levels of privacy. This is due to their location on the facade. Recessed balconies have protective walls on the sides that contribute to the feeling of privacy. The French balconies get a private feeling through the walls of the apartment. The balcony railing also has an important function in the perception of privacy. An enclosed railing provides a sense of privacy but may also reduce light and views.

Social balconies are usually protruding, like cantilever and Spanish balconies. Besides the position on the facade, the degree of social interaction is influenced by the position of the balcony in the apartment. Balconies connected to the living room and kitchen encourage social interaction. Another factor that affects social interaction is the type of balcony railing, a less covered railing encourages contact with the surroundings.

Usage

The use of the balcony is influenced by its furnishability and ability to protect against different weather conditions. The size of the balcony is the most crucial factor for its usability. A larger balcony allows for different types of uses. Small balconies, such as French and Spanish balconies, serve mostly as ventilation and as a link to the surroundings.

The weather protection of the balcony often depends on its position on the facade, with recessed balconies offering protective walls and roofs. Glazed balconies provide good protection from the weather and can allow all year use.

Material and detail

The different case studies offer a variety of design elements and material choices that contribute to different atmospheres and functions such as privacy and social interaction. Wood, a valued material, is used in several locations to create a warm and inviting atmosphere, which together with other details demonstrates thoughtful design.

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LIST OF FIGURES

All figures not listed are produced and owned by the authors and therefore not listed in this section.

Fig. 2, 5, 8, 14, 17, 20, 26, 29, 32, 38, 41, 44, 50, 53, 56
Drawings received from the city planning office. The authors of this thesis have made changes to adapt it to specific requirements and preferences.