

THE MOTHER LIBRARY

Design brief

Developing a culture of reading, using architecture to encourage children in a digital age.



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THE MOTHER LIBRARY

Introduction

In today's digital age, where screens and electronic devices have become an integral part of the daily lives of children, promoting a love for reading in traditional books can be a challenging effort. Children read less and less. Reading books is often seen as boring and libraries as dusty places. As we navigate a world flooded with technology, it becomes increasingly important to explore innovative and engaging ways to seed a passion for reading in the younger generation (-Marry Hundson, 2020, p. 10). Architecture can offer a unique medium to address this challenge. The mother library will become a children's

library in the city of Berlin that will positively influence the experience that children have with books and libraries. A place where love for books will be born. This research attempts to investigate the connection between architecture and literature, considering how the design of spaces can influence a child's engagement with books. By doing so, the aim is to contribute to the development of strategies that not only encourage children to read more but also improve their understanding and enjoyment of books in a digital world.



Figure 1: which gives an idea of how technology and media can close us off and distract us from other things.

PROBLEM STATEMENT

Research question

To what extent can architecture serve as a medium to help children read more books and explore the world of reading in the digital age?

Problem statement

The decline in children's engagement with reading, especially in the face of the growing digital age, is a big concern for education and child development. The impact of this is very clearly visible in Germany, where statistics from German newspapers reveal that 1 in 4 children does not attain the required reading ability levels (Local, 2023). This alarming fact highlights a significant problem, reflecting both an educational and societal challenge, and is directly connected with children reading fewer books. (D.Ferguson, 2020)

The loss of reading pleasure is seen as one of the most important causes of the decline in reading skills (Van Der Horst & Moerland, 2024). In Figure 2 the graphic shows the decrease of reading pleasure of children from 2011 until 2022, Investigated by The Reading Foundation. In an era where students prefer to spend time on their mobile phones, reading a book is no longer self-evident for them (Van Der Horst & Moerland, 2024). The lure of fast entertainment options, competing with the slower pace of reading, affects children's reading pleasure, particularly those with shorter attention spans, due to social media. Digital distractions, known for their addictive qualities, don't help children from engaging in reading (D. Ferguson, 2020). But social media is not the only problem. Compulsory literature in schools and how schools approach reading does not suit 21st-century children. For a long time, the standardization of education made it possible to lift whole generations away from analphabetism and, indirectly poverty, but things have changed over time (bosch, 2021, p. 22).

Reading pleasure children

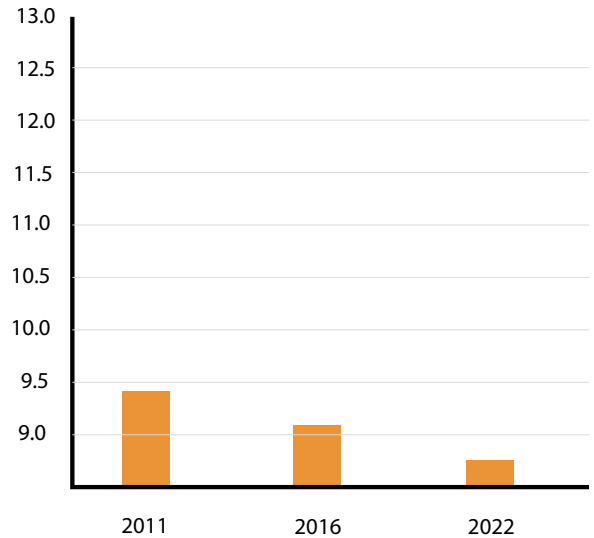


Figure 2: The reading foundation: Reading pleasure

Required reading at school

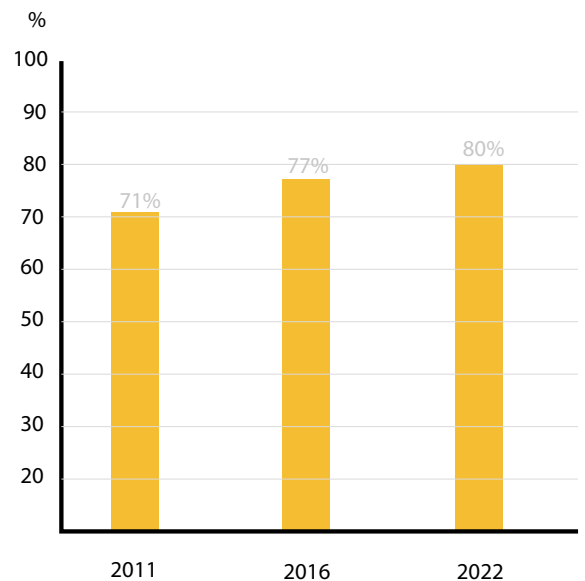


Figure 3: The reading foundation: Required reading

Reading pleasure vs required reading

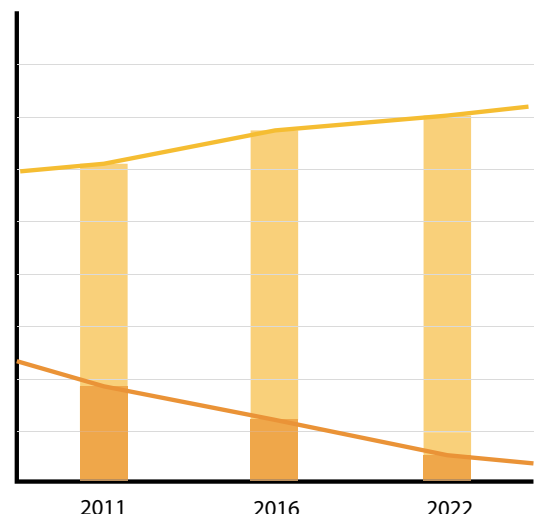


Figure 4: Composite graph of figure 1 and 3

PROBLEM STATEMENT

As shown in Figure 3, more and more attention is being spent on compulsory reading in schools, and despite this, children continue to decline in reading skills. Compiled in Figure 4, a picture is created that shows that in the same years that reading has become more mandatory in schools, reading enjoyment among children has also declined. The compulsory reading of books and new technologies together seem to be the main cause of the fact that children read less for pleasure and why their reading level seems to decline.

The effects of children reading less have a wide impact. The digital era has shown an overflow of distractions, from video games to social media, shifting young minds away from the world of books. While technology can offer valuable learning experiences, it often competes with reading (D. Ferguson, 2020). In Figure 5 the daily entertainment of adolescents is shown. Shows that 76% use social media on a daily basis and only 11% reads a book on a daily basis. Which is problematic. This seems to differ per age group, but as visible in Figure 6, the older children get, the less they read at home.

Daily entertainment for 12-18 year olds

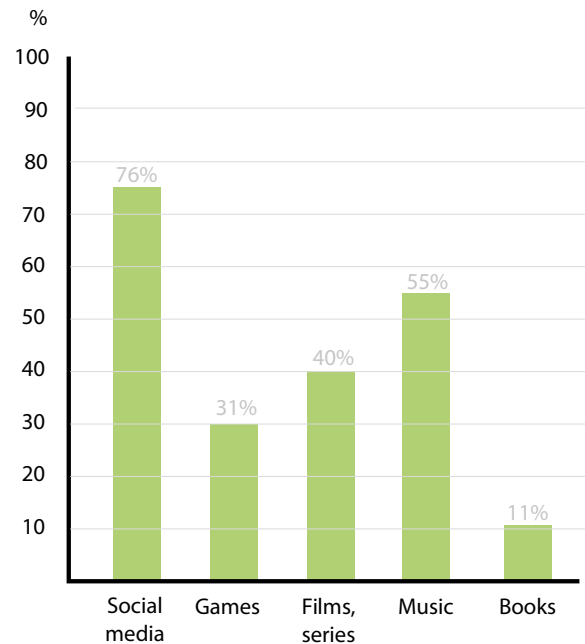


Figure 5: The reading foundation: Daily entertainment

Reading at home by age

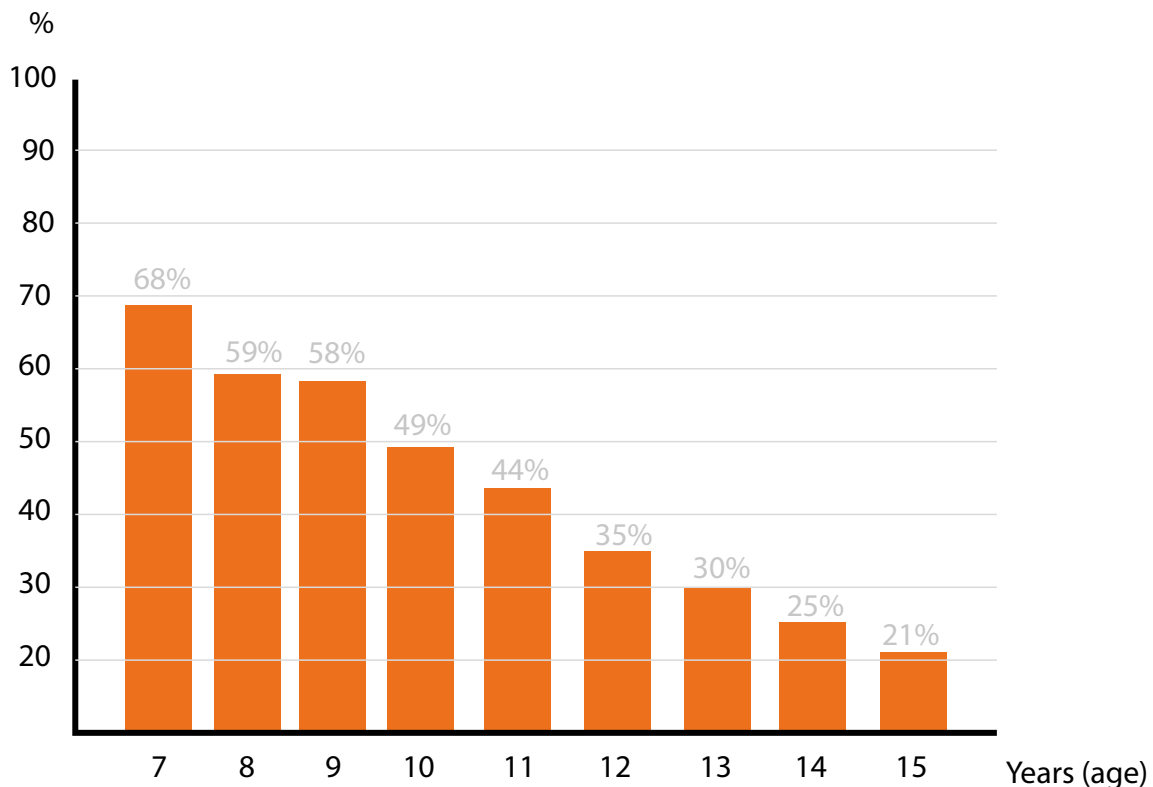


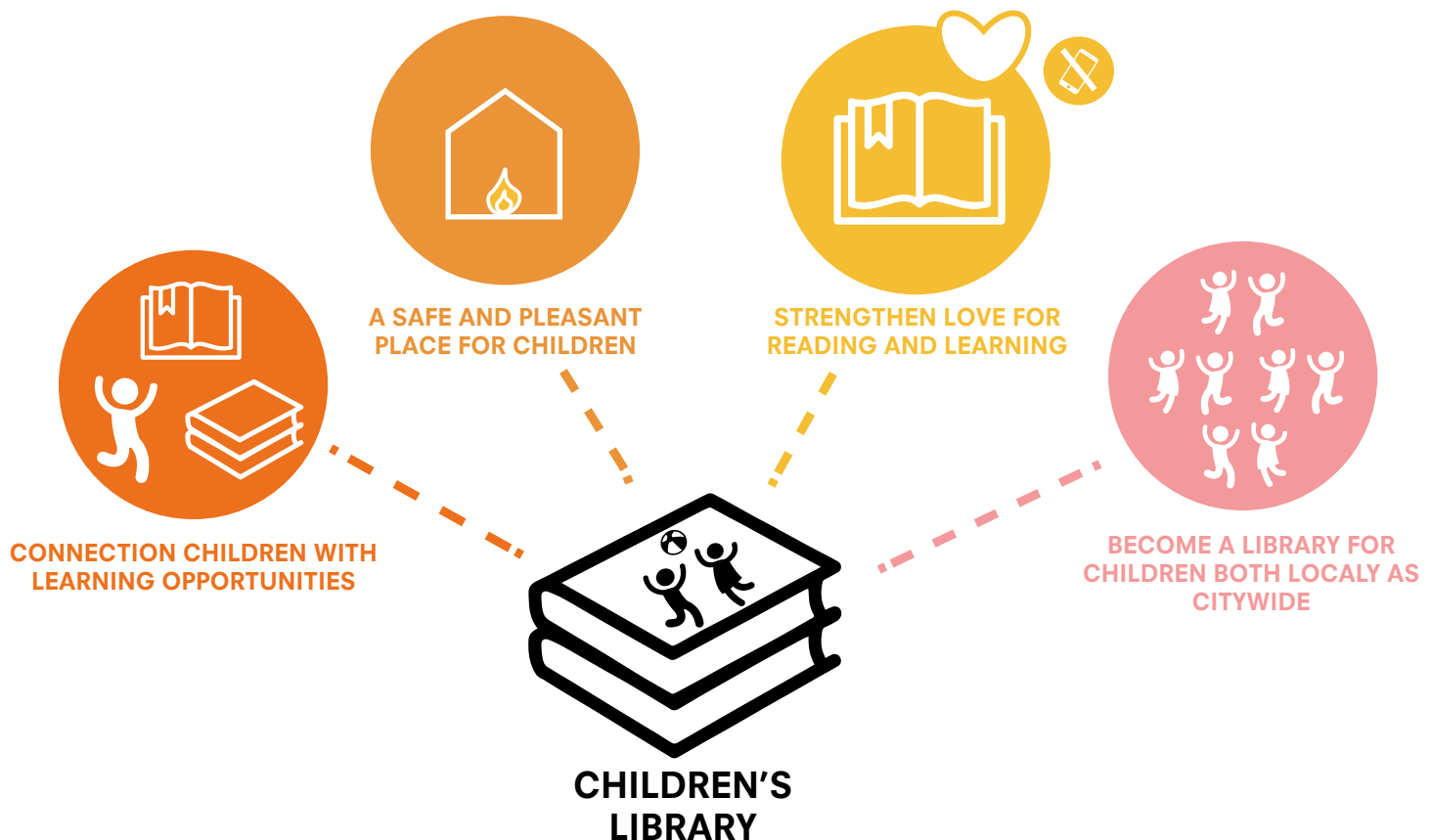
Figure 6: Reading at home

LIBRARY AMBITIONS

Ambitions

The main ambition for the mother library is: To become a place that helps the children of Berlin find their pleasure in reading and have an overall effect on the reading abilities of children in Berlin. To achieve this main ambition, the library's ambitions are: to connect children with learning opportunities, a safe and pleasant place for children, to Strengthen their love for reading and learning, and to become A library for children both locally and citywide. To ensure that a place is created where children get a good new experience with reading, it is important to create a place where children can feel safe, where other opportunities are

also used to achieve a broader range of learning opportunities, and of course, it is of great importance to reach as many children as possible. To ensure that a place is created where children get a good new experience with reading, it is important to create a place where children can feel safe, where other prospects are also used to achieve a broader range of learning opportunities and of course, it is of great importance to reach as many children as possible. How to achieve these ambitions will emerge from the research.



THE MOTHER LIBRARY

Methodology

Methods

To investigate the impact of architectural design on children's reading habits in the digital age, this research will use a multifaceted research approach. Based on research into the site, client, and program, design principles are specified that can lead to the stimulation of reading in architectural space. Research will be conducted for each chapter on the basis of analysis and literature. Each chapter will have its own conclusion, from these conclusions an overall conclusion will emerge with the design principles and and constraints for the building. The most important sources used for the research will be clarified below.

Sources

Imagination and participation

Joyce Sternheim, R. B. (2021). Imagination and participation. Rotterdam: Marcel Witvoet, Publisher: nai010.

"Imagination and Participation" is a valuable resource for this study because it explores how architectural design can enhance people's participation and creativity in educational settings, particularly within the context of evolving libraries into societal hubs. This aligns with the goal of creating engaging reading spaces to inspire children's love for books in the digital era.

Planning and designing libraries for children and young people

Michael Dewe, R. B. (1995), library association publishing. London

"Planning and Designing Libraries for Children and Young People" provides insights into creating library spaces that cater to the unique needs and preferences of young readers. The book not only discusses architectural design but also addresses the importance of considering children's perspectives. This aligns perfectly with the aim of developing innovative reading spaces for children.

Improbable libraries

Alex Johnson, R. B. (2015), publisher: the university of Chicago Press

"Improbable Libraries" is an exploration of extraordinary and innovative libraries worldwide. The book sheds light on unconventional library designs, and how they redefine the role of libraries in communities. It's an excellent resource for understanding unconventional yet inspiring approaches to library design and how these spaces can inspire and engage readers in unique ways. This book aligns with our research focus on designing imaginative and engaging reading spaces to encourage a love for books.

Planning learning spaces

Murray Hudson, T. W. (2020). Planning learning spaces. London, United Kingdom: Laurence King Publishing Ltd.

"Planning learning spaces" describes and analyses modern learning environments designed for children. Several theories are discussed here about what stimulates children, how children learn best and what thrives them.

Play to learn

Bosch, R. (2021). Play to learn. Copenhagen, Denmark: Rosan Bosch studio.

Susan Bosch is a Danish architect who is famous for her designs specifically oriented around the child. Bosch has designed many award-winning schools and has also designed many children's libraries/children's departments for libraries. Schools designed by Rosan Bosch were also used for analysis in the study.

Client

01

WHO IS THE CLIENT?

The clients

The mother library (children's library) will be founded on the initiative of the city of Berlin (the municipality). They will be in collaboration with The Reading Foundation Berlin and The Association of Public Libraries Berlin. These two parties bring both expertise and interests to the table. The Reading Foundation Berlin already does a lot of campaigns to get children to read, such as National Reading Day. Their focus is often on the whole family because, according to them, parents play an important role in a child's future reading pleasure. They also focus on educators, teachers, and institutions. Their expertise in this area will play an important role in the connection between the library and the users.

The Association of Public Libraries Berlin has more than 80 libraries under its supervision. Over the years they have seen a decrease in library use. They have started to make a switch to offer as many digital options as possible and also have the slogan: we make media move, in the hope of attracting more young users. The municipality of Berlin, which is concerned with guaranteeing adequate education, is dealing with the national problem of children who underperform on European reading standards. In collaboration with the two other parties, the municipality of Berlin can set up a library that aims to reach the entire city of Berlin and thereby can address part of these problems.

Clients



**Municipality
of Berlin**

Goal:

**Urban improvement on
an educational scale**



**Reading
foundation Berlin**

**Stimulate the
development of reading**



**Association of public
libraries Berlin**

**Encouraging library
use and keep up with
modern times**

CLIENT AMBITIONS

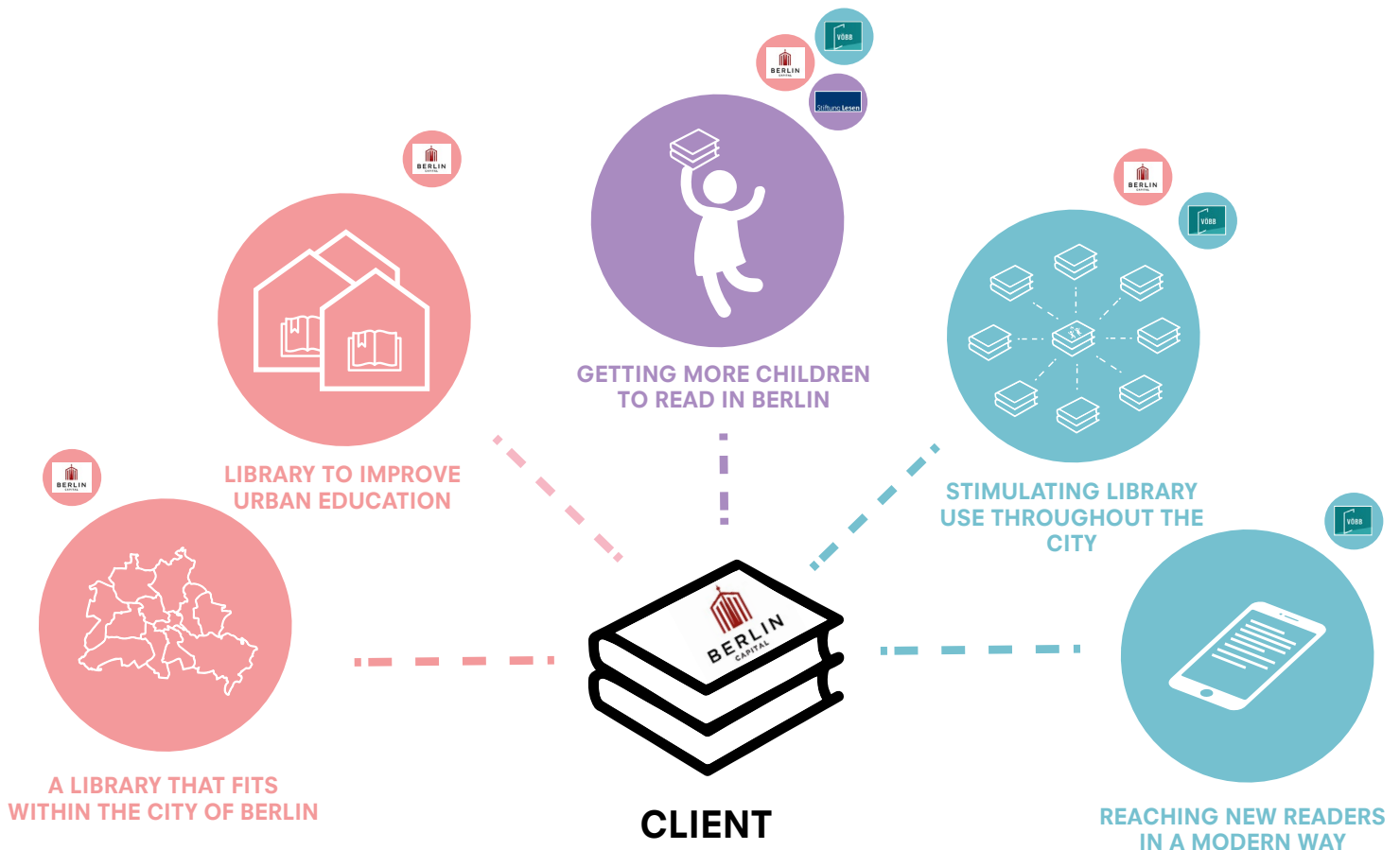
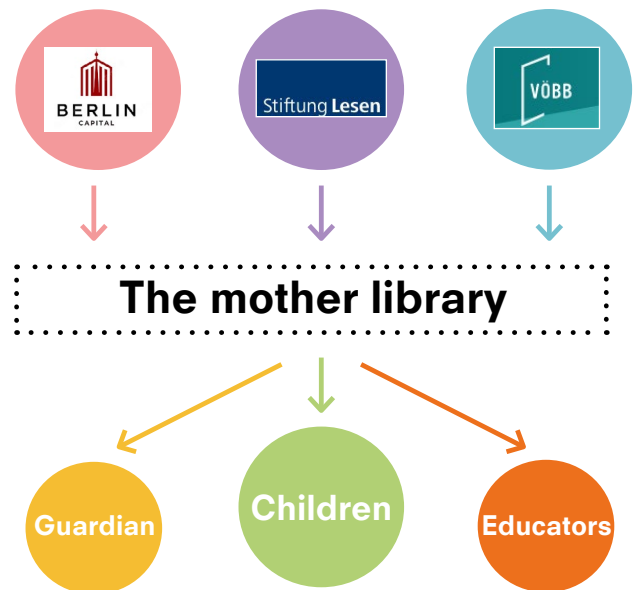
Ambitions

The ambitions of the three main clients are strongly aligned, where one places more emphasis on reading, the other more on education or use of the library in general, there is a joint main goal. To bring the reading level in the city of Berlin to a higher level. As shown in the image aside, the three organizations will reach children, children's guardians, and educators through the children's library. By not only focusing on children but also on guardians and educators, more impact can be made because you spread the influence better to the home and education fields.

Main ambition

Bring the reading level in the city of Berlin to a higher level

From client to user



CLIENT: BERLIN CITY

Connect to the city

To be successful on an urban scale, it is essential that a public building also fits well with the urban environment. In the chapter: location, this is explored more broadly, but to connect with the client it is also important to take into account the feelings and appeals of the city. To make a thriving library, the building should reflect the character of the city (Joyce Sternheim, 2021, p. 27). To serve the diversity of people and cultures in the local community, it needs to reflect a variety of ideas, information, stories, and experiences (Joyce Sternheim, 2021, p. 7). Berlin is a city that almost doesn't feel European. While many cities have small streets and old centers dating back to the Middle Ages, Berlin's history is much closer to the present. The war and Cold War gave the city a rough edge that is still strongly reflected in today's image. The city screams freedom and culture,

with people making music, creating art with graffiti, and many flea markets all over. These elements sculpt the character of the city into what it is today.

Elements of the city into the library

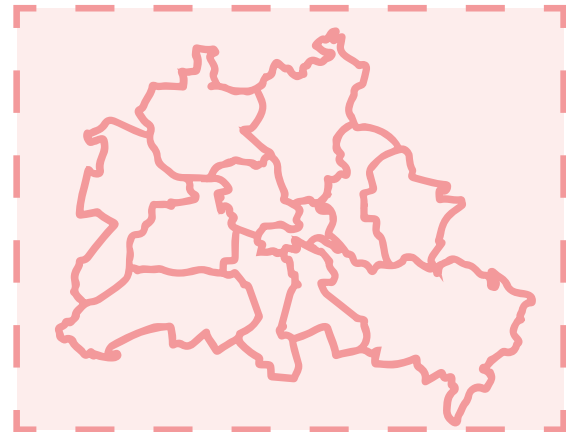


Figure 7: Design principle: Elements of the city

Character of Berlin

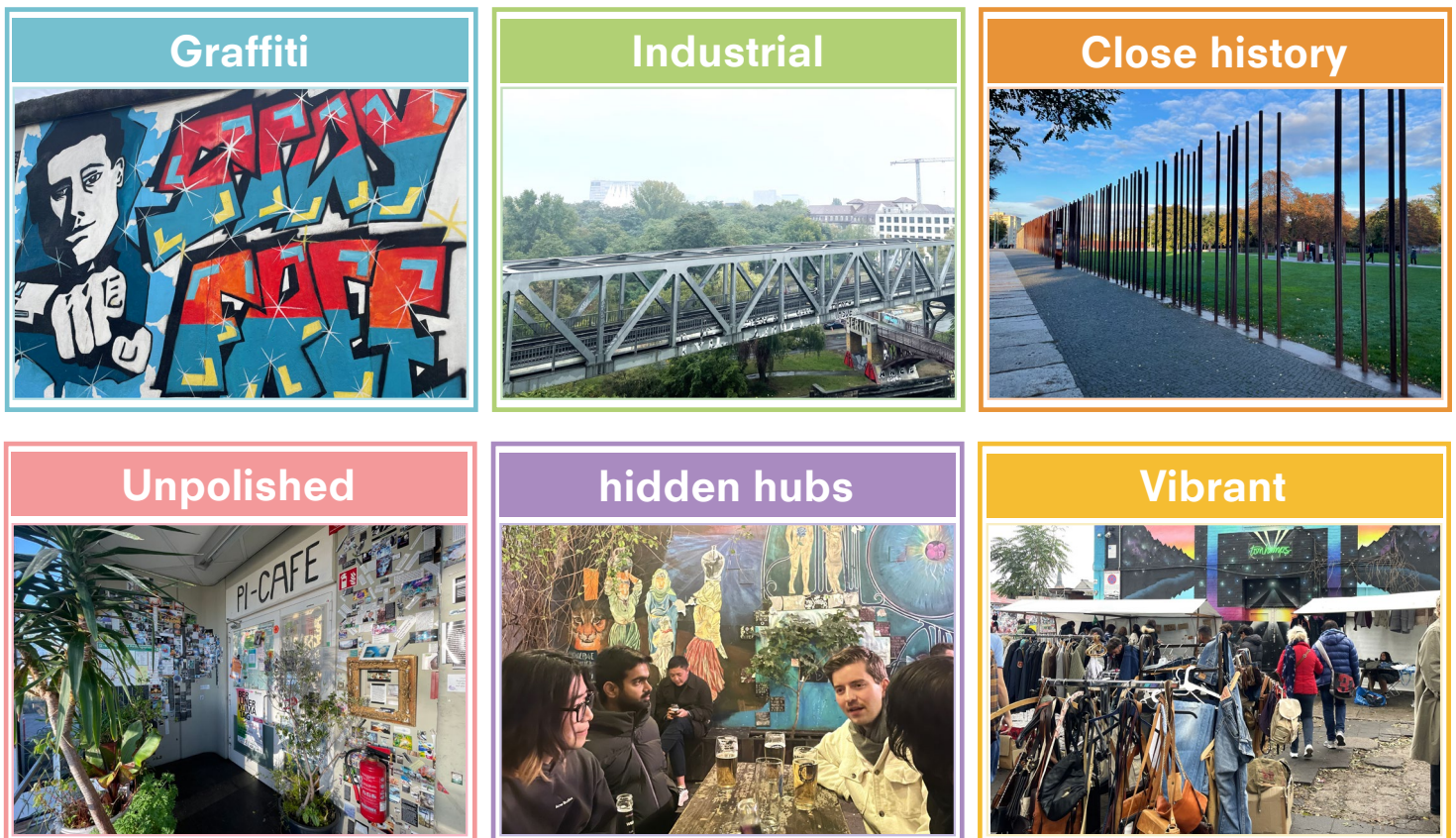


Image 1-6: Self-made photos of Berlin, Luka Zantman

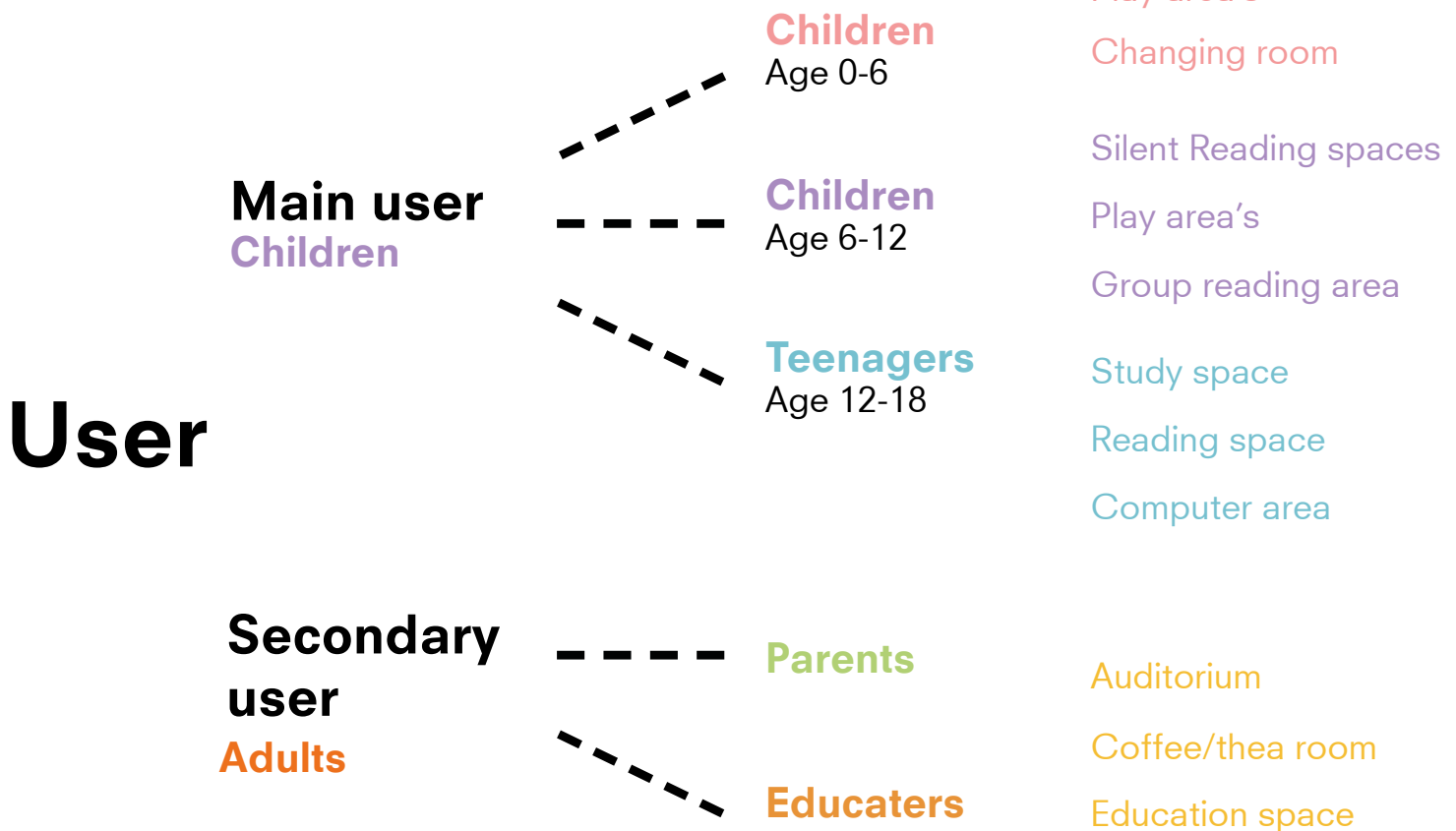
USER

Users

The mother library will mainly be a library to help children with reading and learning. When working with children, it is the people with whom children come into contact that have a major influence. It is therefore very important to involve them strongly and to provide space in the building where these developments can take place. Space is provided for this in the form of consultation rooms and large halls for conferences, but also on a small scale within

the program. The Reading Foundation Berlin strongly believes that reading from parent to child is very important for reading development. So providing space for aloud reading places within the program is important on a small scale.

User and space needs



USER: CHILDREN

Age and growth

From the moment they are born, children are driven by deep curiosity to explore the world around them (Marry Hundson, 2020, p. 10). All children are born creative and eager to learn, curiosity is coded in our DNA (bosch, 2021, p. 11). Every child experiences their own growth at their own pace, but in many areas, the child's needs are also strongly related to their age. For example, preschoolers need a sense of their own space, a place where they feel safe at home (Marry Hundson, 2020, p. 42). At this young age, safety is very important, as we get older, more and more freedom and discovery, play a more important role. The older children get, the more adventurous they become and the more space they need for this. While children look up to their parents and ask

for a lot of affection and parental guidance, teenagers distance themselves.

At the end of the 19th century, the importance of separate children's departments in libraries was first recognized. However, it was not until 1985 that the library association came up with a recommendation for separate departments for teenagers (Dewe, 1995, p. 99). The separation between a children's department and a teenage department is important because teenagers experience a crucial development between childhood and adulthood, that requires different needs.

Age-orientated division of space

Space division based on the above research points

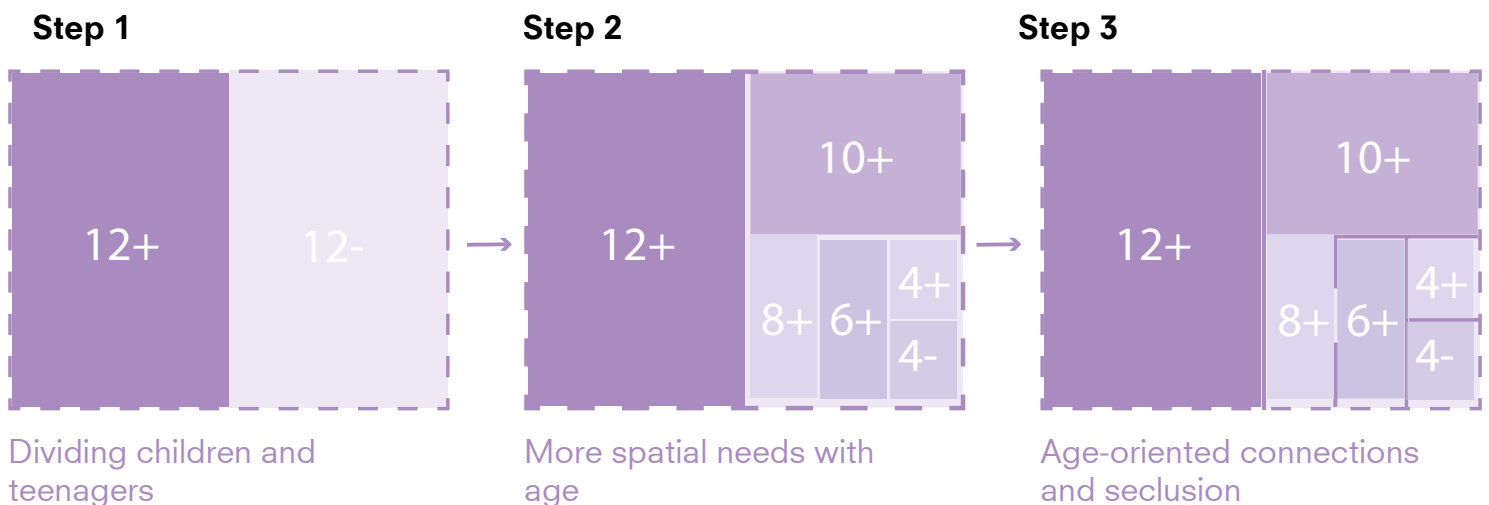


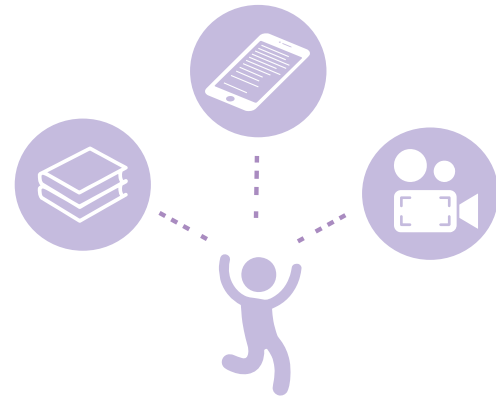
Figure 8: Design principle: Age division

USER: CHILDREN

The importance of choices

Many ways of raising and learning impose restrictions on children. But it is precisely freedom and choice that ensure that children show initiative in what they want to learn. Children prefer not to be pushed into boxes and learn in different ways at different speeds. According to architect Rosan Bosch, who has designed many buildings aimed at children, choices and play are the magic words that make a child want to learn. Access to a quiet space for personal reading in an environment with more choice over how to relax, read, and access other resources has value for younger learners (Marry Hundson, 2020, p. 58). By offering a wide range of various sensory, social, spatial, and motoric experiences and options, the physical environment can stimulate learners (bosch, 2021, p. 66). The space around us can facilitate this choice and therefore inspire children. To start planning these spatial rooms, it can work well to consider a mixed degree of openness to the surroundings, from private and semi-private to open space (Marry Hundson, 2020, p. 40).

Multiple choices



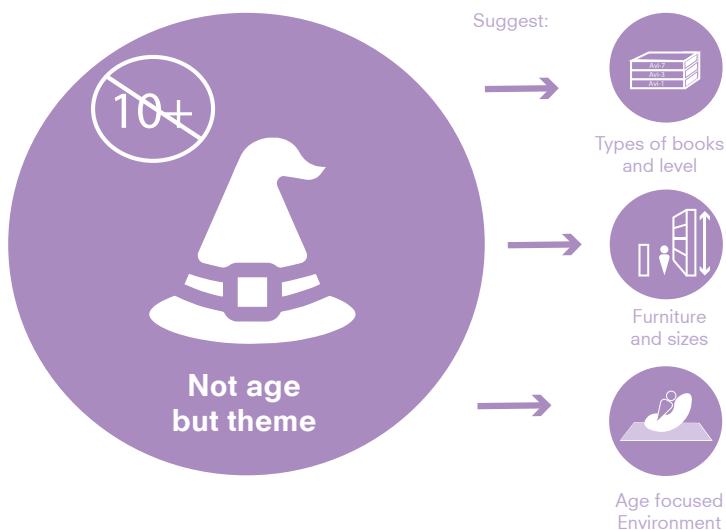
Choices in activities, entertainment, and learning



Choices in Location and space

You determine your level

Don't force but suggest, let children decide for themselves where they belong



The power of choice

space that allows the child to determine his or her own path, stimulates the will to learn and read

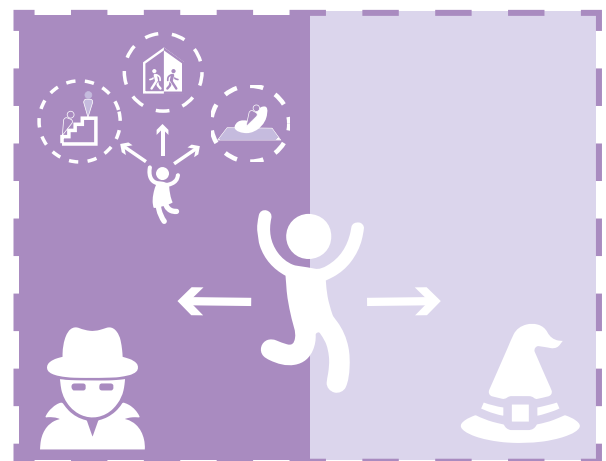


Figure 9: Design principle: Choice and freedom

USER: CHILDREN

The user and digitalization

Libraries are no longer our main source of knowledge and information, so how are they relevant in the digital reality of twenty-first-century societies (bosch, 2021, p. 131)? For the majority of people, the internet and online social networks have become the primary sources of information (Joyce Sternheim, 2021, p. 8). This makes a big impact on the lives and development of children. Due to the many quick movies on social media, children's ability to concentrate has drastically decreased in recent years. This also often means that reading a book requires too long a tension span. The youngest target groups seem to suffer from this the most, partly because they came into contact with it at a younger age. The graph below shows the daily entertainment of young people. What is special is that 76% of teenagers

use social media every day, even though social media has only been in our lives for 21 years. In addition, only 11% pick up a book every day.

The use of new media technologies requires the rethinking of larger internal library spaces to create learning zones with more appropriate acoustic treatment to support new ways of learning. (Marry Hundson, 2020, p. 61) Our rapidly changing society calls for a library that reflects today's needs for development and innovation. (Joyce Sternheim, 2021, p. 10) Banning social media and digital options for children and adults makes no sense, which is why it is important to work with them and not against them.

Daily entertainment

Between 12 and 25 years old

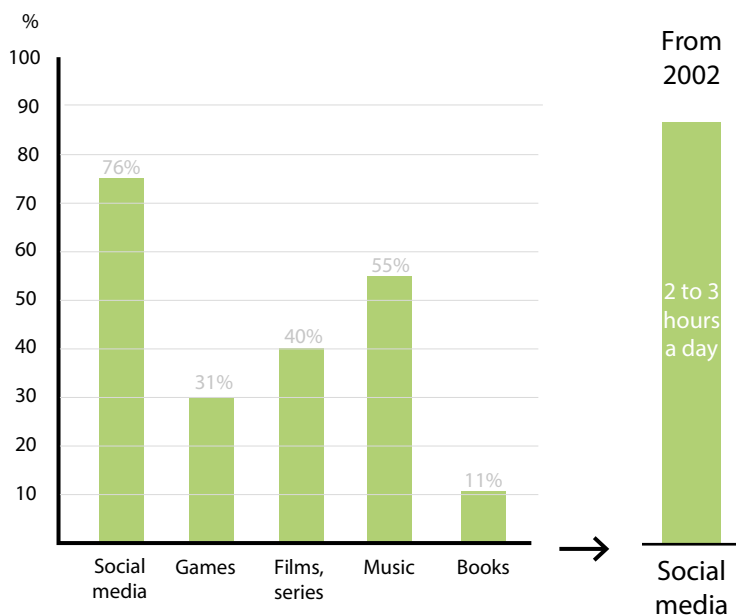


Figure 5: The reading foundation: Daily entertainment

Space for media

The library will be divided between areas where media is stimulated and where activities are conducted, and areas that are media-free. There will also be spaces where people can learn with and about media

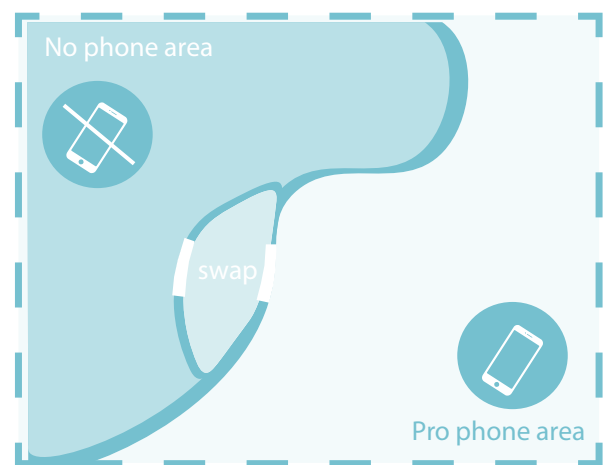


Figure 10: Design principle: space for media

CONCLUSION AND DESIGN PRINCIPLES

Conclusion

The client's ambitions can be brought together into one element and that is to create a library that encourages reading and is in full use by the users. These users are the children of Berlin. It is therefore important to know how the library connects to this target group and how this target group is stimulated to read.

In the city of Berlin itself, it is important that the library reflects what the city has to offer and meets the needs of the city. To ensure that children are inspired by the library when they come here, two things are important. Firstly, the library must appropriately cater to the different age groups. Younger children need to

have a safe space where they can be together with their parents and as children grow older, more and more space/spaciousness will be required. They require more freedom and a sense of trust. Secondly, it is of the utmost importance that children decide for themselves what they want to read and in what kind of environment they feel at ease. In addition to these factors, it is important to make a connection with the problems and needs of children in the 21st century. Children need to be trusted to decide for themselves whether they want to use technology or not. the library can offer space to facilitate this. so that technology is learned from and not prohibited

Elements of the city

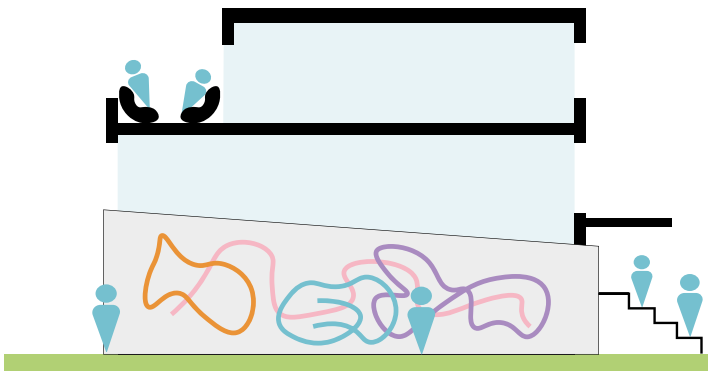


Figure 7: Design principle: Elements of the city

Age-orientated

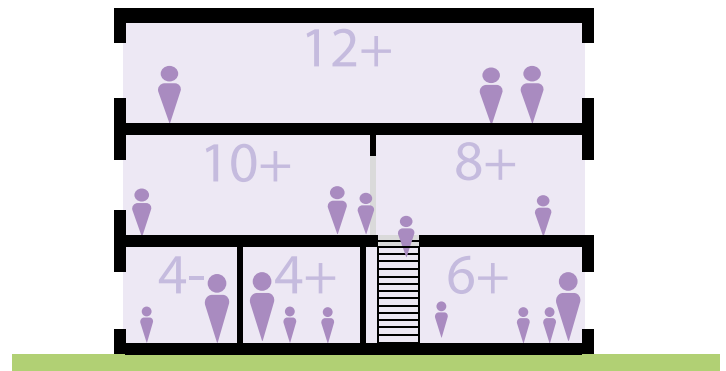


Figure 8: Design principle: Age division

Choices

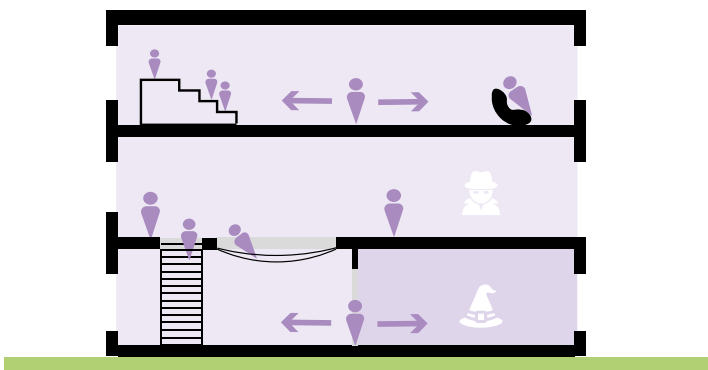


Figure 9: Design principle: Choice and freedom

Digitalization



Figure 10: Design principle: space for media

Program

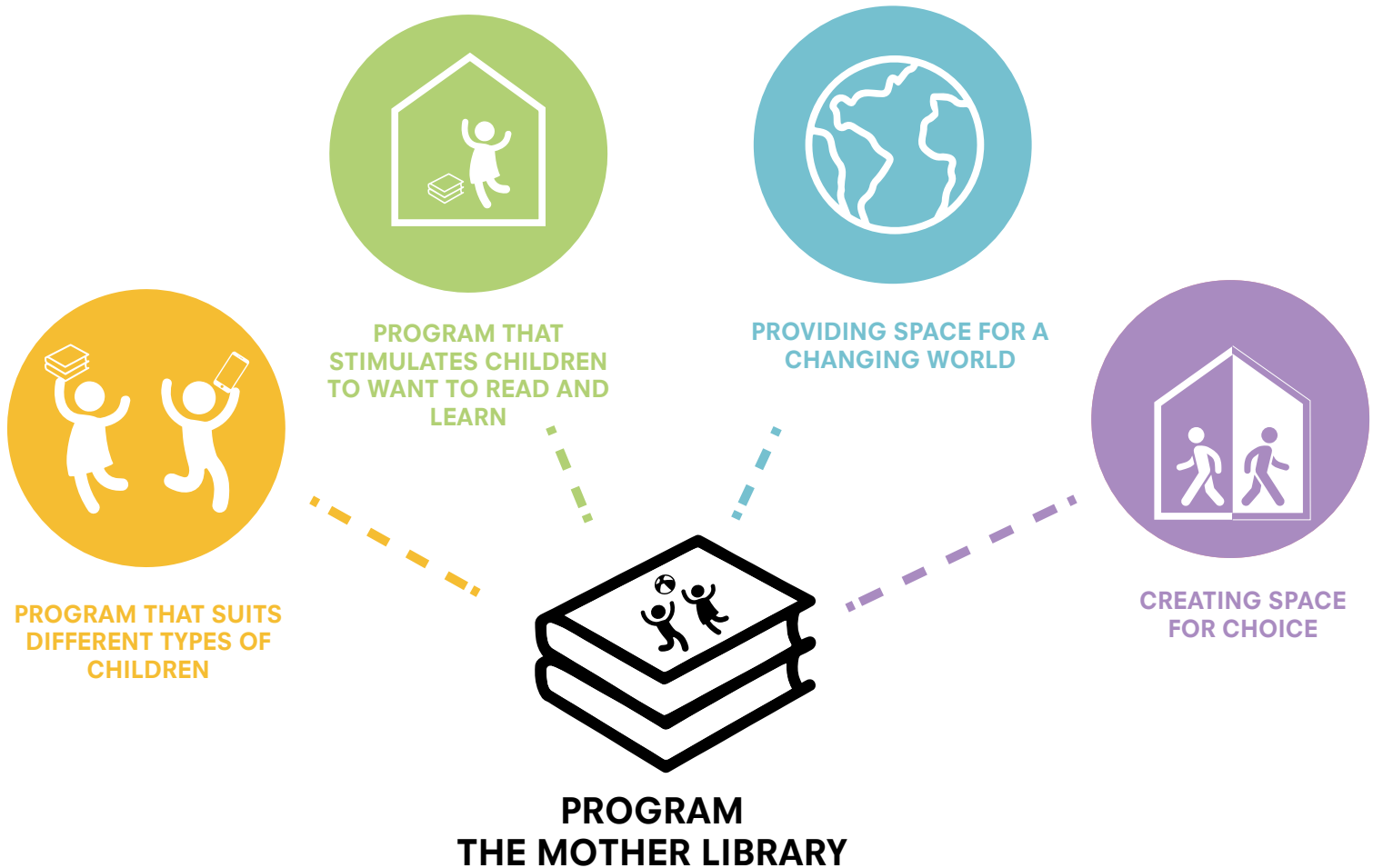
02

PROGRAM AMBITIONS

Ambitions

In a program that has to take into account a wide range of children of different backgrounds living in the city of Berlin, flexibility and diversity have to be anticipated. One child is more attracted to a certain space or activity than the other. But the child itself also changes over time and shows different interests. It is therefore important that the program is broad and grows with the child. Digitalizati-

on currently plays a major role in the lives of many children, but will this still be the case in 10 years? We cannot predict the future, but we can take it into account when designing buildings.



RESEARCH PROGRAM

Research explanation

The program research consists of two parts. The first part is about libraries and mainly looks at the program, the relationships between the components in the program, and the most important elements of the library. The second part looks at schools (children's learning environments) with a special view on learning and the layout of the learning space. These schools offer a broader view and insight into

a child's learning path. In collaboration with the libraries, a well-thought-out program is designed that fits in with modern learning ideas. The learning elements of these schools and Herman Hertzberger are used because they provide a lot of insight into how we can create a good modern learning environment for children.

Libraries

Forum Groningen



Boekenberg



Book forest

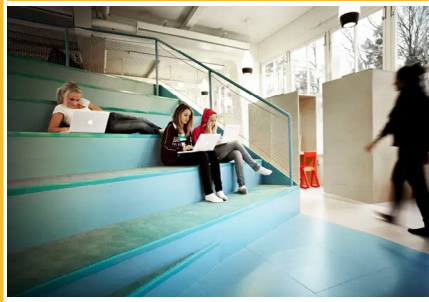


Schools

Cambridge primary



Vittra school



St. andrew scots



Hertzberger

Ams. Montesorie



Image 6-13: Photos of libraries and schools (see bibliography)

FORUM GRONINGEN

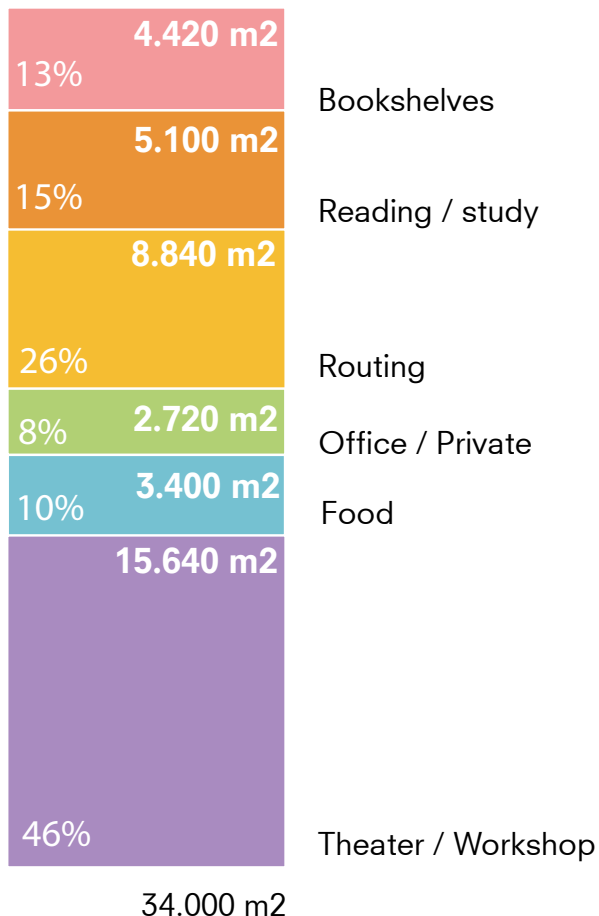
Program

Forum Groningen, designed by NL Architects, offers a program highlighting theater and workshop spaces. Functioning as a vertical city, the building mirrors the cityscape with squares and alleys, embodying the essence of Groningen. Its design aligns with the city's character, creating a dynamic cultural hub that encourages community engagement through diverse spaces and activities. The routing of the building is a key element in design and embracing the concept. Food and drinks together with the workshop spaces are directly connected with the main routing. Others are sometimes directly connected or connected with an alley.

Legend

■ Routing	■ Food
■ Bookshelves	■ Office
■ Theater/workshop	■ Reading/study

Program breakdown



Floor plan and section

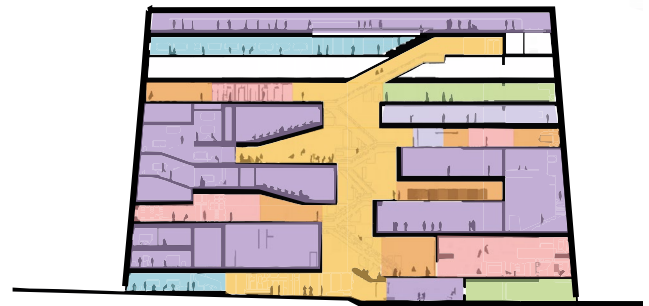


Figure 11: Section Forum Groningen

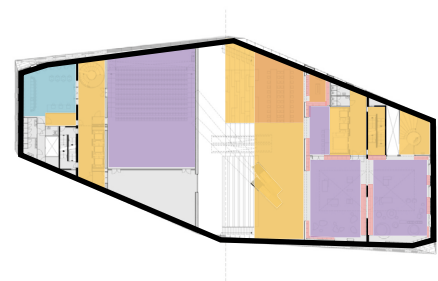
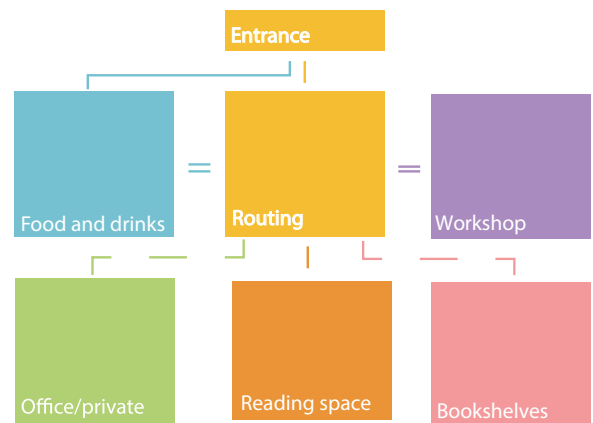
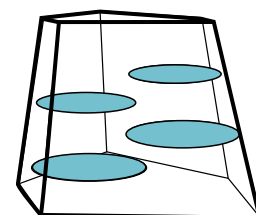


Figure 12: 1th floor Forum Groningen

Program relation



Key space



Squares and alleys

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BOEKENBERG

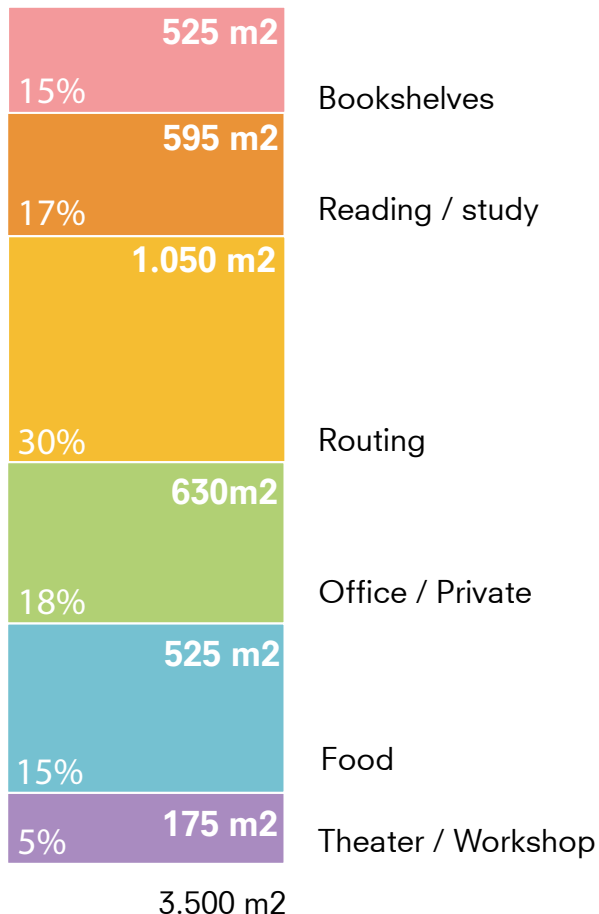
Program

Boekenberg, designed by MVRDV, prioritizes internal routing and connection with bookshelves in its program. Functioning as a living room for the neighbourhood, the design encourages a sense of local belonging. With a focus on seamless navigation through the building, Boekenberg aims to encourage a welcoming atmosphere, transforming the library into a communal space. The route is the main element that seeks connection through the building and has a direct connection with the books.

Legend

Routing	Food
Bookshelves	Office
Theater/workshop	Reading/study

Program breakdown



Floor plan and section

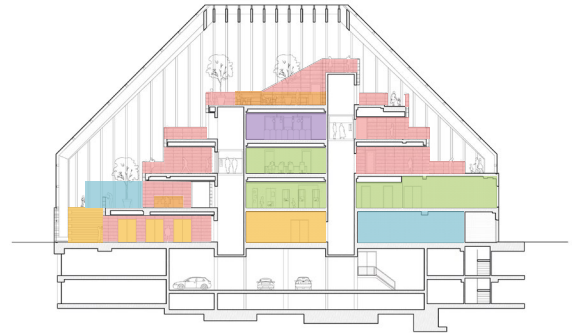


Figure 13: Section Boekenberg

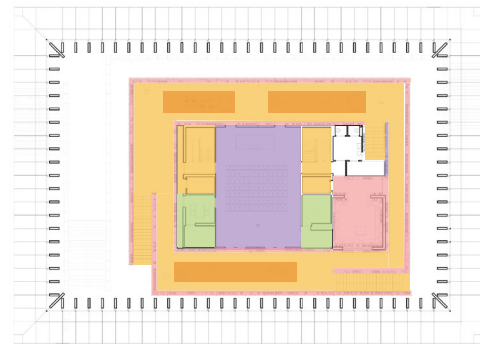
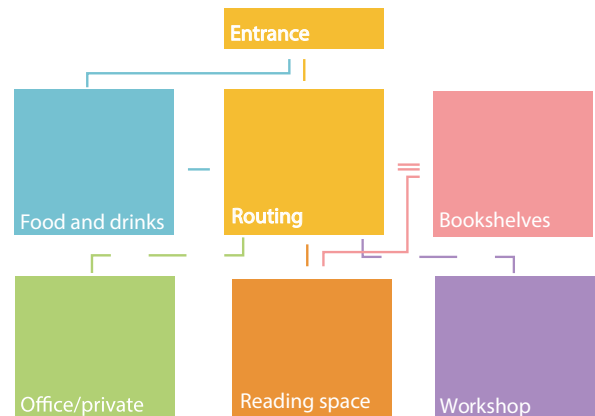
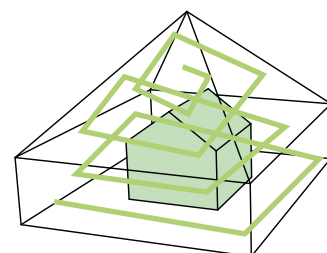


Figure 14: 3th floor Boekenberg

Program relation



Key space



Routing: upward circling route

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BOOK FOREST

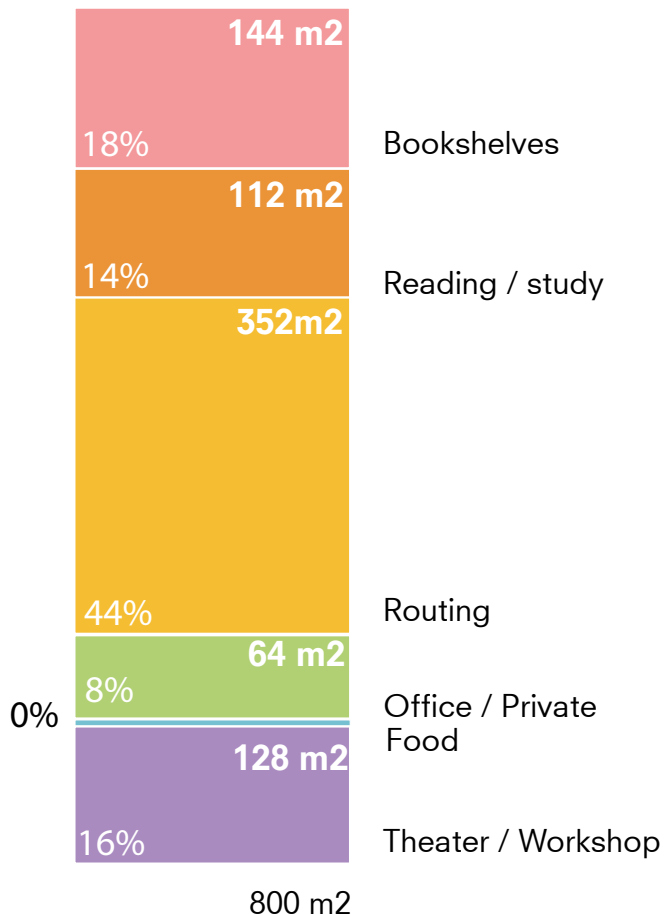
Program

Book Forest, designed by Tadao Ando, focuses on the peace of the child. The library has, reading nooks, study areas, and workshop spaces. The design contains rounded forms to create a peaceful environment, specially tailored for children. These curved elements not only provide a calming atmosphere but also promote a seamless flow within the space. According to Tadao Ando, the curves and seamless transitions create a perfect environment for peaceful studying and reading, because curves give you peace of mind

Legend

Routing	Food
Bookshelves	Office
Theater/workshop	Reading/study

Program breakdown



Floor plans

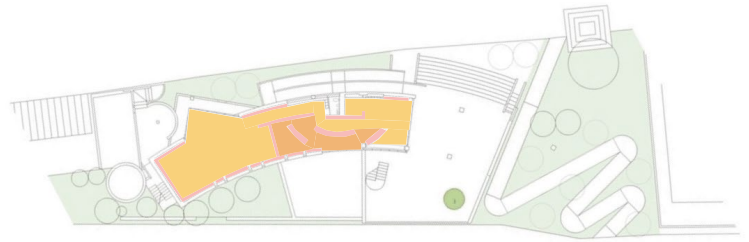


Figure 15: Groundfloor Book Forest

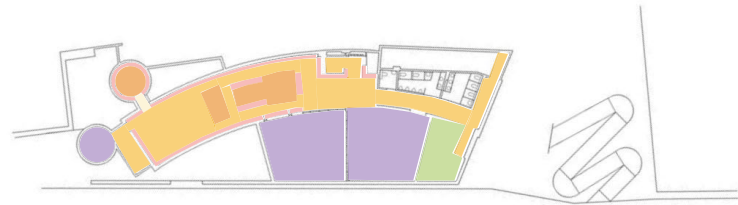
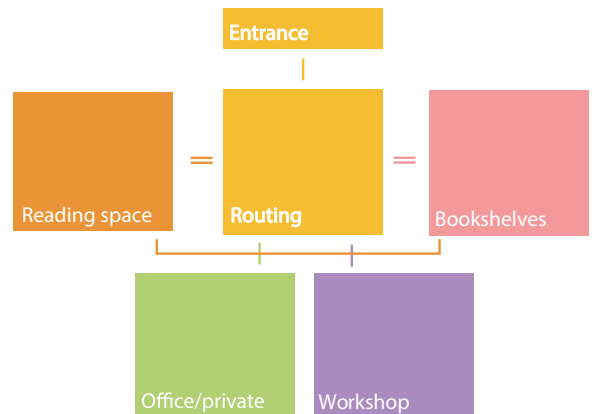
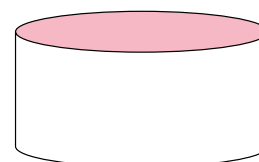


Figure 16: 1th floor Book Forest

Program relation



Key space



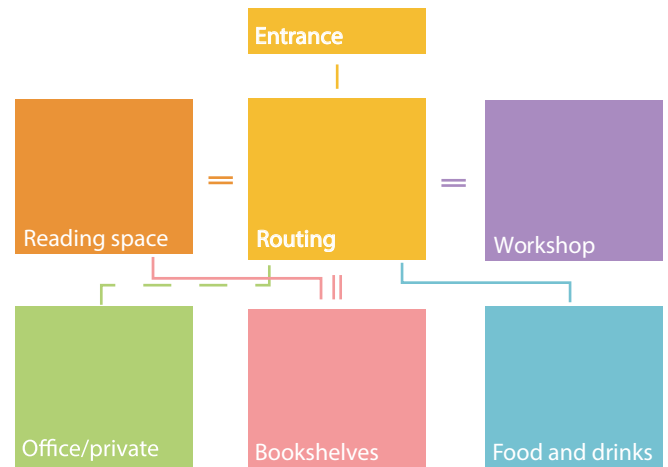
The curved element (spaces and walls)

LIBRARY CONCLUSION

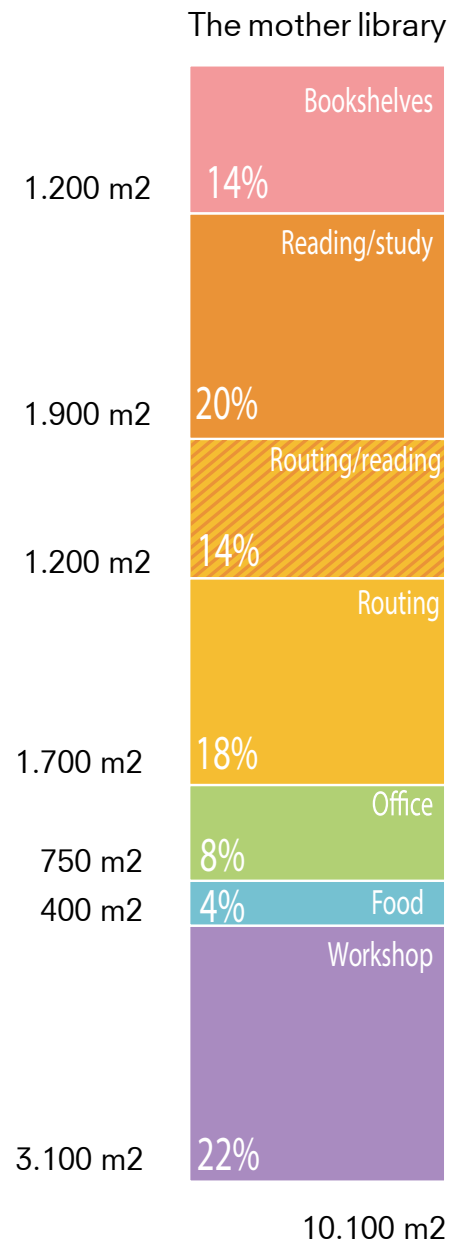
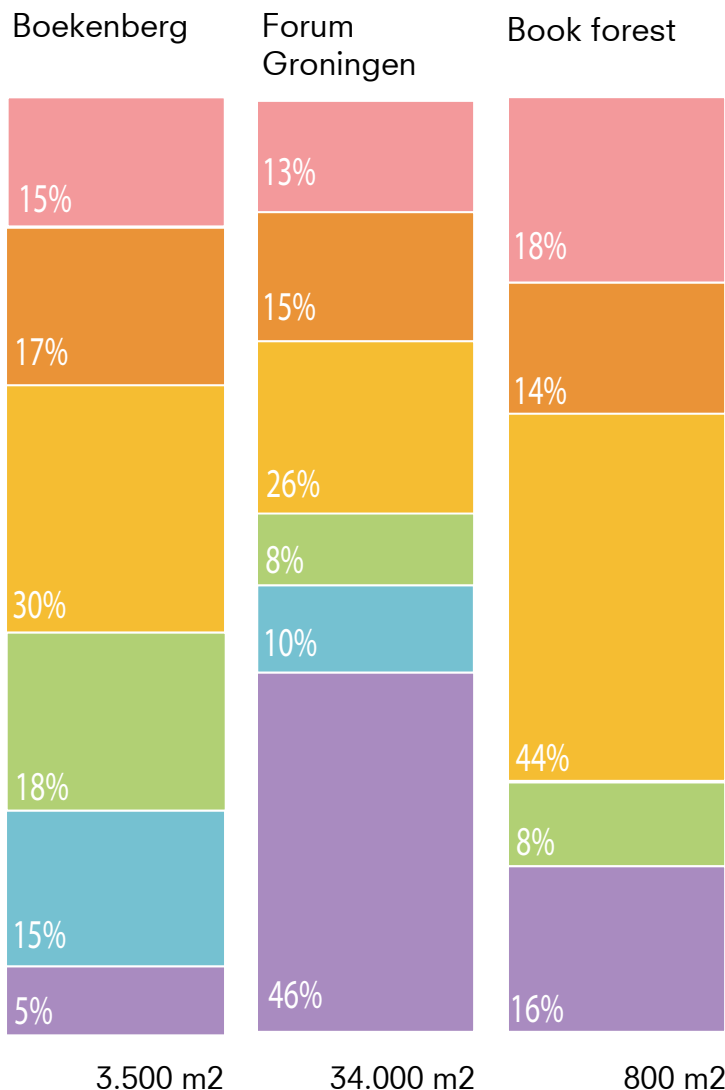
Program

Where in many public buildings routing is seen as something to get from A to B, in libraries this is often an element that is embraced. Often even as a striking element throughout the building. For the children's library, this element will therefore also come to the foreground, but will also be used in collaboration with other activities and opportunities so that the routing through the building becomes a playful element. As many program components as possible will have direct access to the main route of the building.

Program flow



Program bars



SCHOOLS AND THE LEARNING SYSTEM

Understand how children want to learn

The current school system is a system that we as a society have found great value in. The way of learning has solved illiteracy on a large scale. For a long time, this school system served its purpose. But many schools look the same today as they did a generation ago and they are not developing the pedagogies and practices required to meet the diverse needs of twenty-first-century learners (Marry Hundson, 2020, p. 10). Because schools and libraries no longer fit in with today's society, many children lose their will to learn and read. The three schools described in this chapter all have a new view on how children should

learn in the 21st century and how the layout and architecture of the building influences this. These schools have found and solved problems that provide insight into the child. These are important learning elements that also apply to a library for children.

CAMBRIDGE PRIMARY SCHOOL



Image 14: Cambridge primary school

CAMBRIDGE PRIMARY SCHOOL

Program

Cambridge Primary School is designed based on the principles of Herman Hertzberger. Each classroom offers different corners and learning opportunities. Places outside the classrooms have been created where children can do their own thing and choose how they want to sit and learn. The collaborative nature of the space has creatively provoked learning. (Marry Hundson, 2020, p. 30) The entire school has been designed around outdoor space. Each classroom has direct access to the outdoor and has sight lines focused on nature, because they believe that nature helps with concentration

Information

Year built: 2015

Size: 3.818 m²

Architect: Marks Barfield

location: Cambridge

Pictures



Image 14: Cambridge primary school



Image 15: Cambridge primary school bird's eye view

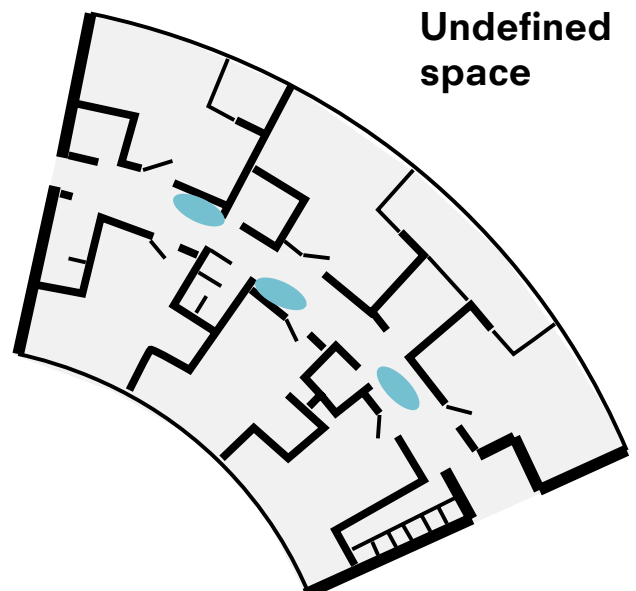
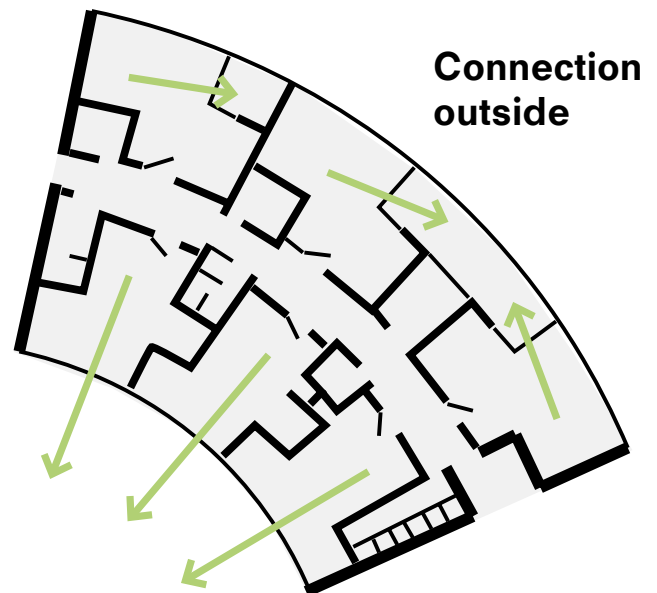
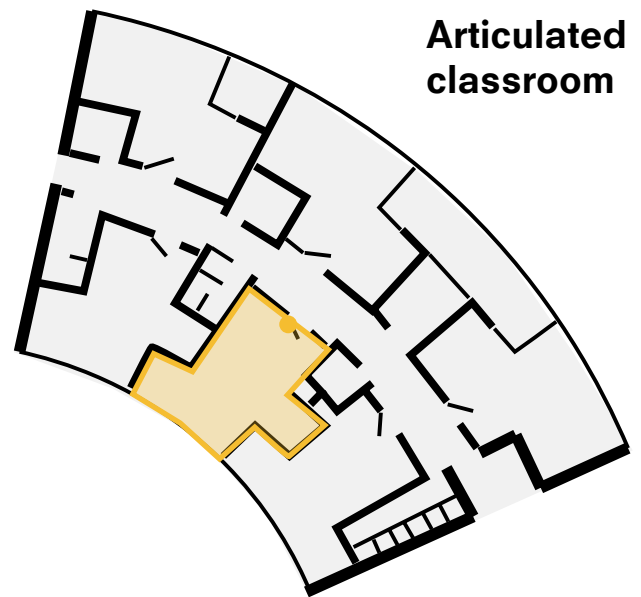


Figure 17: Floor plan Cambridge primary

VITTRA SCHOOL TELEFONPLAN

Program

Vitra School is based on the idea that children learn best by deciding their own way of learning. The school does not exist out of classrooms but as an open learning platform. The platform is defined as mountains for group lessons, Watering holes, where children can work together and caves to have a place to work alone. The open floor plan empowers the students to take advantage of a greater choice of where, when, and how to learn, thus extending their personal control over the direction and style of their learning (Marry Hundson, 2020, p. 14).

Information

Year built: 2011

Size: ? m2

Architect: RosanBosch

location: Stockholm

Pictures



Image 16: Vitra school telefonplan inside



Image 17: Vitra school telefonplan inside 2

Floor plan

Mountains

Group learning

Watering holes

Collaboration places

Caves

In solitude

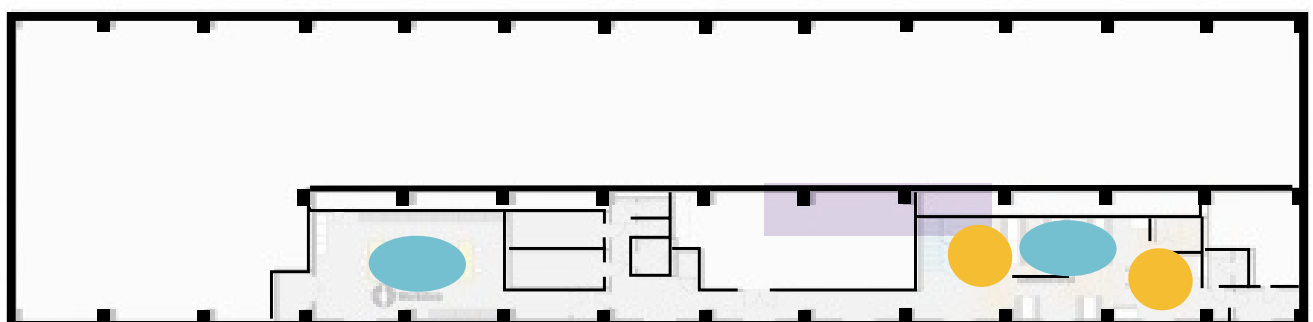
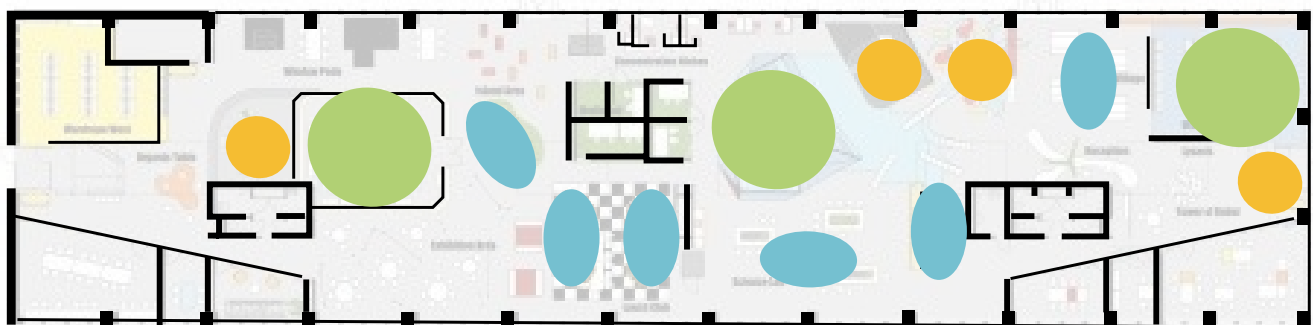


Figure 18: Floor plan Vitra school

ST.ANDREWS SCOTS SCHOOL

Program

St, Andrews Scots School is designed with the belief in the growth of the child and the education and space that matches this growth. The school consists of two buildings, the lowlands and the highlands. The lowlands are displayed on this page. The lowlands are divided into houses, villages, and beaches. The smallest children are in houses. Places where they can experience a lot of safety and learn in a familiar environment. The children who are a bit older go to villages. places where several houses come together, bringing children into contact with a broader perspective. All the houses and villages are located beside a beach, where children can explore more freely.

Information

Year built: 2011

Size: ? m2

Architect: RosanBosch

location: Stockholm

Floor plan low lands

House Village Beach

Class

Joint classes

Large playground

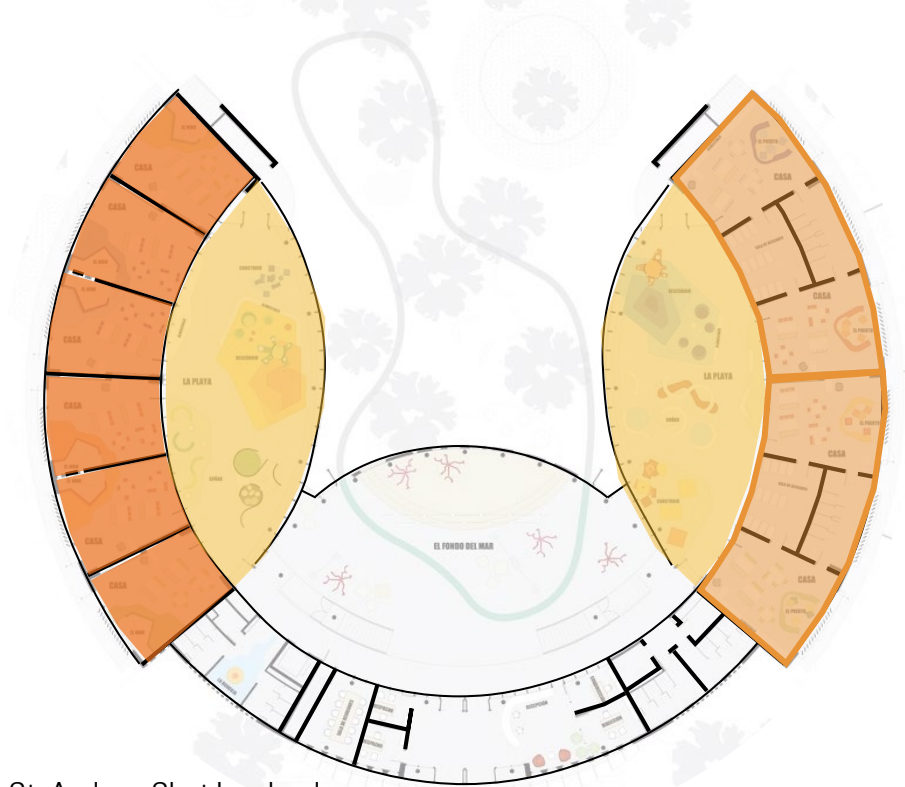


Figure 19: Floor plan St. Andrew Shot Lowlands

Pictures



Image 18: St. Andrew Scot school inside



Image 19: St. Andrew Scot school inside 2

ST.ANDREWS SCOTS SCHOOL

Program

The highlands of St, Andrews Scots School are divided into a lake and islands. the islands provide a starting point for the children where they can receive lessons and meet together. The islands are located in the lake. The lake is a large open workspace where children can get to work themselves. This gives teachers the opportunity to work both in and outside the classroom and also to separate groups that need more help while the rest work independently.

Pictures



Image 20: St. Andrew Scot school inside 3



Image 21: St. Andrew Scot school inside 4

Floor plan Highlands

Lake

Open
workspace

Island

Tutoring space

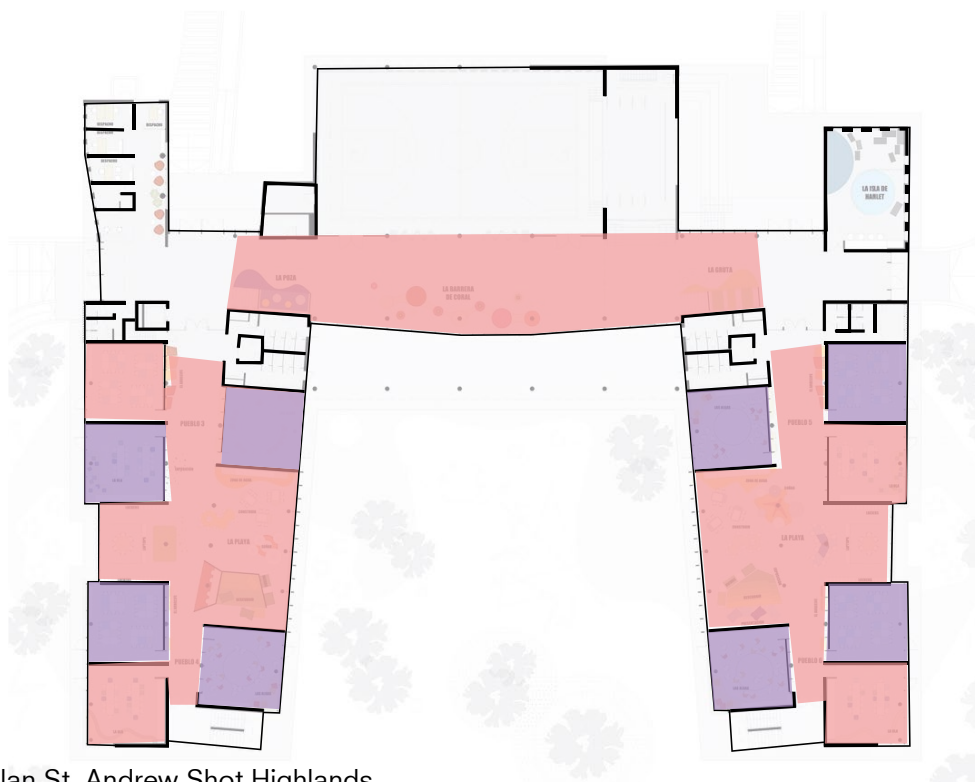


Figure 20: Floor plan St. Andrew Shot Highlands

HERMAN HERTZBERG'S VISIONS

Program

Herman Hertzberger is a Dutch architect who spent a large part of his career working on learning spaces for children. He was most famous for his groundbreaking school designs. According to Hertzberger, there needs to be a balance between structured and semi-structured spaces (Murray Hudson, 2020, p. 42). Fundamentally, successful school design is all about creating unofficial spaces, which are not functionally defined but can be interpreted and owned by the people who use them (Murray Hudson, 2020, p. 9). A good example of such an unofficial space is the Hertzberger stairs. How a room is laid out provides a suggestion for how it can be used. In this way, a Square classroom suggests instructions from a teacher directly to pupils, whereas a classroom with Nooks and corners stimulates a wider range of learning activities and independent work groups.

Hertzberger stairs



Unofficial space to use as the user desires

Image 21: Amsterdamse montessorie school, Hertzberger

Unarticulated classroom

One type of teaching option



- The shape promotes instructions from a teacher directly to pupils
- Permanent workplaces
- One kind of table setting

Articulated classroom

Multiple teaching options



- Different spaces for learning allowing for a wider range of learning activities.
- Nooks and corners stimulate Independent working
- Adaptable group settings

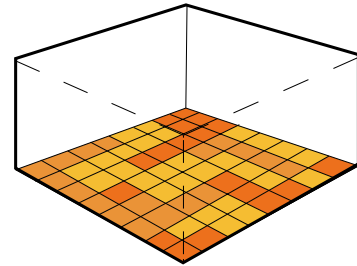
PROGRAM CONCLUSION

Conclusion part 1

By bringing together and implementing the knowledge of schools and libraries, a program is created that suits different age groups and offers space for children to choose their own paths. A library is of course different from a school. What we can mainly learn from the schools are the experiences and needs of students. You have classrooms in a school that can give a safe feeling. In a library, this should be corners and places where they can retreat. Workplaces will not be necessary for young children. The opportunity to read (quietly or together) and play is especially important. In addition to reading, older children will some-

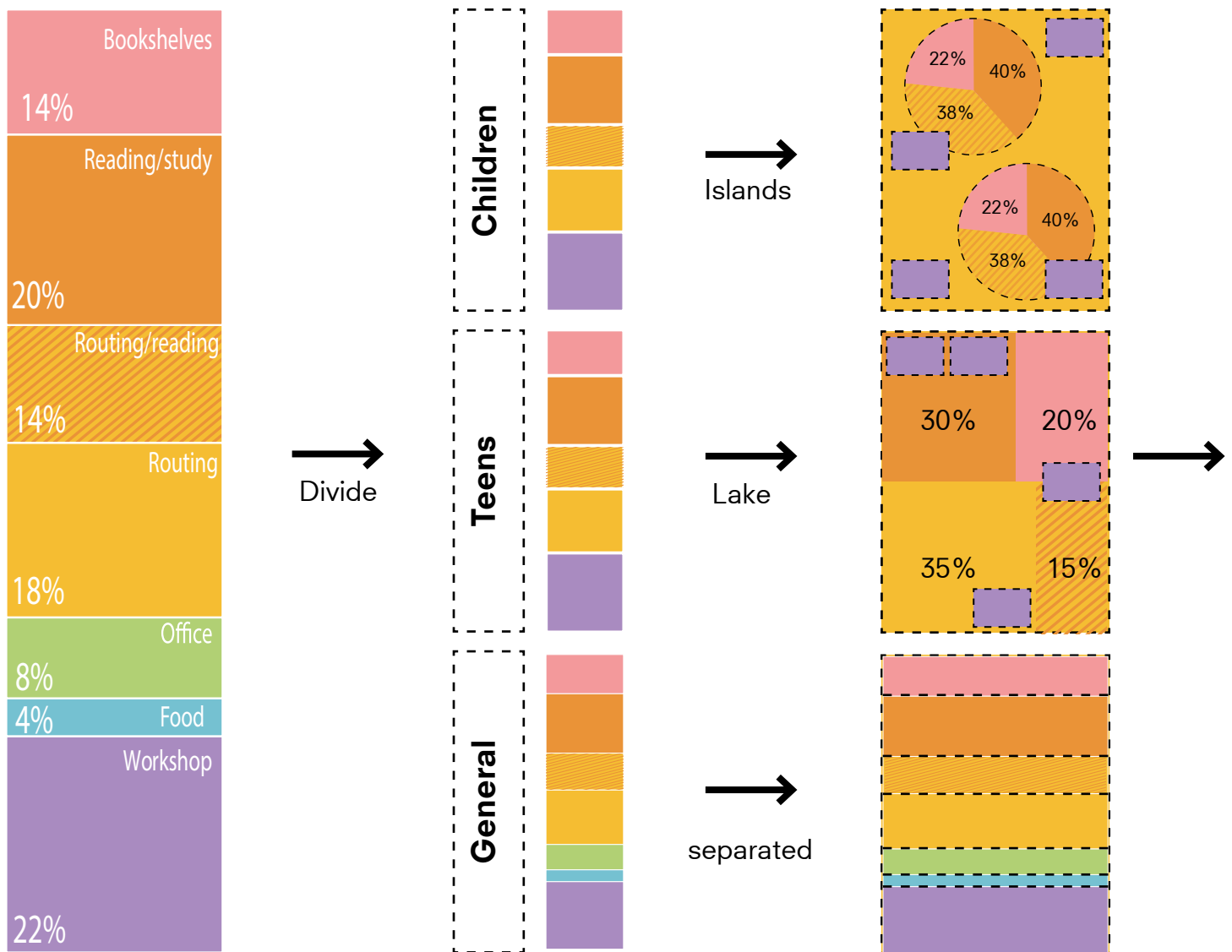
times have to do homework (together or alone). But this will also be different in a library than at school. Not everyone around you will be your acquaintance, so a little more closure will be required.

Key space



Key space: The open divided space

Program bar subdivision

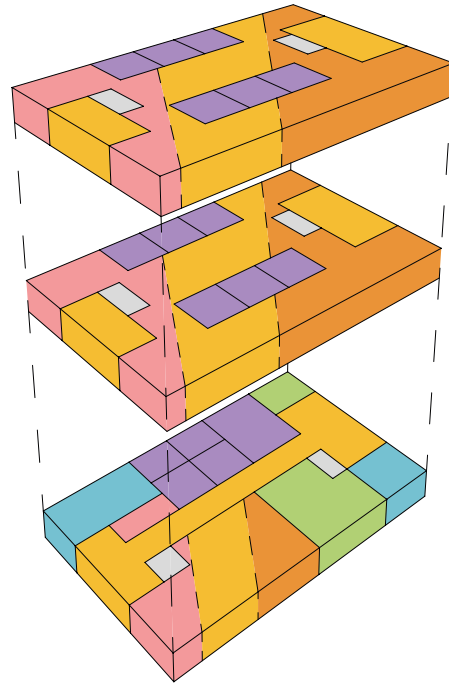


PROGRAM CONCLUSION

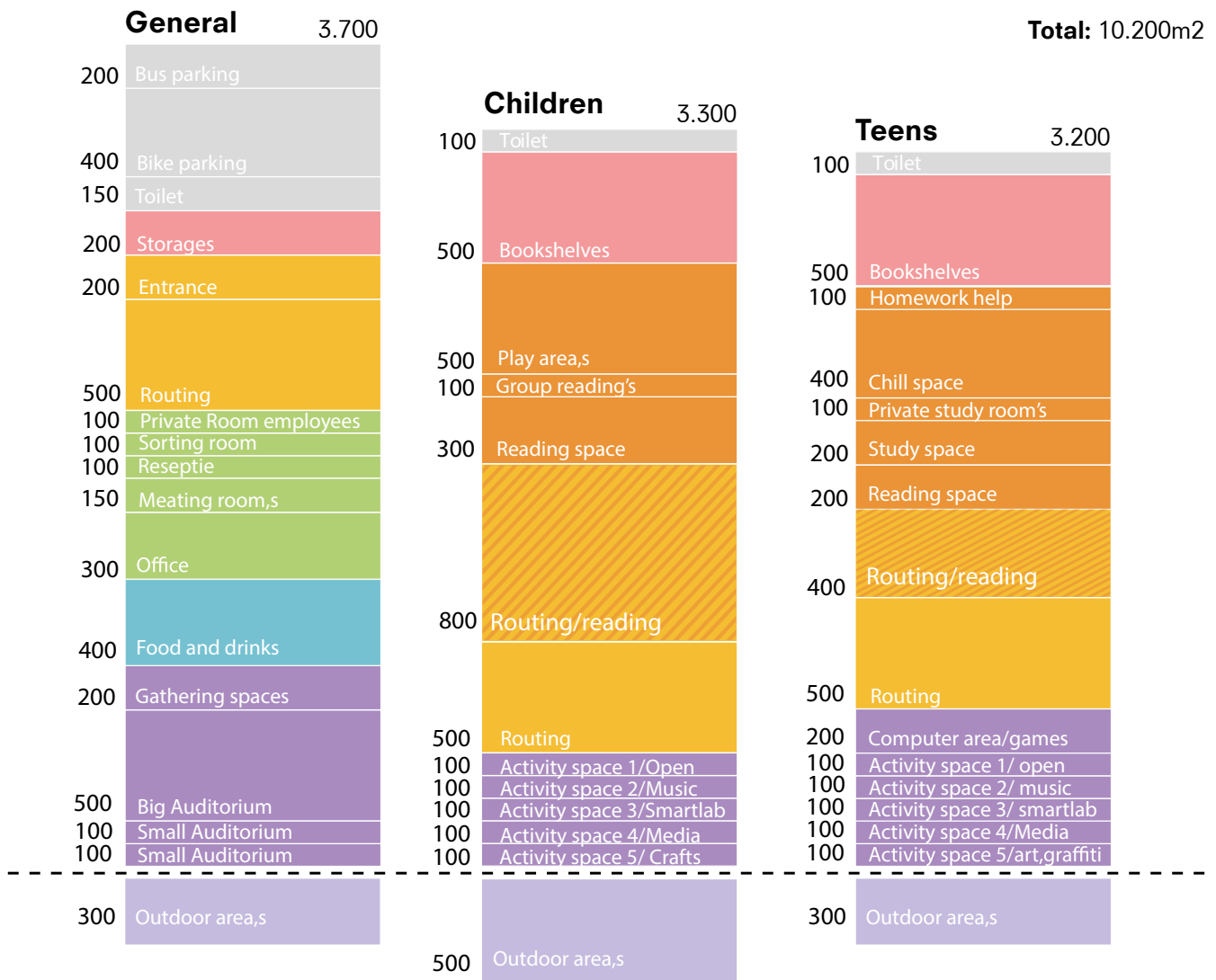
Conclusion part 2

The child's experience must be central. Children do not feel comfortable being forced to learn in a certain way or to read silently at a selected time. Choices seem to be a key element that in a lot of research seems to surface. Choices encourage children to create their own pleasant experiences, making learning and reading more of their own choice, and therefore more fun can be gained from it. In the library, routing, reading corners and bookcases will be intertwined, in order to ensure diversity in the space and a place that can influence.

3D program



Program bar



PROGRAM DESIGN PRINCIPLES

Explanation of design principles

The program research revealed five design principles that will be used in The mother library. This includes design principles corresponding with the previous client chapter, shown in purple. Furthermore, the design principle of connection with outside will be utilized, because it gives a generally pleasant feeling in spaces and helps with general concentration abilities. Design principle: Undivided articulated space will be used to create different corners and possibilities in the building that offer scope for personal interpretation and use. Design principle:: Diversity of space will be integrated to ensure that every individual can find a place that meets his/her preferences.

Connection with outside

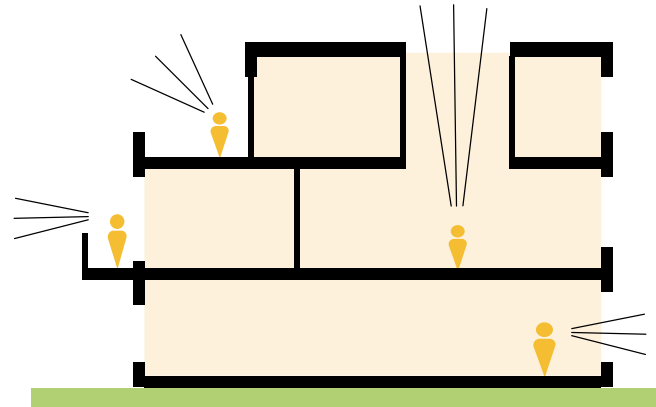


Figure 21: Design principle: Connection outside

Age-orientated

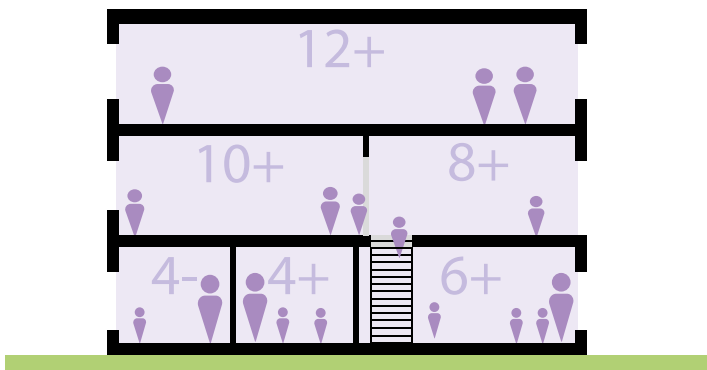


Figure 8: Design principle: Age division

Undefined articulated space

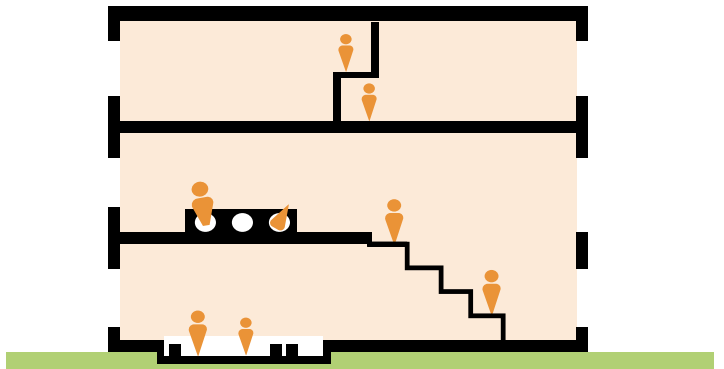


Figure 22: Design principle: Undefined articulated space

Choices

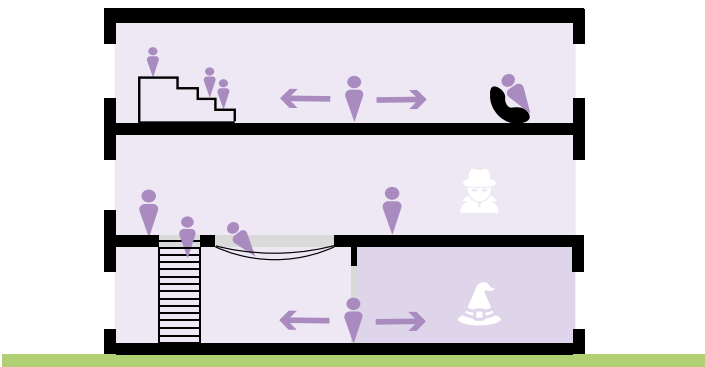


Figure 9: Design principle: Choice and freedom

Diversity of space

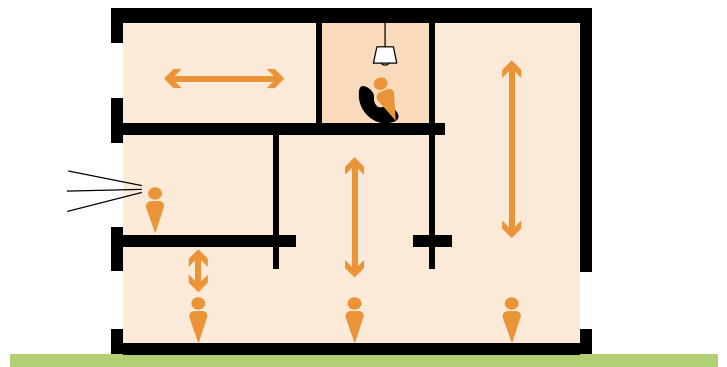


Figure 23: Design principle: Diversity of space

Site

03

SITE REQUIREMENTS

Requirements project

To ensure that The Mother Library becomes a safe and pleasant environment for children, it is essential that the environment also matches this idea. A location is required that is child-friendly or only needs several adjustments to become so. A main ambition for The Mother Library is to become a library for children both locally and citywide. To achieve this at a city level, it is necessary to place the library in an easily accessible location. At a local level, it is influential to be close to many schools (preferably within walking distance), so that children can easily go to the library independently. The density of people living in the area is also taken into account to ensure that many possible library users will live in the area now and in the future.

Requirements Energy group

As Energy group, we looked at the possibilities to make Berlin self-sufficient in the built environment. Based on Berlin's plans not to grow more widely, the potential within the city

is examined. The first requirement is: to build on existing potential. This requirement consists of three different options under which we have subdivided the group buildings. Bare land, parking lots, and re-usable buildings. For The Mother library parking lot has been chosen as the category. The second requirement from the energy group is: to build on geothermal energy potential. the reason this was chosen is because of the possibilities it offers to generate renewable energy within the city without having to obtain energy from distant regions. However, this form of energy will be supplemented with solar and wind energy to meet the city's full energy consumption. The third requirement is to construct the buildings in such a way that they aim to provide energy-efficient mobility. A distinction has been made into three different categories, the library falling under category three. This means that the building must be connected to the city's S and U bahn network.



SITE

Site choice: Anhalter bahnhof

Based on research that will be clarified later in the analysis drawings on scale L, the location of Anhalter Bahnhof has been chosen. This location is located in a park in Kreuzberg. At the site, there is a monument to the industrial history of this place. Apart from the fact that this monument is there, little is done with the location. There are parking lots around the monument and an asphalt square, which makes the history of the location seem a bit neglected. However, the location offers many opportunities for improvements and there are many child-friendly activities in the area. The park also offers multiple chances for a child-friendly environment. where a children's library could fit in nicely.

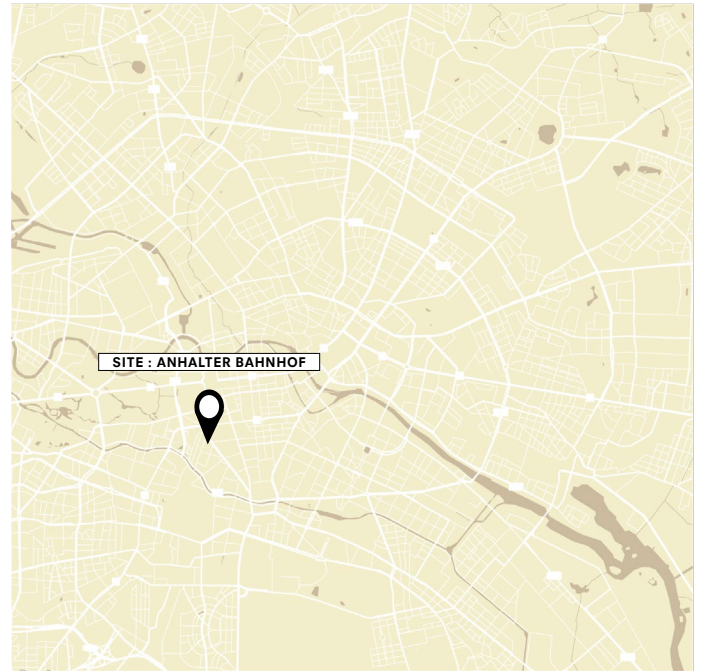


Figure 24: Site



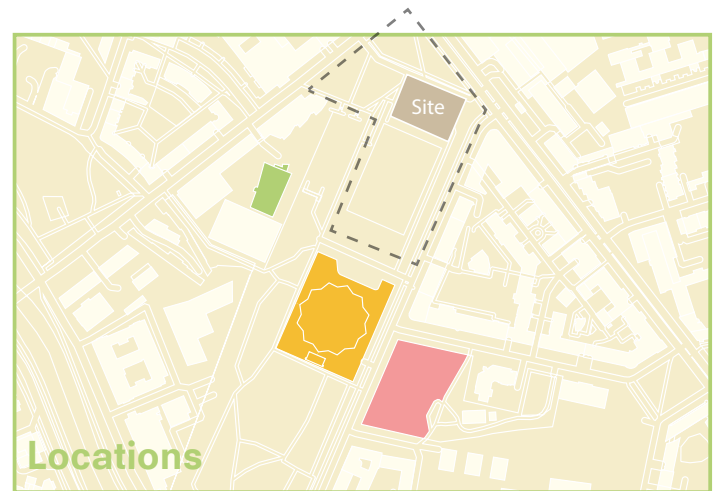
Image 23-29: Site Anhalter bahnhof, Pictures by Biko Zantman

AROUND THE SITE

History site

There are many places worth mentioning around the Anhalter Bahnhof, which bring many good things to the location. The Temple Drom is a multifunctional concert hall where many different types of events take place also many for children. Story Bunker is an old bunker from the Second World War where stories about the Second World War are now told. Robina Forest is a place where children can play unharmed in a natural place and have their own nature experience inside the city.

site

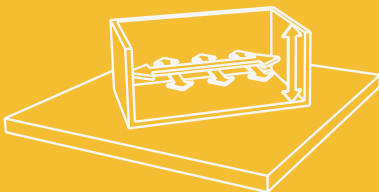


Information and learning elements

Tempodrom



multi-purpose

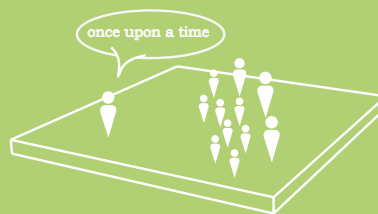


Year built: 2001
Capacity: 40-4000 guests

Story bunker



storytelling

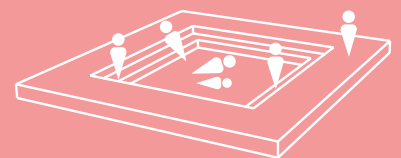


Year built: 1942
Museum opened: 2014

Robinaforest



Undefined space



Protected area from: 1987
nature experience area

SITE TIMELINE

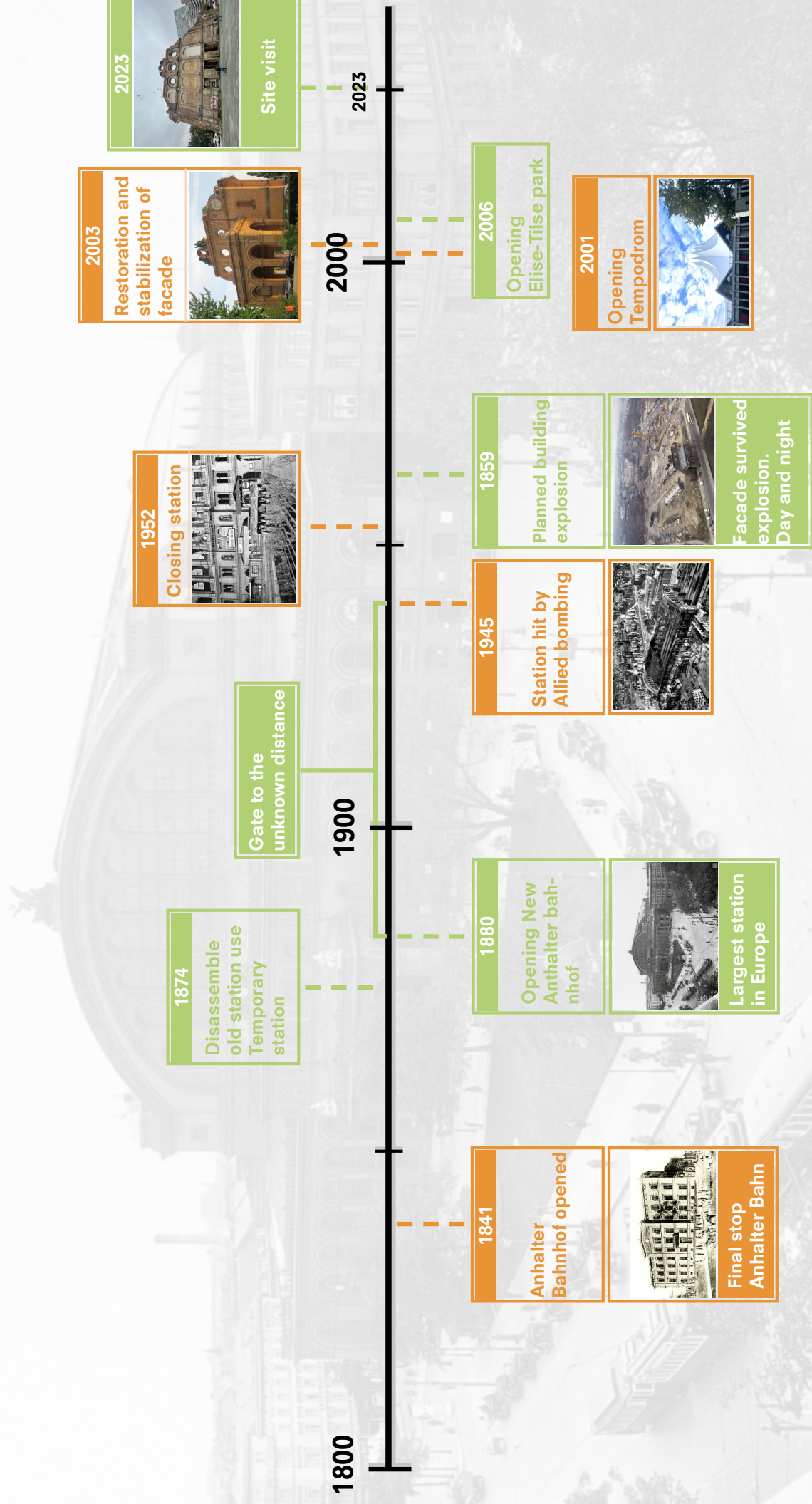


Figure 25: Site, timeline

SITE

History site

Anhalter Bahnhof was a train station built in 1841. The station served as the end station of the Anhalter Bahn. Due to the excellent location of the station, it was quickly decided to expand the building. The renovated and enlarged station opened in 1880. This station quickly became the busiest station in all of Europe. Nicknamed: Gate to the unknown distance. The station, which soon turned out to be incredibly important for the economy of Germany and Berlin, became a target during the Second World War. In 1945 the station was almost completely destroyed by Allied bombing. After the war, what remained of the station was open for a period,

but the station had to close its doors in 1952. A few years later in 1959, the building was destroyed by a planned building explosion. However, part of the facade remained standing during this explosion. Plans were being made to take it down as well, but the residents of the area were protesting against this. The facade remains in place and was restored in 2003. The rest of the area, which has not been in use for a long period, was transformed into a park in 2006. In this park, parts of the track are preserved in their original state. To this day, the old facade of the building is visible, providing a glimpse of the site's history. Time-line of the location is visible on the next page.



Image 30: Site Anhalter bahnhof, old picture

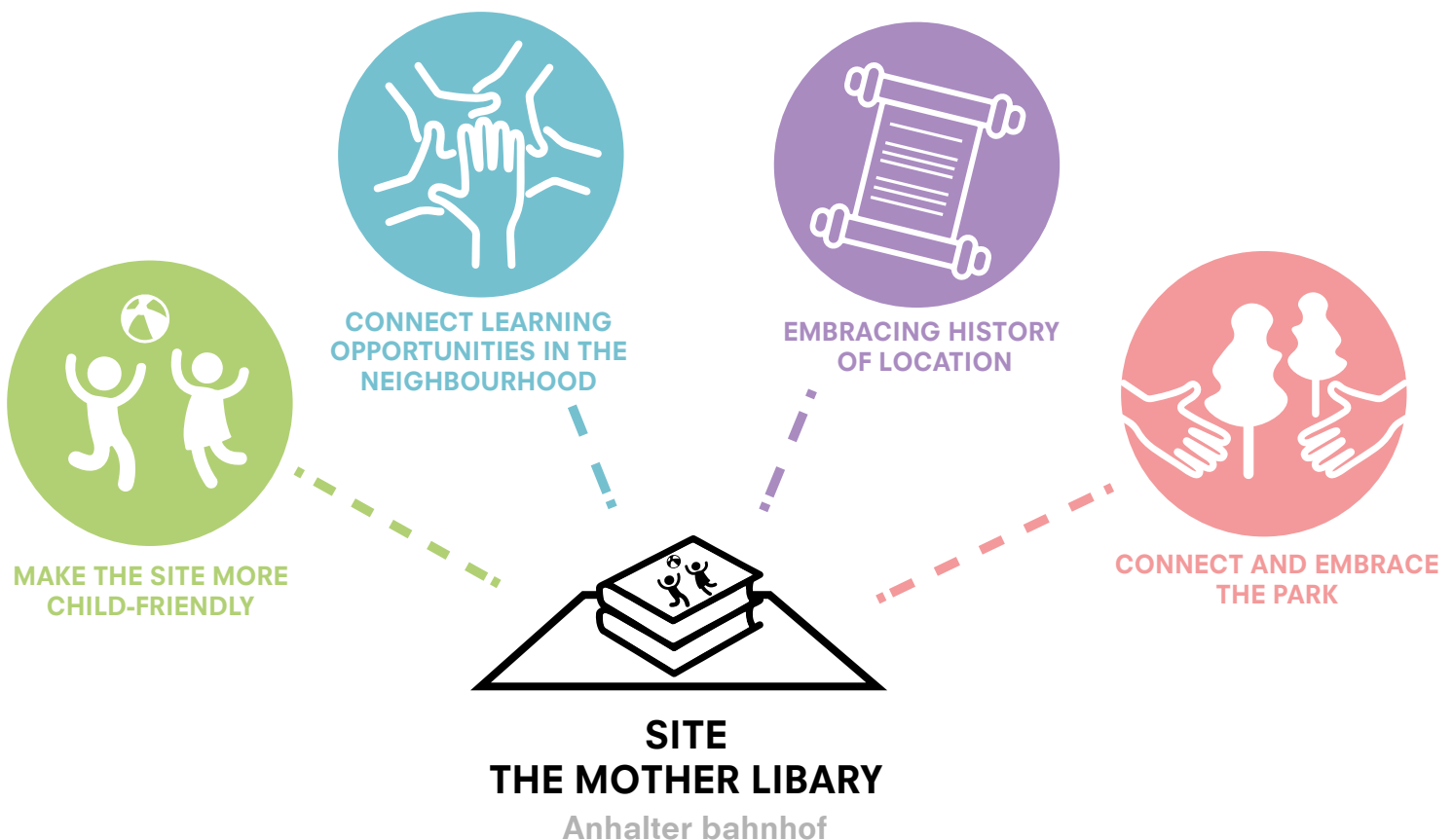
SITE AMBITIONS

Ambitions

The ambitions for the Anhalter Bahnhof as a location for the children's library are to make the site more child-friendly, Connect learning opportunities in the neighbourhood, embrace the history of the location, and connect and embrace the park. The location itself was partly chosen for the reason that it is already quite child-friendly and offers many possibilities, but there are still areas for improvement in this regard. A busy street passes the location and a lot of space is reserved for parking cars. Furthermore, the library must fit in with the neighbourhood and the needs within this neighbourhood, so it is important to look at the various options that the neighborhood already offers and how the library can connect

to these. A lot of attention will also be paid to the park and how the library and the environment of the park can be improved for the neighborhood and children who will come here.

The monumental facade provides the opportunity to highlight the history of the site. Embracing this past creates the possibility to fit the building better into its environment letting the neighbourhood value it more. Particularly because it was the local residents who ensured that this piece of history is now still in this area.



Luka Zantman

SITE ANALYSIS

Location in 3 scales

For the research, the location will be analyzed in three scales, taking into account and examining the location requirements and location ambitions. Based on this research, a plan is drawn up to improve the surroundings of the site, and design principles are created for the building to be constructed.

L

Figure 26: Site L Morf

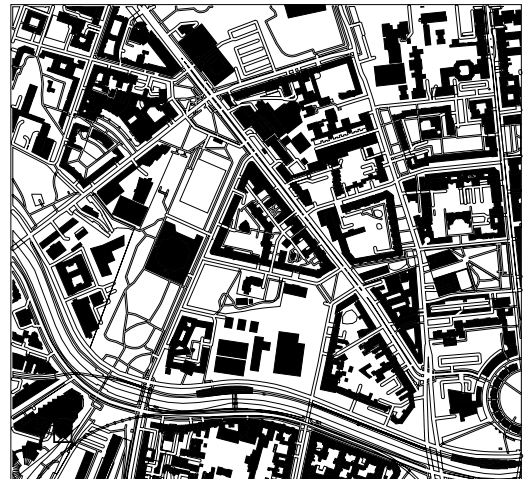


City

1 : 200.000

M

Figure 27: Site M Morf

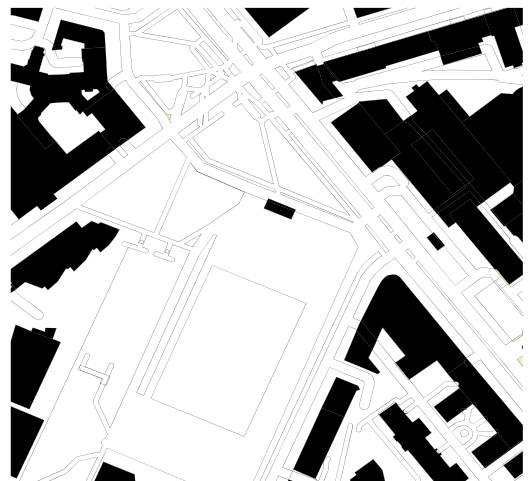


Neighbourhood

1 : 2.000

S

Figure 28: Site S Morf



Street

1 : 500

Luka Zantman

SITE ANALYSIS

Figure 26: Site L Morf

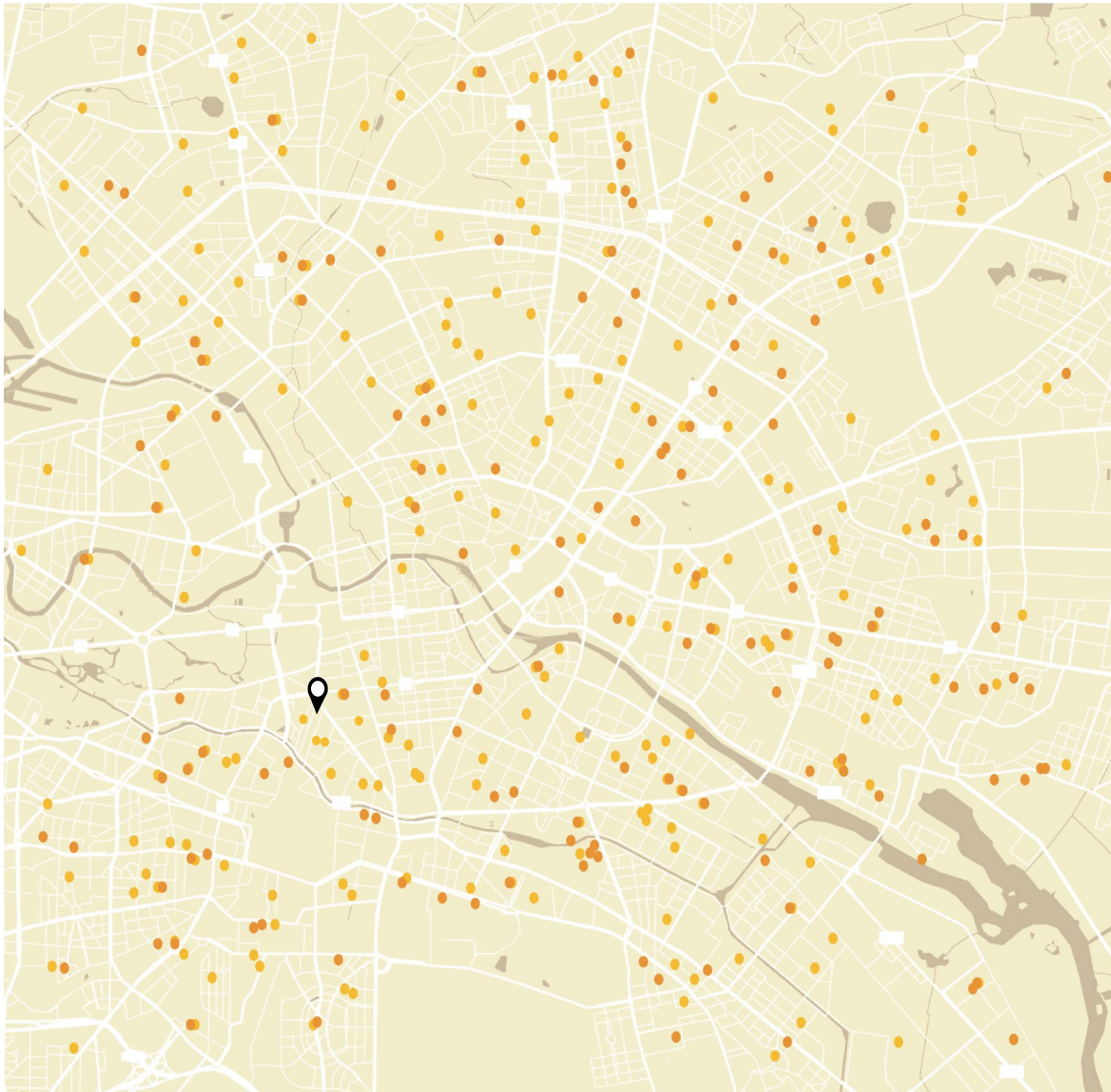


1 : 200.000

Luka Zantman

SITE ANALYSIS

L. Schools



GOOD CONNECTION
WITH SCHOOLS

Legend

- Primary schools
- High schools
- Site

Scale: 1:200.000

Figure 29: Site L, Schools

Children spend most of the day at school, so connecting with children also means connecting with schools. To reach children on an urban scale, there must be a good connection with as many schools as possible. For this, it is important to choose a relatively central location in the city that is easily accessible. At a neighbourhood level, it would be interesting to be in an area where several

schools cluster together. This map shows both primary and secondary schools in Berlin. It is interesting for primary schools to be within walking distance of the library, so children can go independently. Cycling distance would also be an excellent option for secondary schools, in a city where more and more cycle paths are being added.

Luka Zantman

SITE ANALYSIS

L. Population density



HIGH DENSITY OF
PEOPLE

Legend

- Densest areas
- Global areas
- Site

Scale: 1:200.000

Figure 30: Site L, Population density

To ensure the feasibility of the library, several population densities have been mapped. The map above is about the general population density of Berlin. On the next page, the child population density and child poverty density maps were also taken into account. The map with child population density is interesting because it shows how many children live where in Berlin, but this can shift with a new

generation, which is why the above map appears to be of important value in the long term. The population density map provides a guaranteed picture of feasibility, because the shift in where many people live in a city will be gradually.

SITE ANALYSIS

L. Museums

To connect children with multiple learning options besides the library. Museums, for example, have also been looked at as possible institutions with which a connection can be made to offer multiple learning opportunities. the map clearly shows that most museums are located in the center of the city and that they are also close to each other.

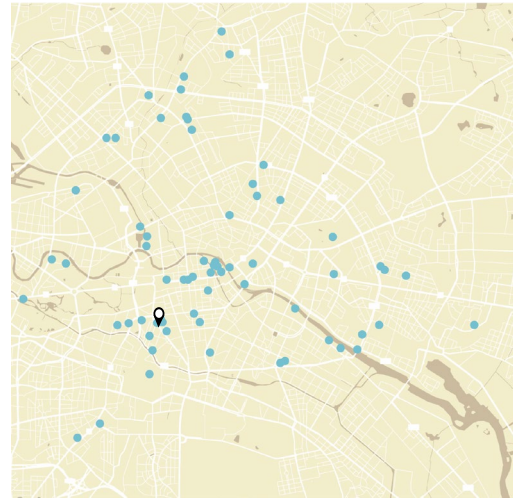


Figure 31: Site L, Museums

L. Children's population density

As described in the population density map, it is particularly important to look at the longer term, but it is still interesting to see what the child population in the city is like for now. To give a clear picture of the division through the city

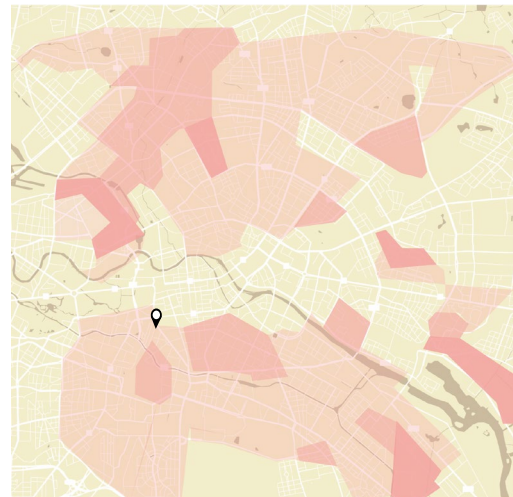


Figure 32: Site L, Children density

S. Child poverty

According to an article in the Guardian, one of the reasons that many children do not read is because financial reasons, which is especially prevalent in underprivileged families. It is therefore deeply important that these children in particular have the opportunity to read/borrow books for free from a library.

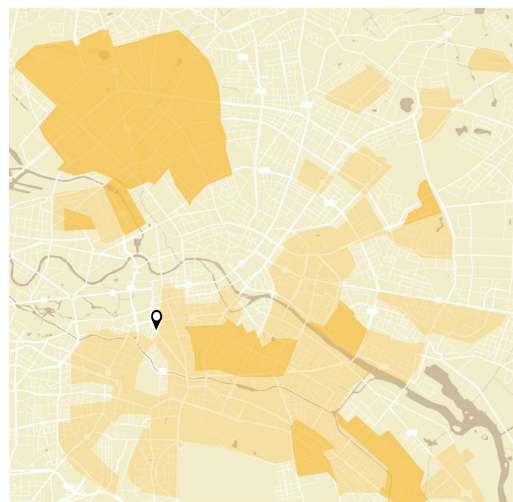
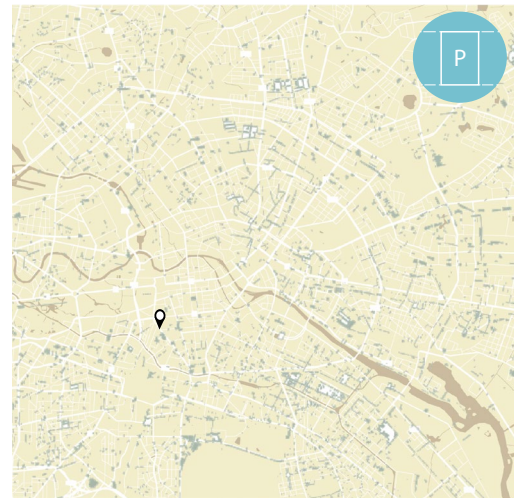


Figure 33: Site L, Child poverty

SITE ANALYSIS ENERGY

L. Parking spaces

From an energy point of view, it is interesting to build on parking lots because this contributes to reducing the parking options in the city, which makes car use in the city less attractive, so people will more often choose public transportation. The map aside shows roughly the parking spaces in Berlin.

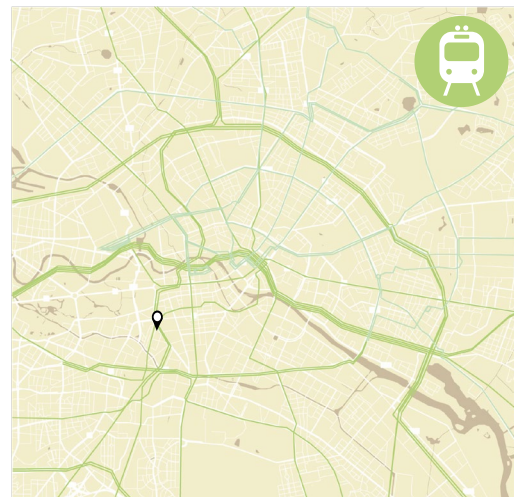


BUILD ON EXISTING
POTENTIAL

Figure 34: Site L, Parking space

L. Public transport

As indicated earlier, the accessibility of the library is essential to function citywide. From an energy and sustainability perspective, the decision is made to focus primarily on public transport as transportation. For the library, urban public transport is particularly important, such as S and U-Bahn, as well as trams and buses. Because the library is aimed at children, this also offers them the opportunity to come to the library less dependent on parents.



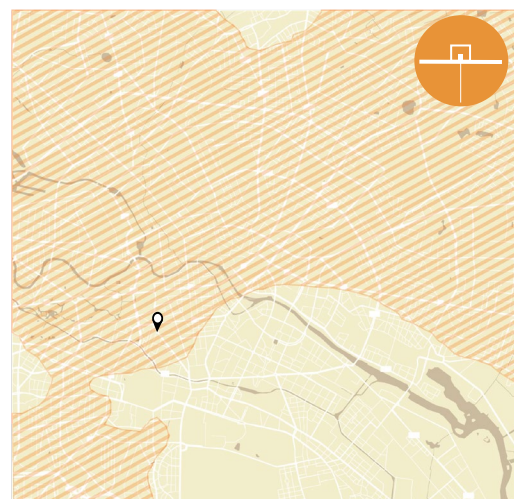
ACCESSIBILITY

Legend
 — U and S bahn
 — Tram
 📍 Site

Figure 35: Site L, Public transport

L. Geothermal potential

Placing the library within the geothermal possibility area offers the opportunity to turn the library and other public buildings into a power plant that can generate energy for its environment. The building offers to generate renewable energy within the city itself without having to obtain energy from distant regions. However, this form of energy will be supplemented with solar and wind energy to meet the city's full energy consumption.



GEOOTHERMAL
POSSIBILITY

Figure 36: Site L, Geothermal potential

SITE L CONCLUSION

Step1: Site choice

When choosing a location, the most important requirement was accessibility by public transport. This is because reaching all children in Berlin is of the utmost importance. Furthermore, central location is also an important element. Likewise, geothermal together with population density. Many of the other requirements offer more options on a smaller scale.

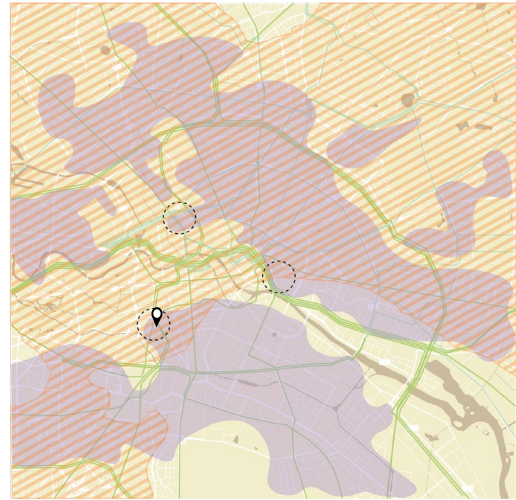


Figure 37: Site L, Site choice

Step 2: Dens areas

By overlaying the three population cards. Population density, children population density, and child poverty density. it is clear to see that there are certain areas where all three are incredibly common. The chosen location is in one of these areas, which is the most central. This provides verification that the location is also a good choice in these considerations.



Figure 38: Site L, Dens areas

Step 3. Connection

Berlin is a big city, so traveling from one place to another will often take some time. To provide a faster connection for children from the indicated areas, direct buses can be used to the library, saving more than 10 minutes of travel time for children and also providing an extra safe way to travel. Making the library even more accessible to children

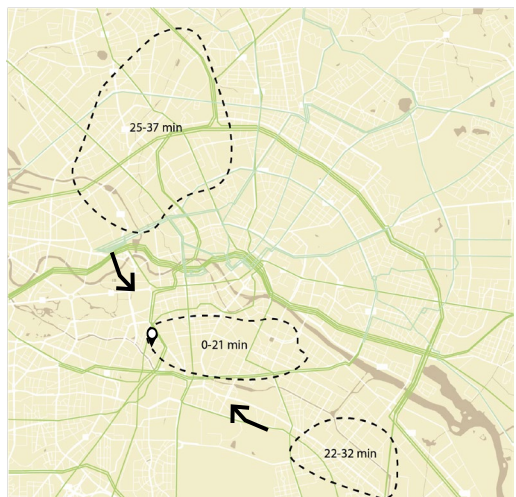
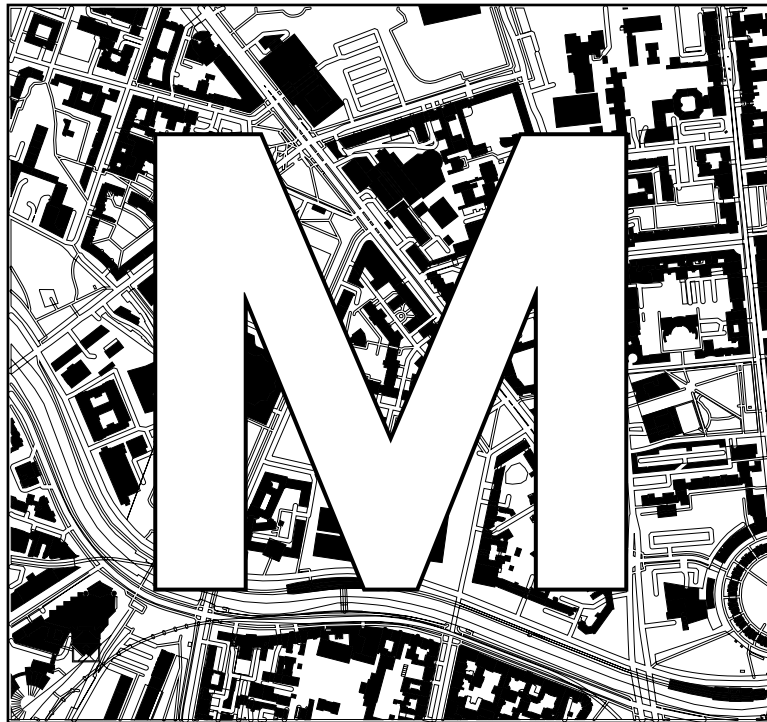


Figure 39: Site L, Connection

Luka Zantman

SITE ANALYSIS

Figure 27: Site M Morf



1 : 2.000

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SITE ANALYSIS

M. Public transport



Figure 40: Site M, Public transport

The scale 1: 2.000 offers a clear image of the accessibility of the location through public transport. This also clearly shows that the location is accessible through multiple means of transport. With an above-ground U-bahn station 5-minute walk away

and an underground S-bahn station right next to the location, offering a wide urban reach. This is reinforced by the bus lines that also pass by the area.

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SITE ANALYSIS

M. Schools and childcare

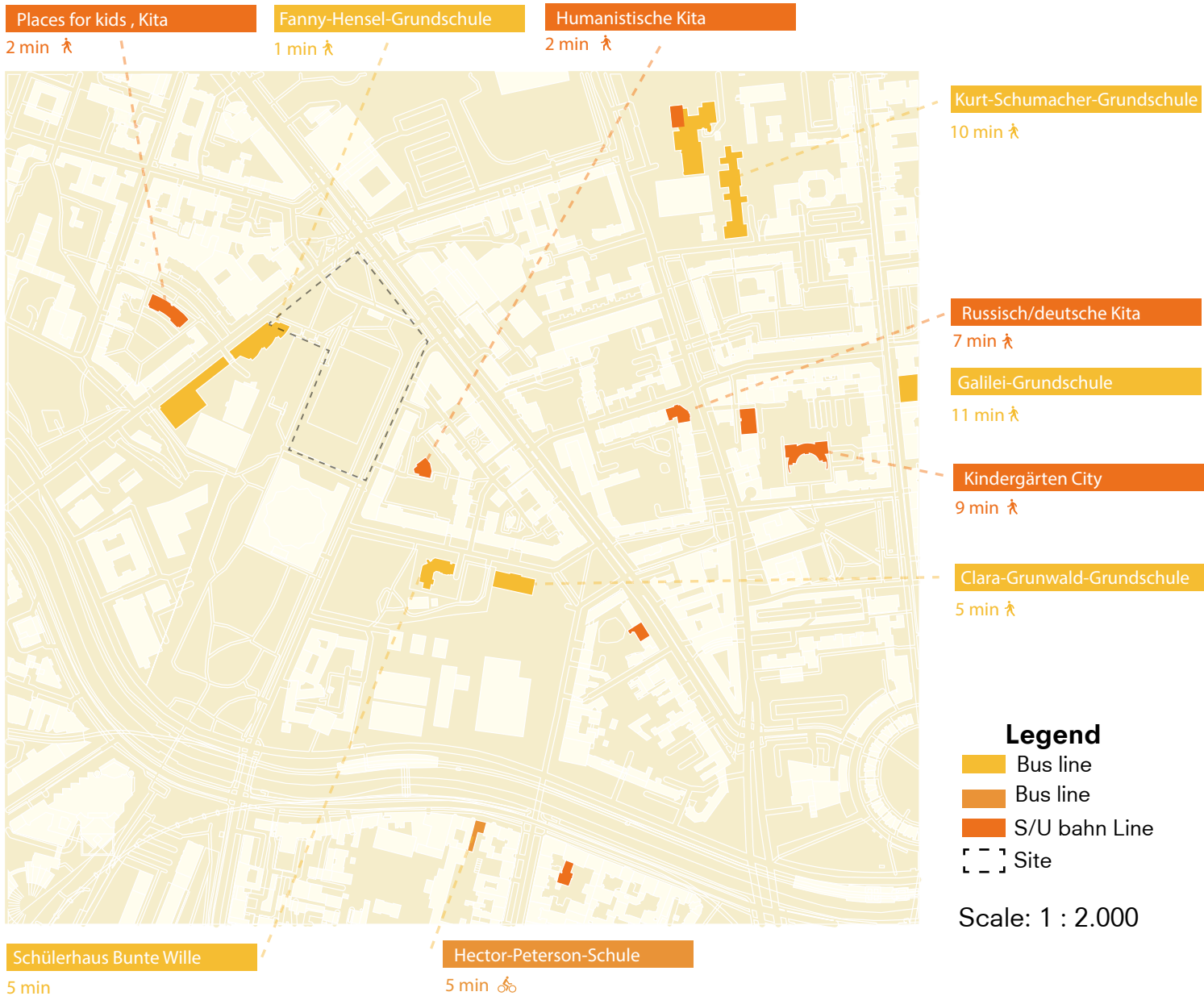


Figure 41: Site M, Schools and childcare

At a neighborhood level, there are at least 5 primary schools within walking distance of the location and 1 secondary school. Besides this, there are several secondary schools within cycling distance.

Many childcare centers and play facilities for children can also be found in the area. This shows a wide range of places where many children will be and opportunities to connect with.

SITE ANALYSIS

M. Children's aid organizations, museums and events, and public playgrounds

One of the ambitions for the area is: Connecting children/schools with different learning opportunities. To give a better idea of what is possible in this regard. Several aspects of the area have been examined. This includes organizations that provide assistance to children and families, museums, various event locations such as theaters and also public playgrounds.

M. Children's aid organizations

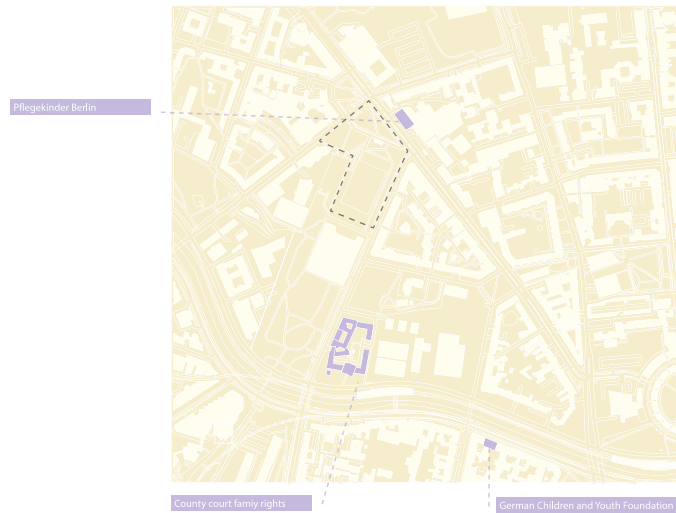


Figure 42: Site M, Children's aid

M. Museums and events

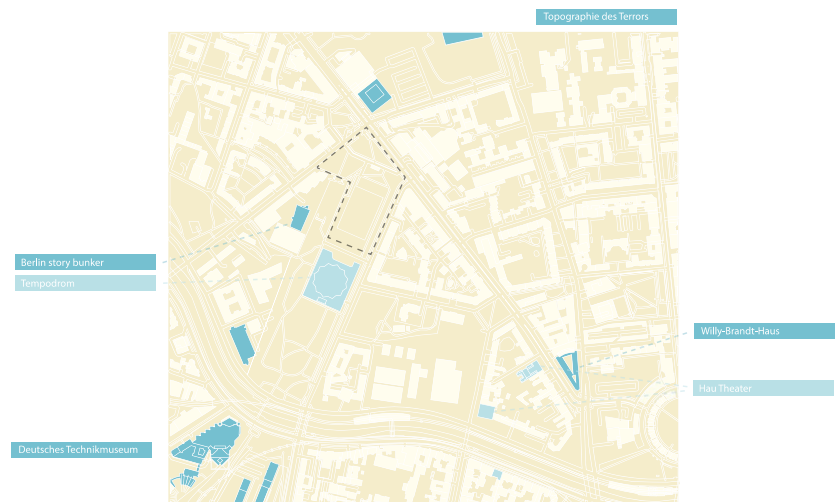


Figure 43: Site M, Museums and events

M. Public playgrounds



Figure 44: Site M, Public playground

SITE M CONCLUSION

Conclusion

By connecting the various schools and children who come to the library with other options in the area, the library becomes a gathering place for knowledge, help, and possibilities. In this way, a library can give an incredible boost to the neighborhood. But not just the neighborhood, the same effect could also have a lot of influence on an urban scale, connecting all children and schools, with libraries, aid organizations, and other opportunities in their neighborhood.

Step 1: Lure

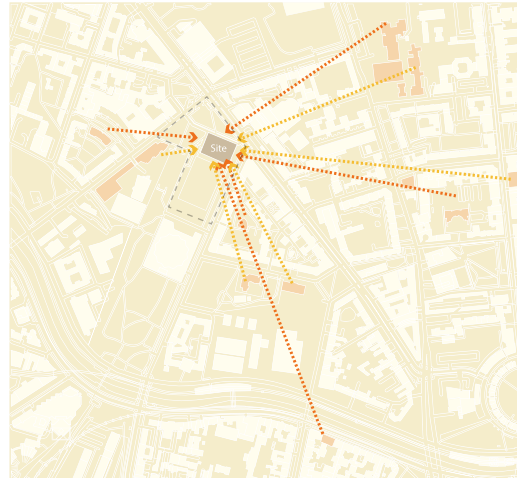


Figure 45: Site M, Lure

Step 2: Connect

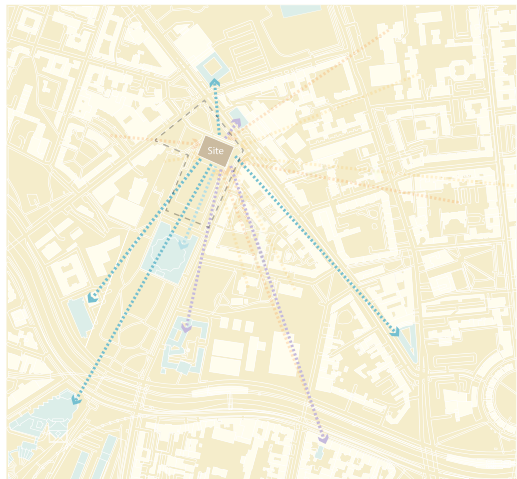


Figure 46: Site M, Connect

Step 3: Fibrant hub

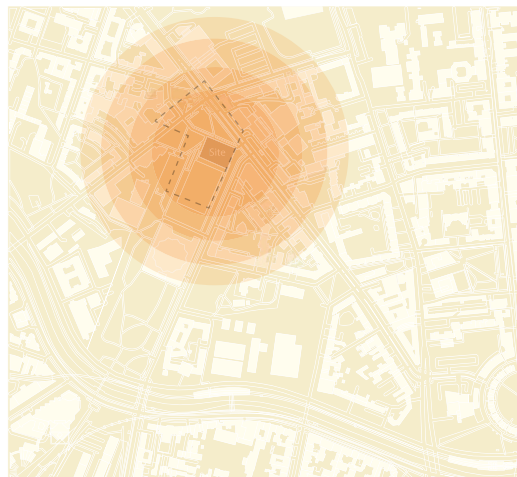


Figure 47: Site M, Fibrant hub

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SITE ANALYSIS

Figure 28: Site S Morf



1 : 500

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SITE ANALYSIS

S. Traffic flows

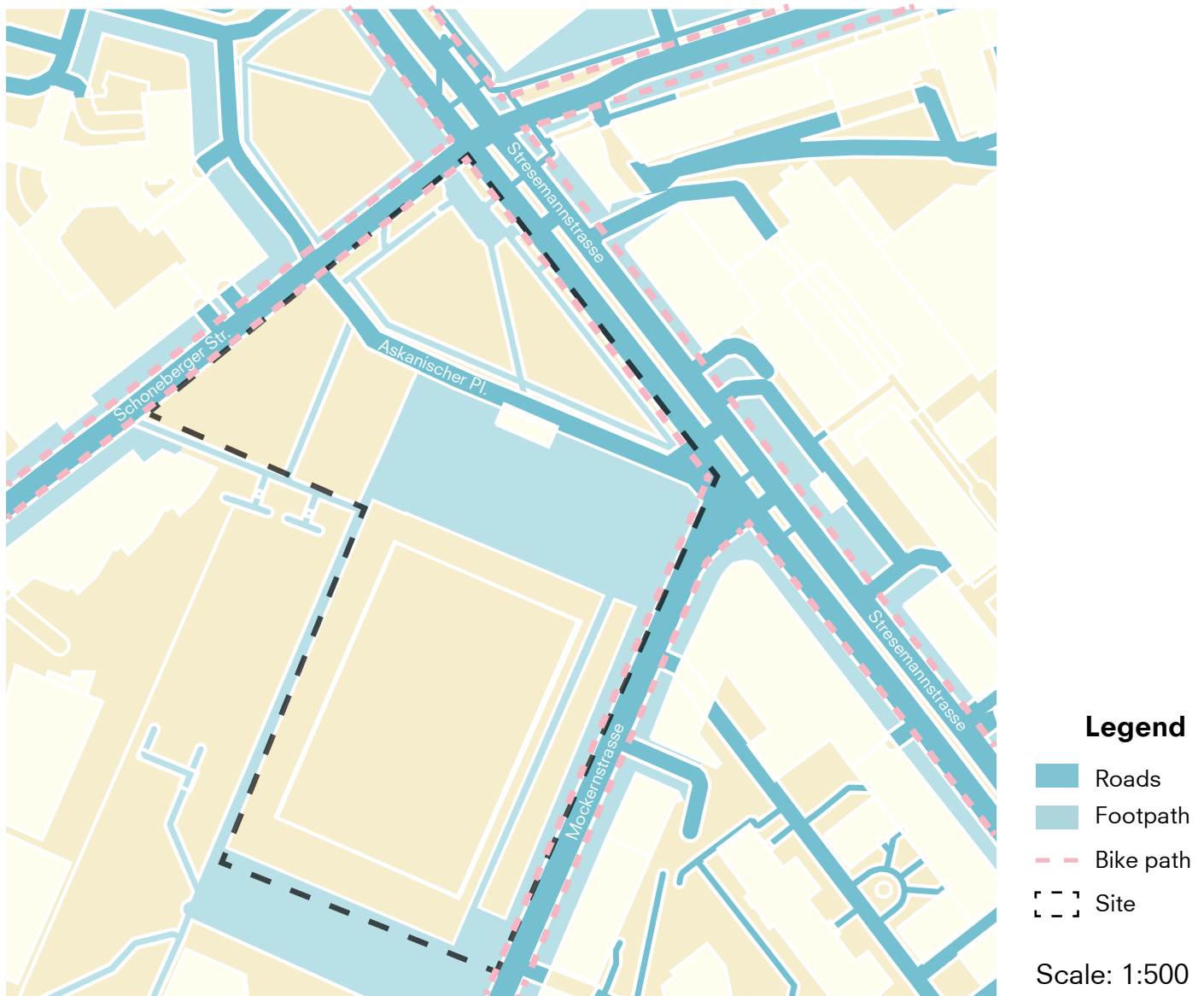


Figure 48: Site S Traffic flow

Three kind of traffic flows pass by and through the location: cars, cyclists, and pedestrians. The various traffic flows have clear lanes. The Stresemanstrasse that passes the location is a very busy multi-lane road. This road is also a main road. The Schonenberger Str. and Mockemstrasse are side roads of this street and also a lot quieter. The As-

kanischer Pl that goes through the location served more as a parking street than as a flow street. However, this street creates a separation between two parts of the park, which is a disadvantage for pedestrians. It seems here that the car is given the utmost priority over pedestrians and bicycles, which is peculiar in a park.

SITE ANALYSIS

S. Greenery



Figure 49: Site S Greenery

The Anhalter Bahnhof location is part of the Elise Tilsen Park. This park includes a wooded section that is somewhat rougher and where there are still old railway tracks from the train station. Furthermore, there is a kind of concert hall (Tempodrom) in the middle of the park and there is a large football field. The location itself

is at the end of the park, where there is the least greenery and the least attention seems to be given to it. A large part of the location consists of an asphalt square, with a few trees on it. This is the least green part of the park and therefore feels very separate.

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SITE ANALYSIS

S. Building heights

The buildings around the park are often around 20 meters in height, there are slight differences between them. However, the buildings in the park, such as the school, all seem smaller, up to 15 meters. The Tempodrom is an exception to this.

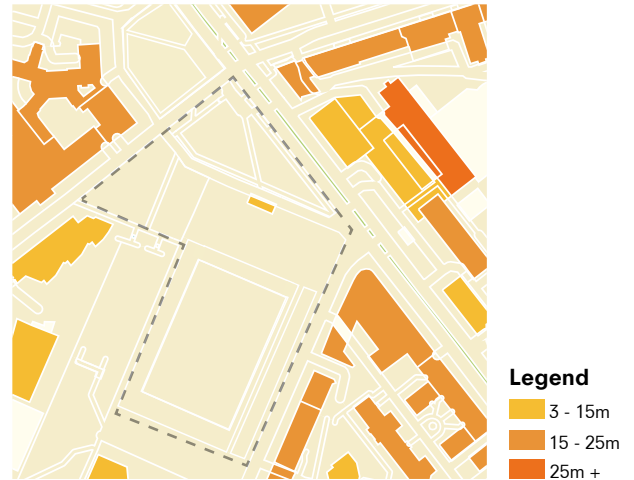


Figure 50: Site S Building heights

S. Parking spots

There are parking spaces for cars on all roads around the location, these also run across the site, cars are parked around the Anhalter Bahnhof monument. This ensures that the site does not do justice to the monument and gives a neglected image.

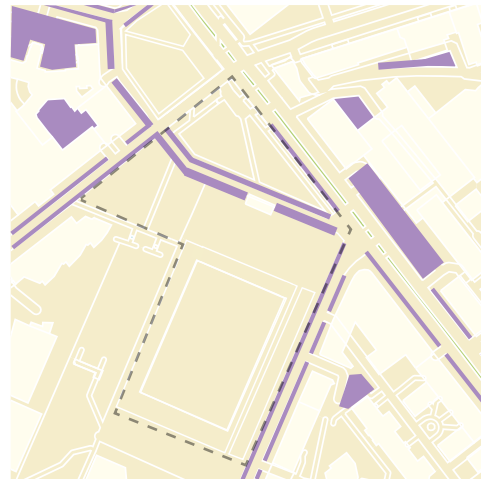


Figure 51: Site S Parking lots

S. Public transport

It is also in scale S clearly visible that the location has access to several public transport means and that this ensures that the location is well connected to the rest of the city.

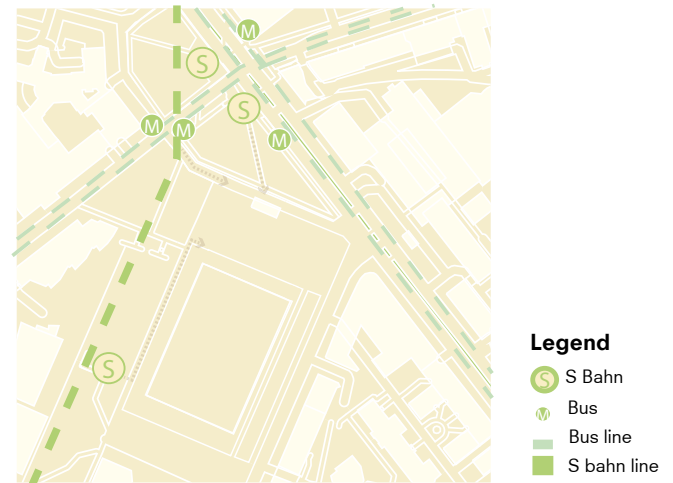


Figure 52: Site S Public transport

SITE S CONCLUSION

Conclusion

The location offers many options for the Mother library. By adding small points for improvement in the area, the location can become ideal. The Askanscher PI will be closed off for cars. The area becomes more pedestrian and child-friendly. This also ensures that the monument becomes more central, without the cars being parked around it. The walkways of the park will be extended further, creating more unity in the park. As a second step, the greenery of the park will be extended, making the location more one with the rest of the park. Feeling less closed off. Thirdly, the library that is built on the location will focus on the park, and less towards the busy road.

Step 1: Child friendly

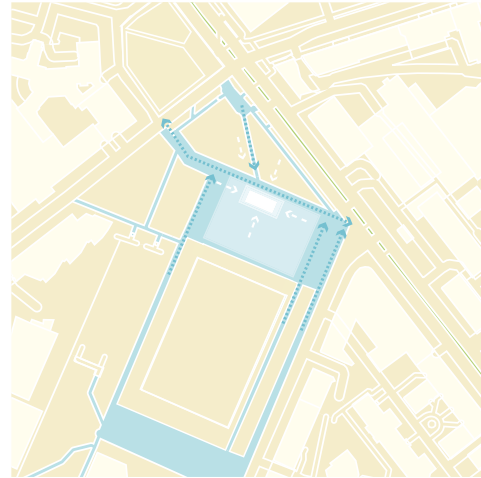


Figure 53: Site S Child friendly

Step 2: Connect park

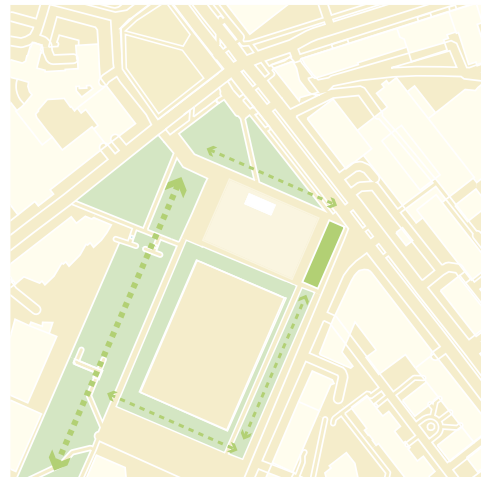


Figure 54: Site S Connect to park

Step 3: Focus on park

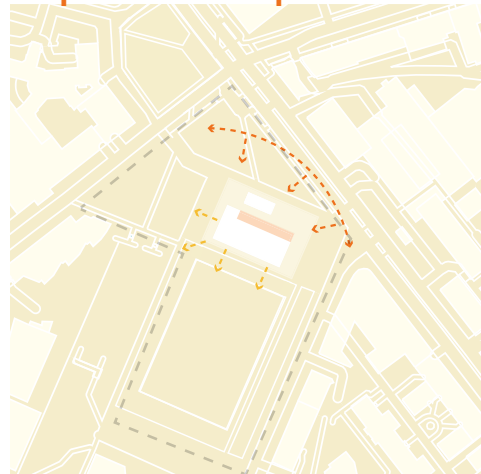


Figure 55: Site S Focus on park

CONCLUSION AND DESIGN PRINCIPLES

Conclusion

The three scales L, M, and S examined how the children's library can best function within the city of Berlin at both urban and neighbourhood scales. At the urban level, it has become clear that accessibility and a central location of the library are very important. The various population density maps also support the idea that the library should be centrally located in the city to be closest to most areas where many children/people live. In order for the library to also work in a neighbourhood, it is important to connect to existing options in the neighbourhood and to be in a neighbourhood where many children can have access to the library. By approaching the location on scale S in the right way and focusing on child-friendliness and connection with the environment, library users who come from both far and near (urban and neighbourhood scale) will feel more at ease and connected to the library and its surroundings.

Accessibility



Figure 56: Design principle: Accessibility

Connection with site

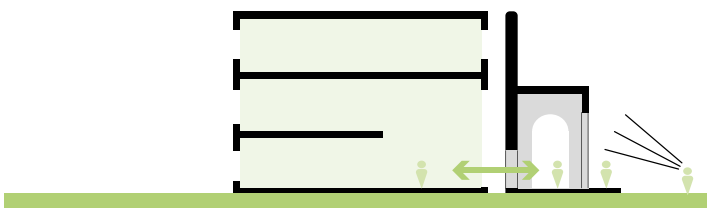


Figure 57: Design principle: Connection with site

Child friendly environment



Figure 58: Design principle: Child friendly

CONSTRAINTS SITE

Dimensions and distances

Based on the research into the site and the elements present, certain constraints have been determined that ensure that the building fits within the location. The total floor space of the program has been taken into account. n determined that ensure that the building fits within the location. The total floor space of the program has been taken into account.

1. Dimensions and distances

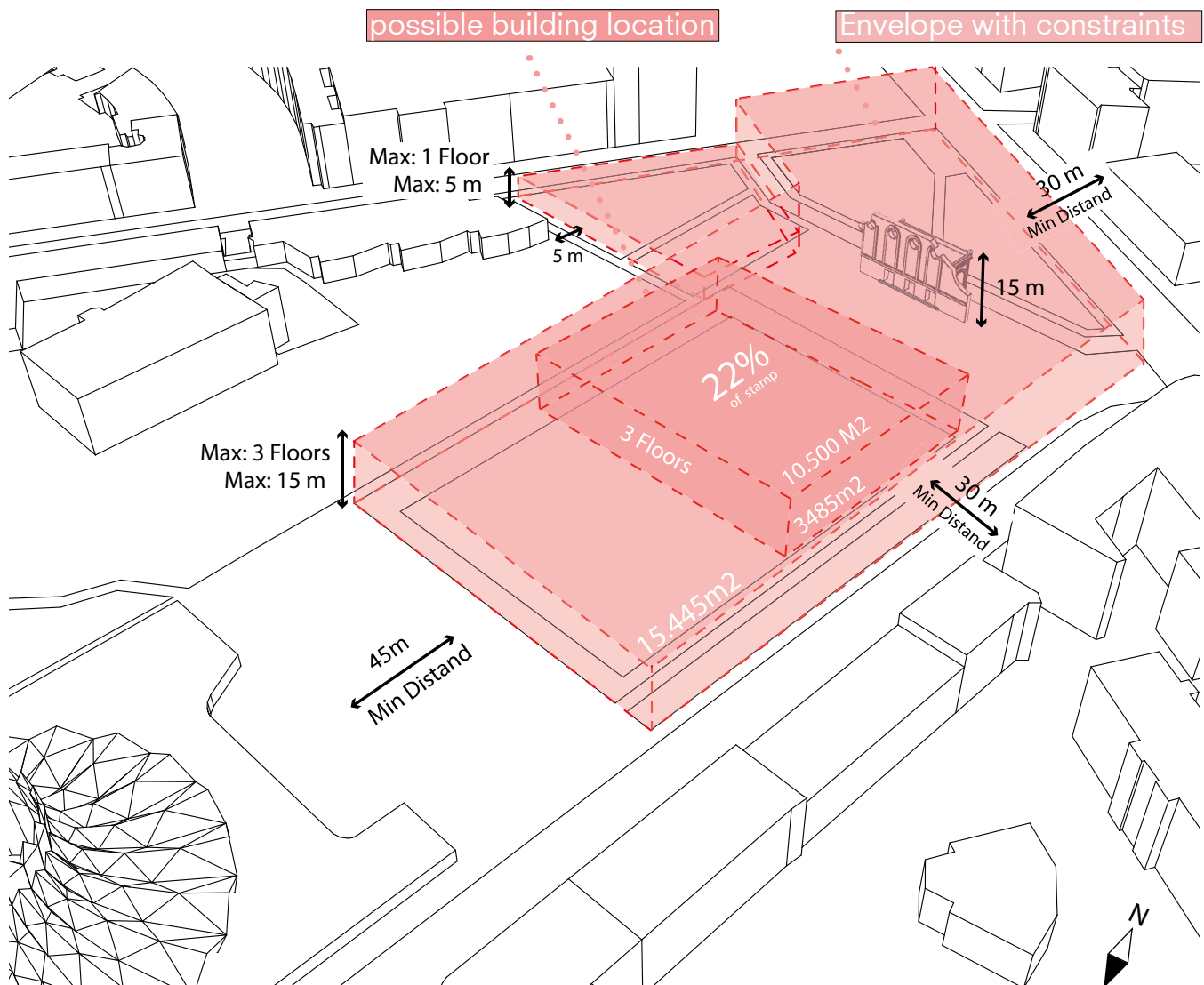
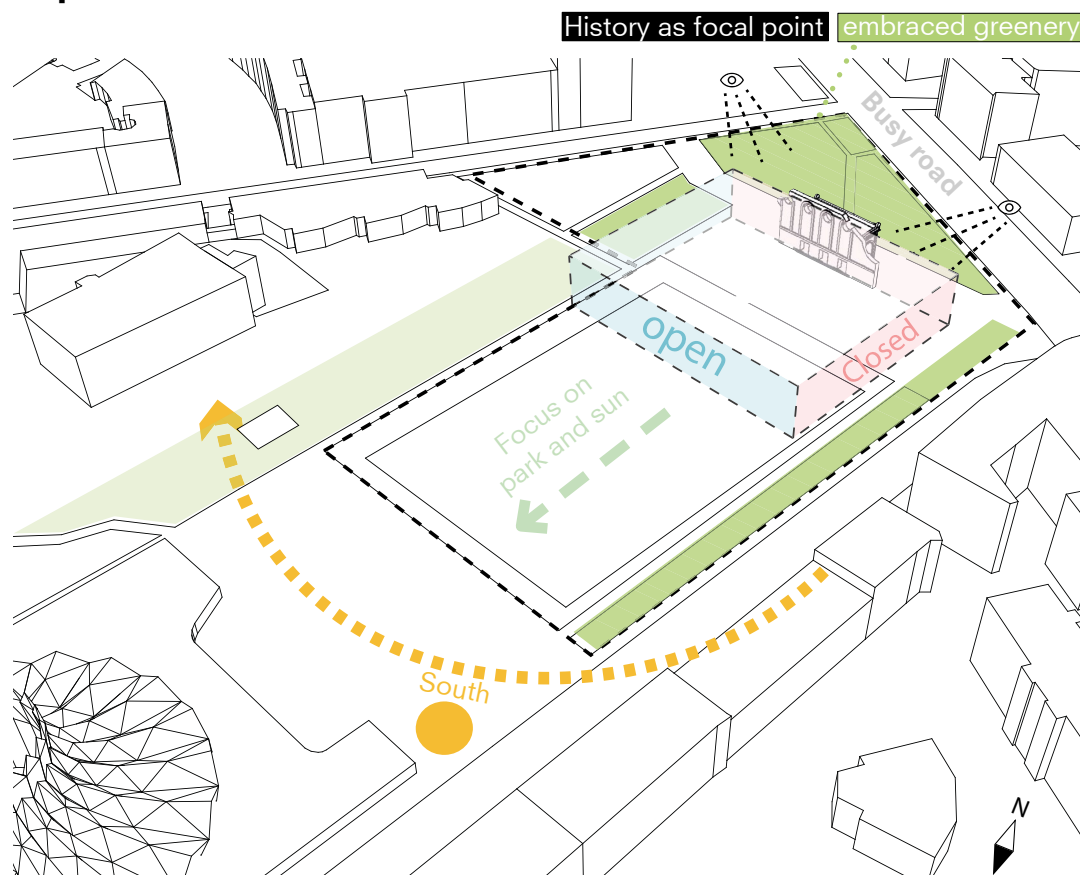


Diagram illustrating the accessibility of the school site, showing various routes and designated areas:

- bicycle storage**: Designated area for bicycle storage, indicated by a bicycle icon and a dotted line.
- School bus carpool**: Designated area for school bus carpooling, indicated by a school bus icon and a dotted line.
- walking route**: Designated route for pedestrians, indicated by a person icon and a dotted line.
- Cycling route**: Designated route for cyclists, indicated by a bicycle icon and a dotted line.

The diagram also shows a north arrow pointing towards the top right.

3. Focus points



Luka design brief 60

Conclusion

04

CONCLUSION

Conclusion

To conclude on the the main question: **"To what extent can architecture serve as a medium to help children read more books and explore the world of reading in the digital age?"** the answer is sought in research based on location, client and program.

To ensure that children read more, it is important that children have a positive experience with reading and the place they read. Reading is seen as an obligated and boring thing and libraries are seen as dull places. The mother library will become a place where children's love for reading will be born. Creating an experience around reading that is positive and fits the individual child's preferences. The fit

every child needs is looking at children from a wider perspective. In some areas, children can be viewed in groups and space can be adjusted accordingly. In many cases, children also have individual needs. Space must match the diversity of the individual. An incredibly important element here is choice and freedom. Making individual choices stimulates children to learn explore and find their own preferences.

Giving space for this in a library creates a positive experience with reading and libraries. Making individual choices stimulates children to learn explore and find their own preferences. Giving space for this in a library creates a positive experience with reading and libraries.

Main conclusion / design principles

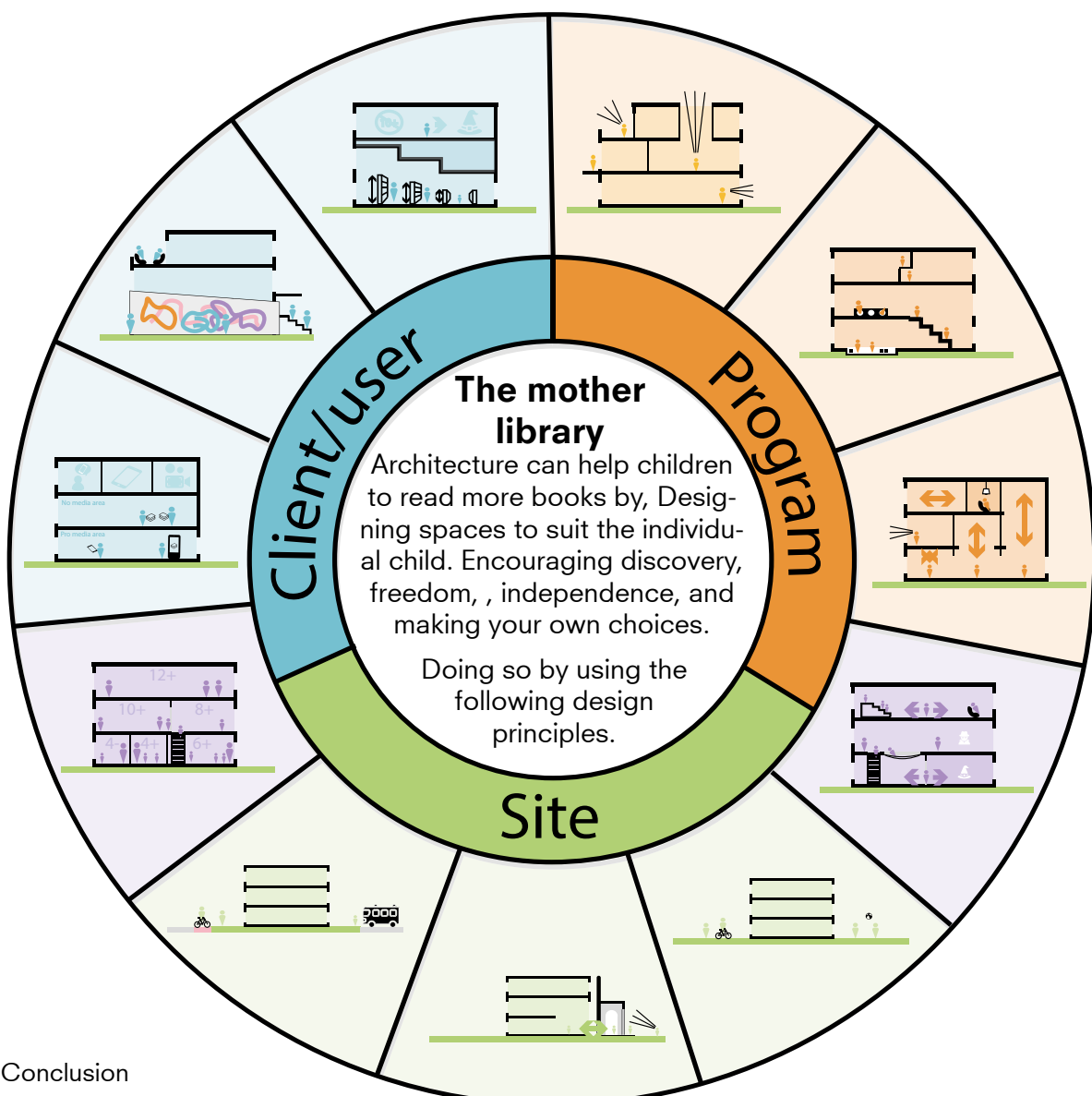
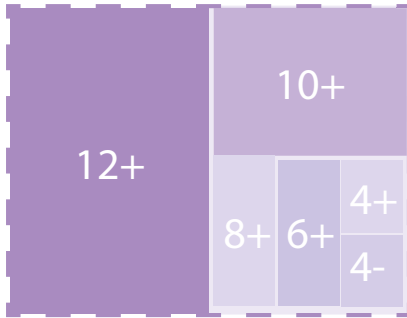


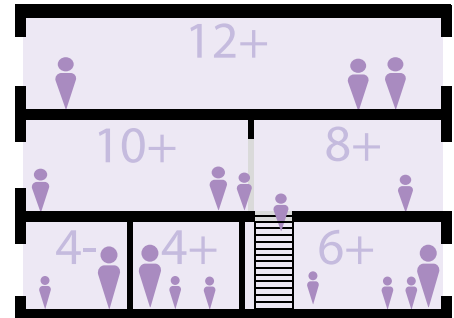
Figure 62: Conclusion

DESIGN PRINCIPLES

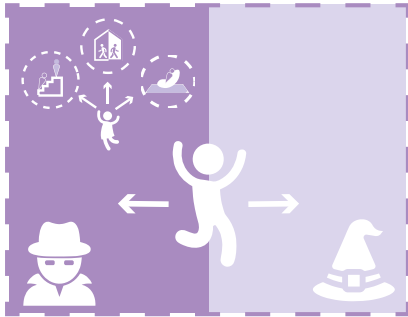
Age-preference



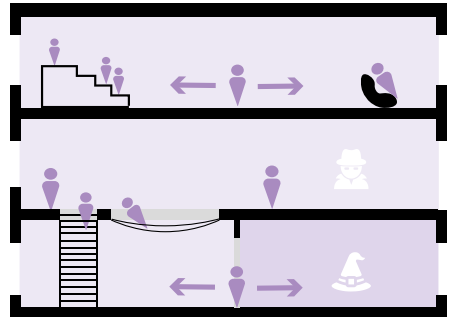
- Each age group has its own oriented place
- The need for more space increases with age
- Different connections between age groups
- Space for little ones and parents



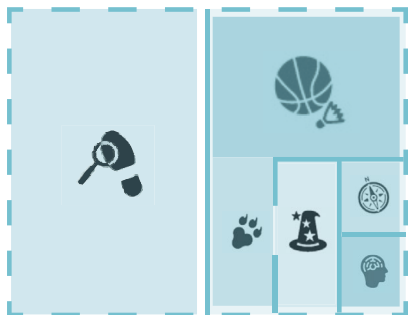
Choices and freedom



- Diversity of choice to suit your preference
- Each area should provide open, semi-open and enclosed spaces
- Children should be able to choose between areas



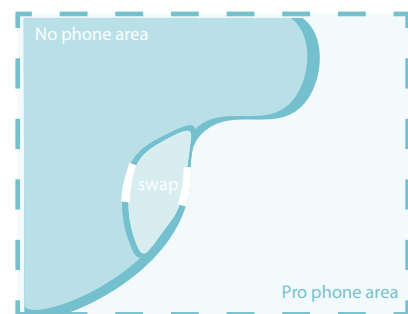
Age-orientated



- Areas have a preferred age, but are open for interpretation
- Space suggests not forcing
- Due to the size of furniture, level of reading books and theme, children find the place where they fit



Accept Digitalization



- Learning spaces about and with digitalization
- Digital possibilities who collaborate with the library
- Choice in digital and non-digital areas

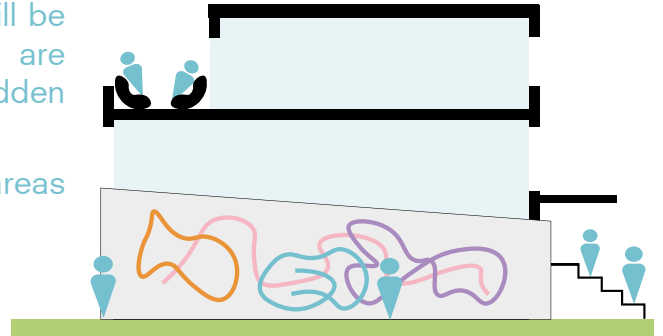


DESIGN PRINCIPLES

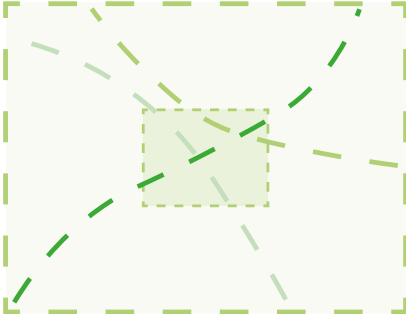
Elements of the city



- Elements of Berlin that will be reflected in the building are Close history, vibrant, hidden hubs and Graffiti.
- Many outdoor seating areas open for interpretation



Accessibility



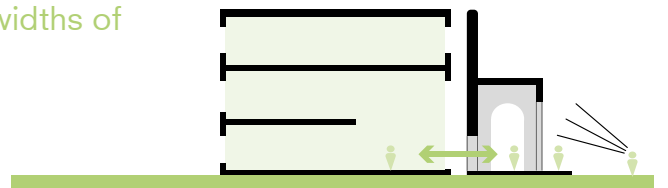
- Accessible with public transport
- Centrally located in the city
- Space for cyclists and pedestrians
- Bus stop for school buses



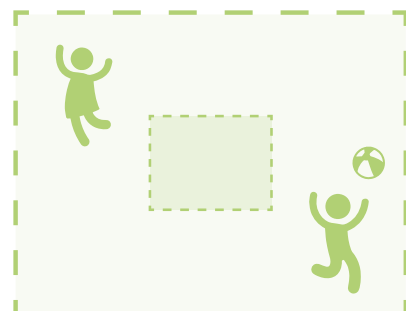
Connection with site



- Taking over elements of the location
- Connection to old gate
- Connect to heights and widths of location and gate



Child friendly environment

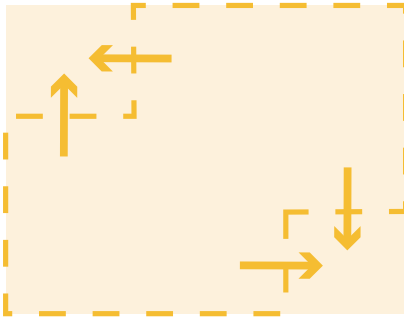


- Occlusion of busy road and little space for cars
- More space for the park
- Space for children to play and/or exercise outside

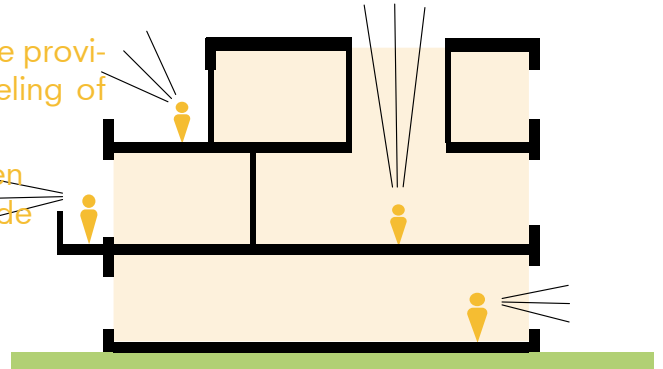


DESIGN PRINCIPLES

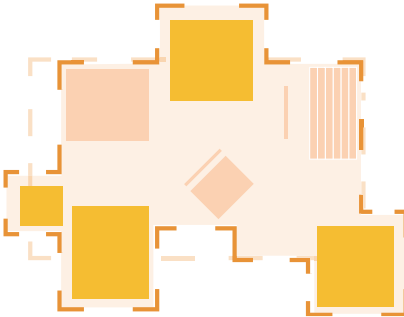
Connection with outside



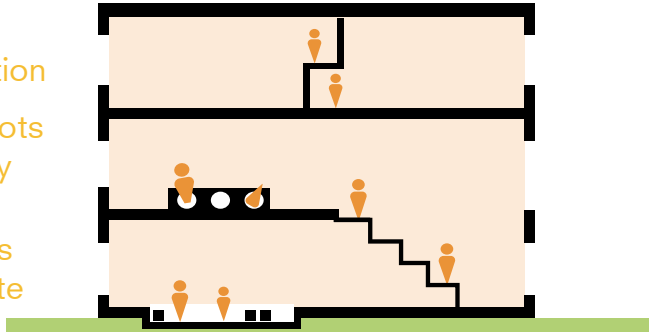
- Outdoor space and nature provide a general pleasant feeling of space
- Direct connection between study areas and the outside
- Many sight lines to the outside
- Outdoor reading areas



Undefined articulated space



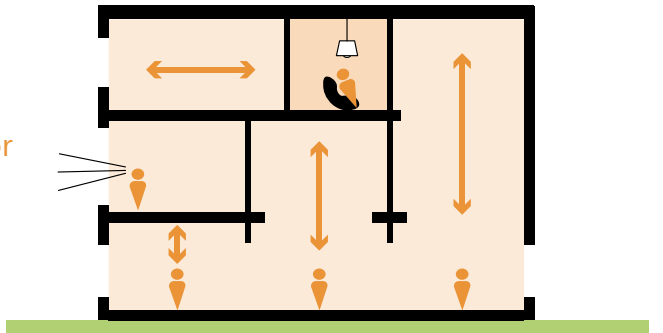
- Each area has multiple spots open for interpretation
- Each area has multiple spots that can be customized by the user
- Spaces with many corners and movement to stimulate senses



Diversity of space



- Spatial diversity
- Spatial choice
- Each area offers space for multiple spatial choices
- Different people feel comfortable in different spaces



SITE

1. Dimensions and distances

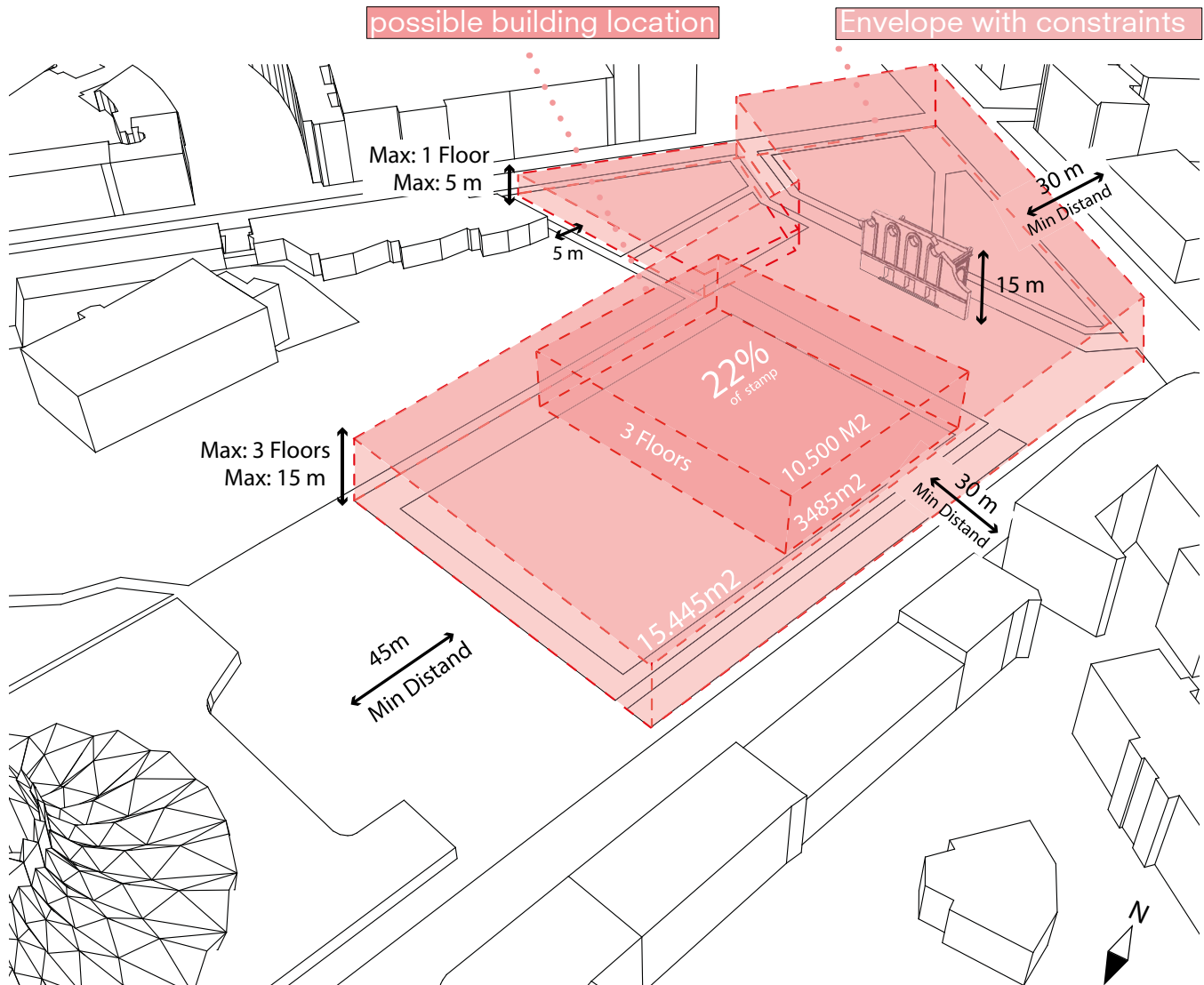


Figure 59: Conclusion: Dimensions and distances

3. Focus points

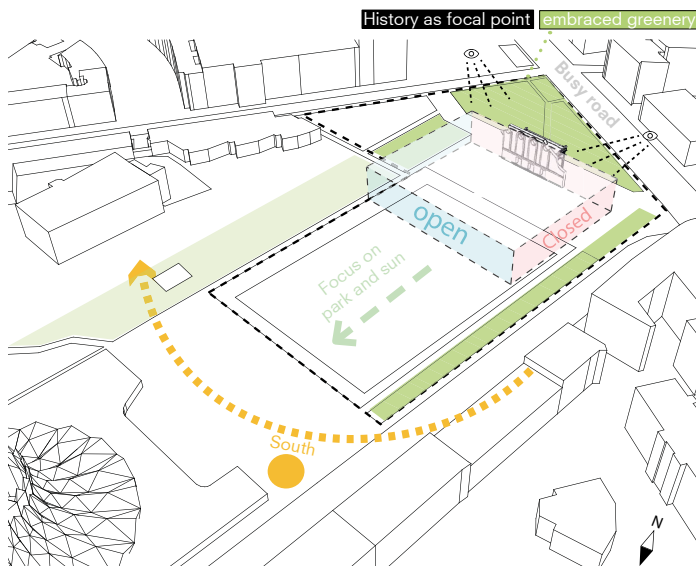


Figure 60: Conclusion: Accessibility

2. Accessibility

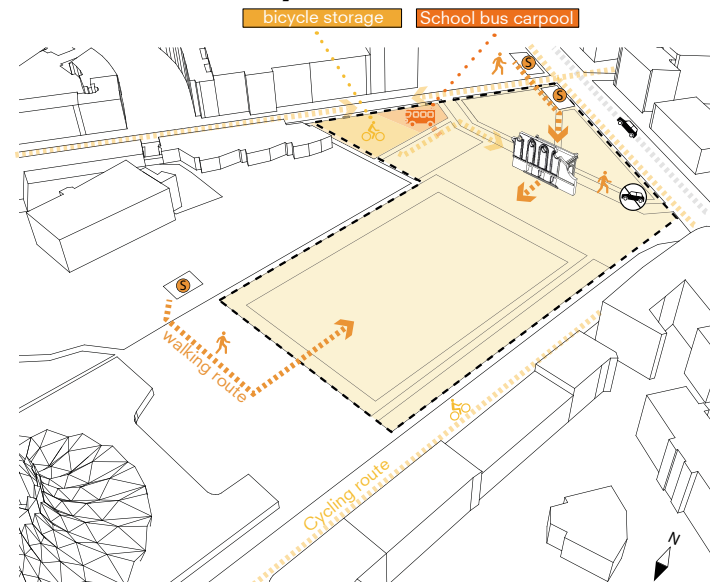


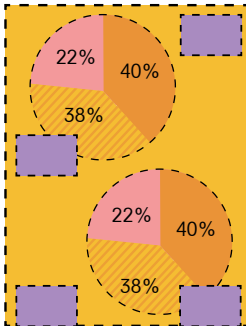
Figure 61: Conclusion: Focus points

Luka Zantman PROGRAM

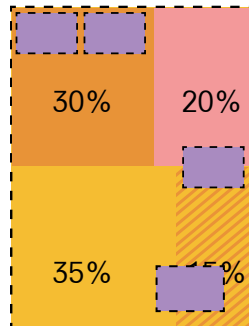
Divided space and layout

The children's department will be divided into areas, where each area is focused on an age group, and offers room for different spatial options. For the teenagers, everything will take place in one space, which itself offers room for different Nooks and corners.

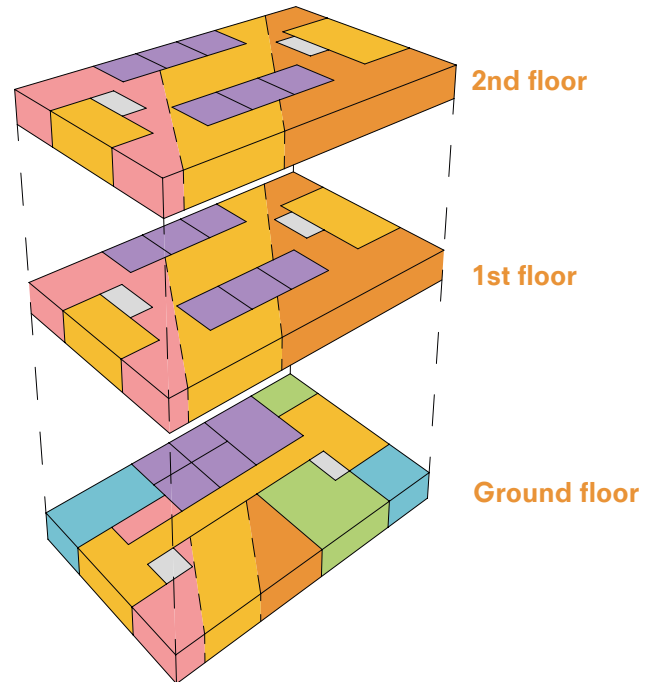
Children



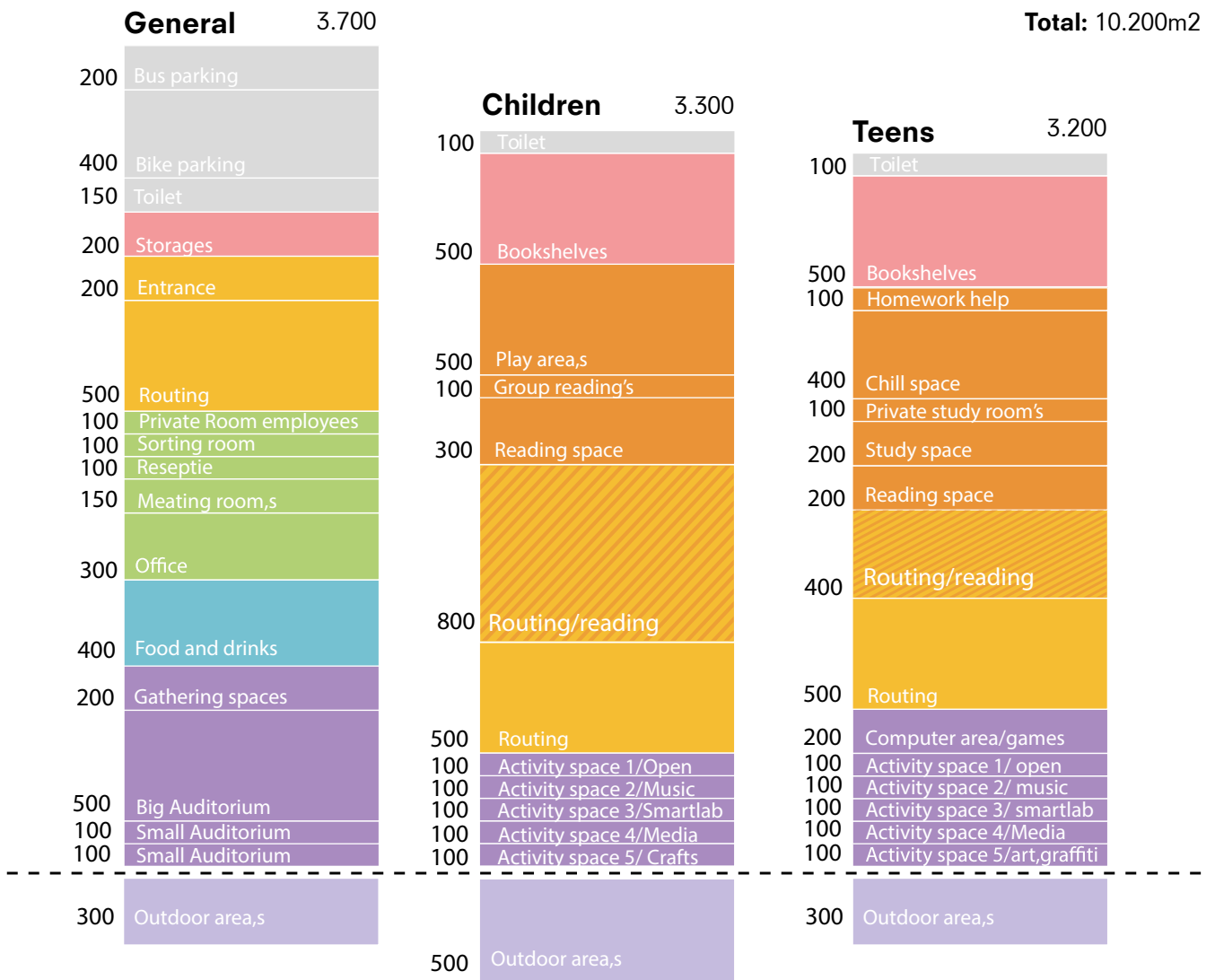
Teens



3D program



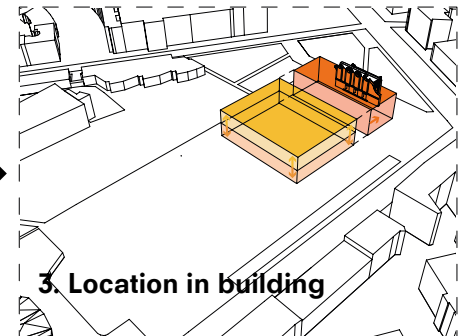
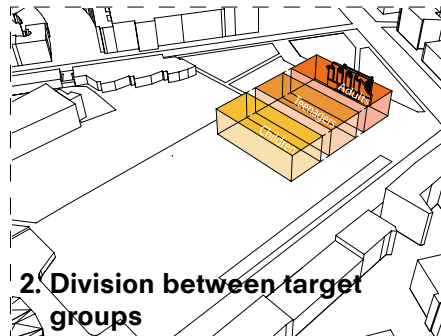
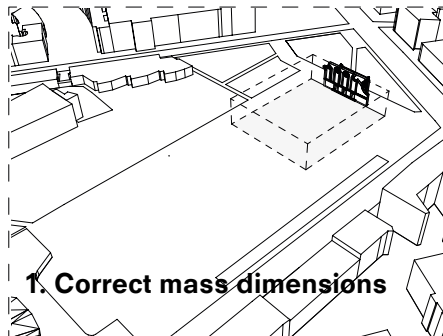
Program bar



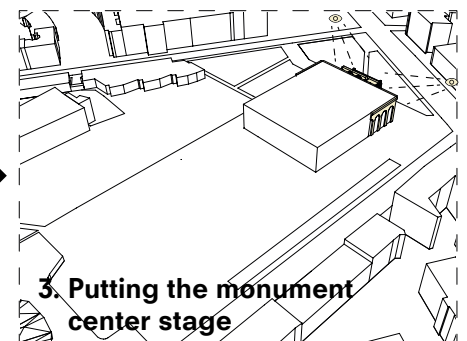
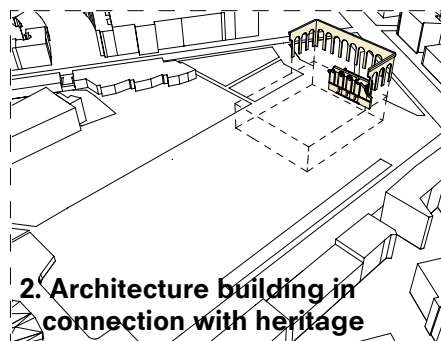
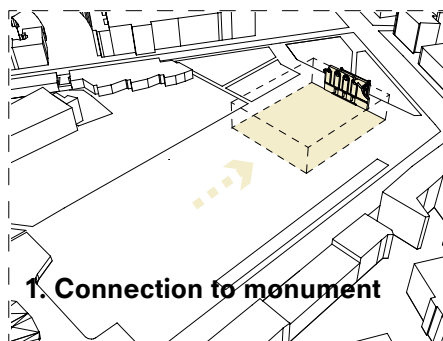
CONCEPT MASS BUILDING

Concept themes

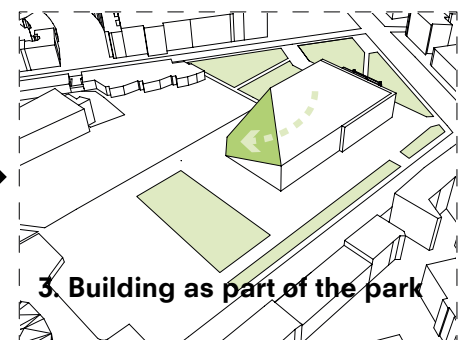
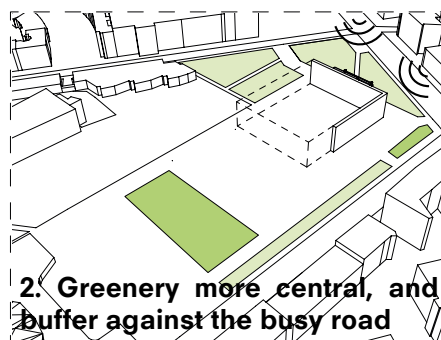
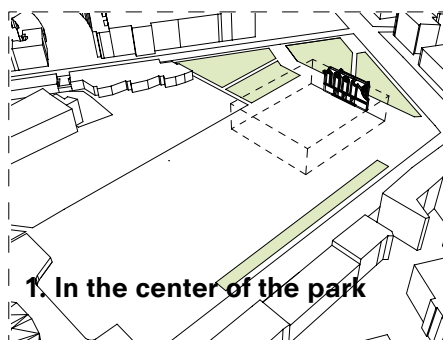
Division target groups



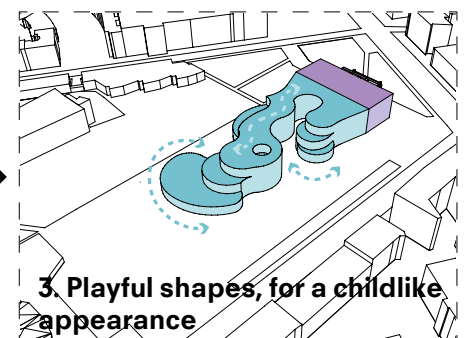
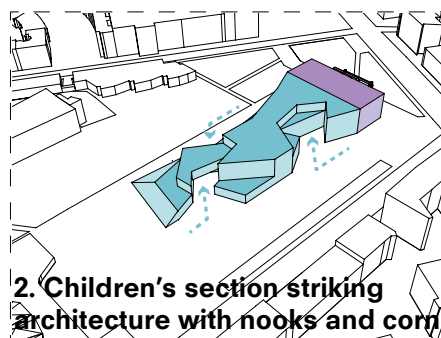
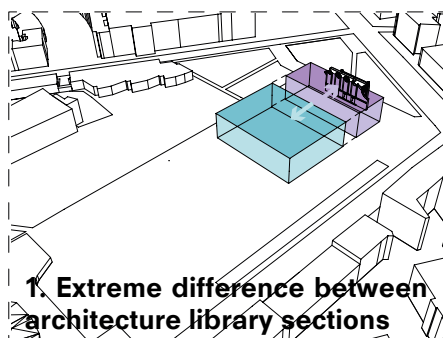
Heritage at center



Building in the park



Architecture distinction



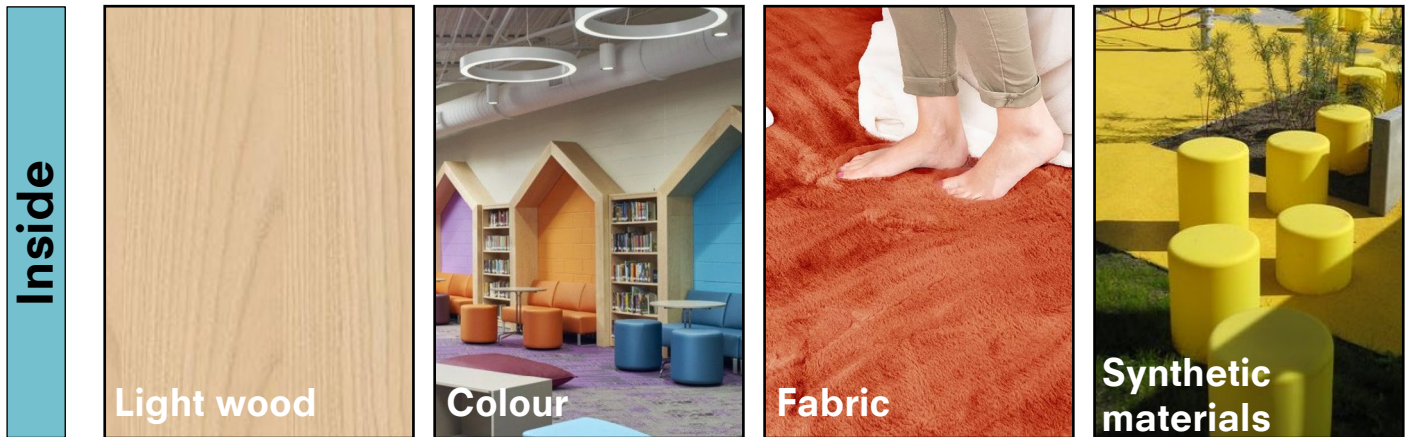
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MATERIALS

Materials

The materials for the building must show a clear difference between the children's library section and the general section, which is also more suitable for more adult target groups. There should be a clear difference from the outside of the building. on the inside of the building, the materials should feel warm and stimulating.

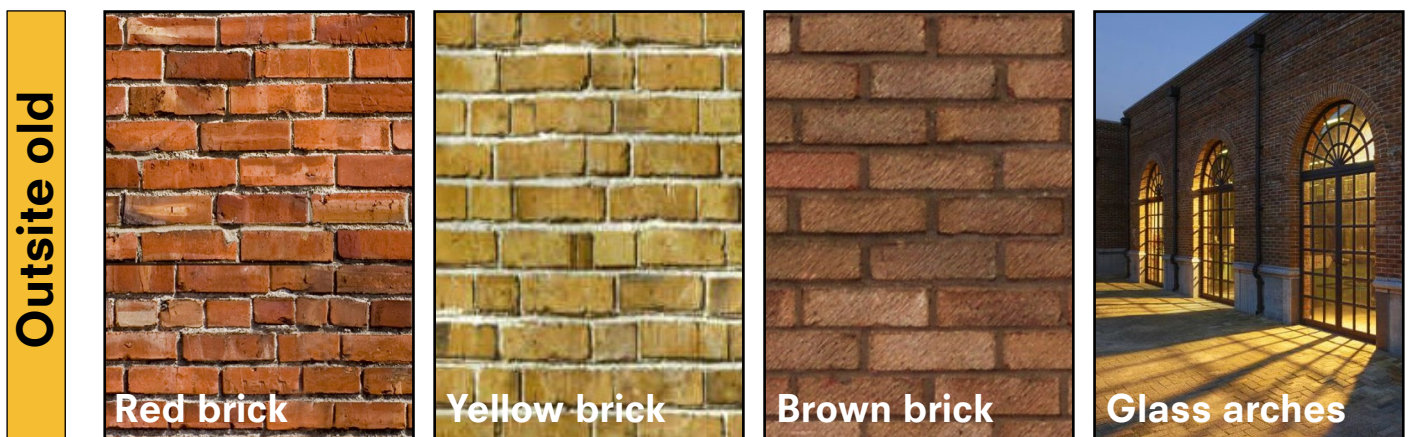
Image 31-42: Materials building



Materials that are warm and colorful to create a warm feeling but also encourage children to explore.



Materials that match the idea we have of a building made for children, and materials that match the environment.



Materials that match the heritage of the location

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SOURCES

Sources

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Images and sources

- Image 1: Self-made photo of Berlin, Luka Zantman
- Image 2: Self-made photo of Berlin, Luka Zantman
- Image 3: Self-made photo of Berlin, Luka Zantman
- Image 4: Self-made photo of Berlin, Luka Zantman
- Image 5: Self-made photo of Berlin, Luka Zantman
- Image 6: Self-made photo of Berlin, Luka Zantman
- Image 7: Self-made photo of Forum Groningen, Luka Zantman
- Image 8: Photo of boekenberg ,www.bibliotheekdeboekenberg.nl
- Image 9: Photo of Book forest, [www. architecturaviva.com](http://www.arquitecturaviva.com),
- Image 10: Photo of Cambridge primary school, www.marksbarfield.com
- Image 11: Photo of St. Vittra school Telefonplan, www.rosanbosch.com
- Image 12: Photo of St. Andrew scots school, www.rosanbosch.com
- Image 13: Photo of Amsterdamse montessorie, www.Hertzberger.com
- Image 14: Photo of Cambridge primary school, www.marksbarfield.com
- Image 15: Photo of Cambridge primary school, www.marksbarfield.com
- Image 16: Photo of St. Vittra school Telefonplan, www.rosanbosch.com
- Image 17: Photo of St. Vittra school Telefonplan, www.rosanbosch.com
- Image 18: Photo of St. Andrew scots school, www.rosanbosch.com
- Image 19: Photo of St. Andrew scots school, www.rosanbosch.com
- Image 20: Photo of St. Andrew scots school, www.rosanbosch.com
- Image 21: Photo of St. Andrew scots school, www.rosanbosch.com
- Image 22: Photo of Herman Hertzberger , vaneesterenmuseum.nl
- Image 23: Photo , Site Anhalter bahnhof, Pictures by Biko Zantman
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- Image 25: Photo , Site Anhalter bahnhof, Pictures by Biko Zantman
- Image 26: Photo , Site Anhalter bahnhof, Pictures by Biko Zantman
- Image 27: Photo , Site Anhalter bahnhof, Pictures by Biko Zantman
- Image 28: Photo , Site Anhalter bahnhof, Pictures by Biko Zantman
- Image 29: Photo , Site Anhalter bahnhof, Pictures by Biko Zantman
- Image 30: Photo, Site Anhalter bahnhof, old picture, wikipedia.org/wiki/Anhalter_Bahnhof
- Image 31: Photo materials, light wood, materialen register
- Image 32: Photo materials, colour, i.pininmg.com
- Image 33: Photo materials, Fabric, www.volero.nl
- Image 34: Photo materials, Synthetic materials,www.mamsatwork.nl
- Image 35: Photo materials, stone, materialen register
- Image 36: Photo materials, wood, materialen register
- Image 37: Photo materials , Coloured glass, i.pining.com glasgevel
- Image 38: Photo materials, Greenery, , materialen register
- Image 39: Photo materials, Red brick, materialen register
- Image 40: Photo materials, yellow brick, materialen register
- Image 41: Photo materials, Brown brick, materialen register
- Image 42: Photo materials , Glass arches, www.made-showroom-photo.nl

