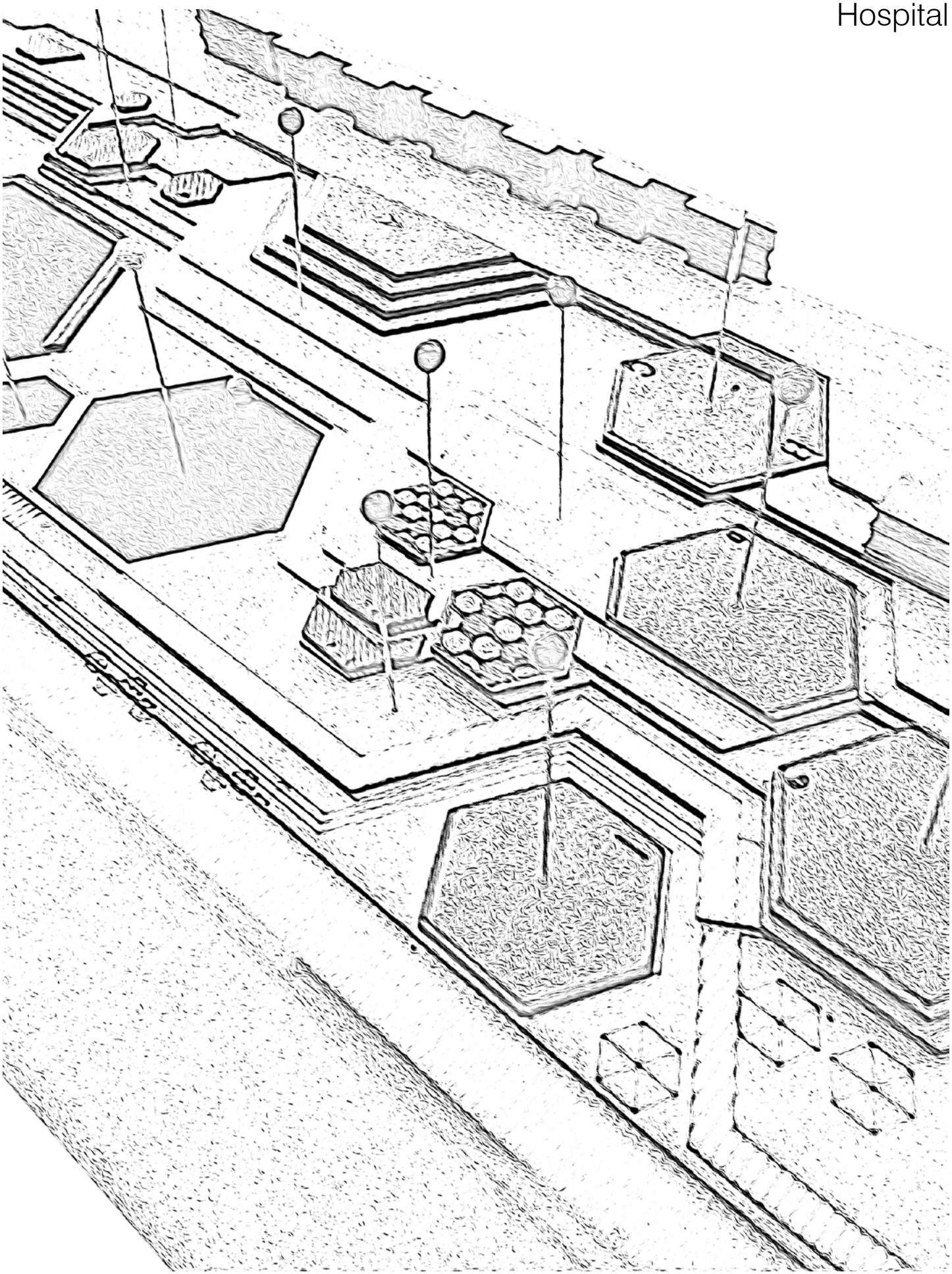
The Health Line

A Health Promotional Approach to the Borderline Between City and Hospital



The Health Line

A Health Promotional Approach to the Borderline Between City and Hospital

Spring 2017

Master Thesis
Chalmers School of Architecture
Department of Architecture and Civil Engineering
Negar Tatari
Examiner: Peter Fröst
Tutor: Christine Hammarling

CHALMERS

ABSTRACT

Hospitals have always played a critical role in human well-being and therefore, their appropriate architectural functioning is of vital importance. While there has been a considerable attention to this perspective, little has been turned to the interaction between hospital and city. Hospitals are usually segregated from the neighborhood and accordingly cannot have their influential role in healing process and wellbeing for “more than 90 percent of the people walking about in an ordinary neighborhood who are unhealthy” (Alexander, 1977).

The purpose of this master thesis is to fill this gap by exploring a space outside of the hospital building and on the transition point where the neighborhood begins to be a hospital. The aim, in this spot, is to take advantage of evidence based design as well as connectivity strategies to make a transparent boundary and a strong link with an inviting character to define a space in which all people can improve their health by active and passive participation in new forms of health processes.

The method being used is to study references and statistics in order to realize the real demand of such space and acquire deep knowledge about the subject. Besides, digital analysis on connectivity and integration within urban context is a tool for this master thesis to research and investigate.

Consequently, it introduces a health promoting space , as close as possible to people’s everyday activities, which is capable of keeping people healthy, in both mind and the body and put its emphasis on health not sickness. The final result is to delineate a health promotive link between neighborhood components through Högsbo hospital which belongs not only to the patients but also to neighborhood and city.

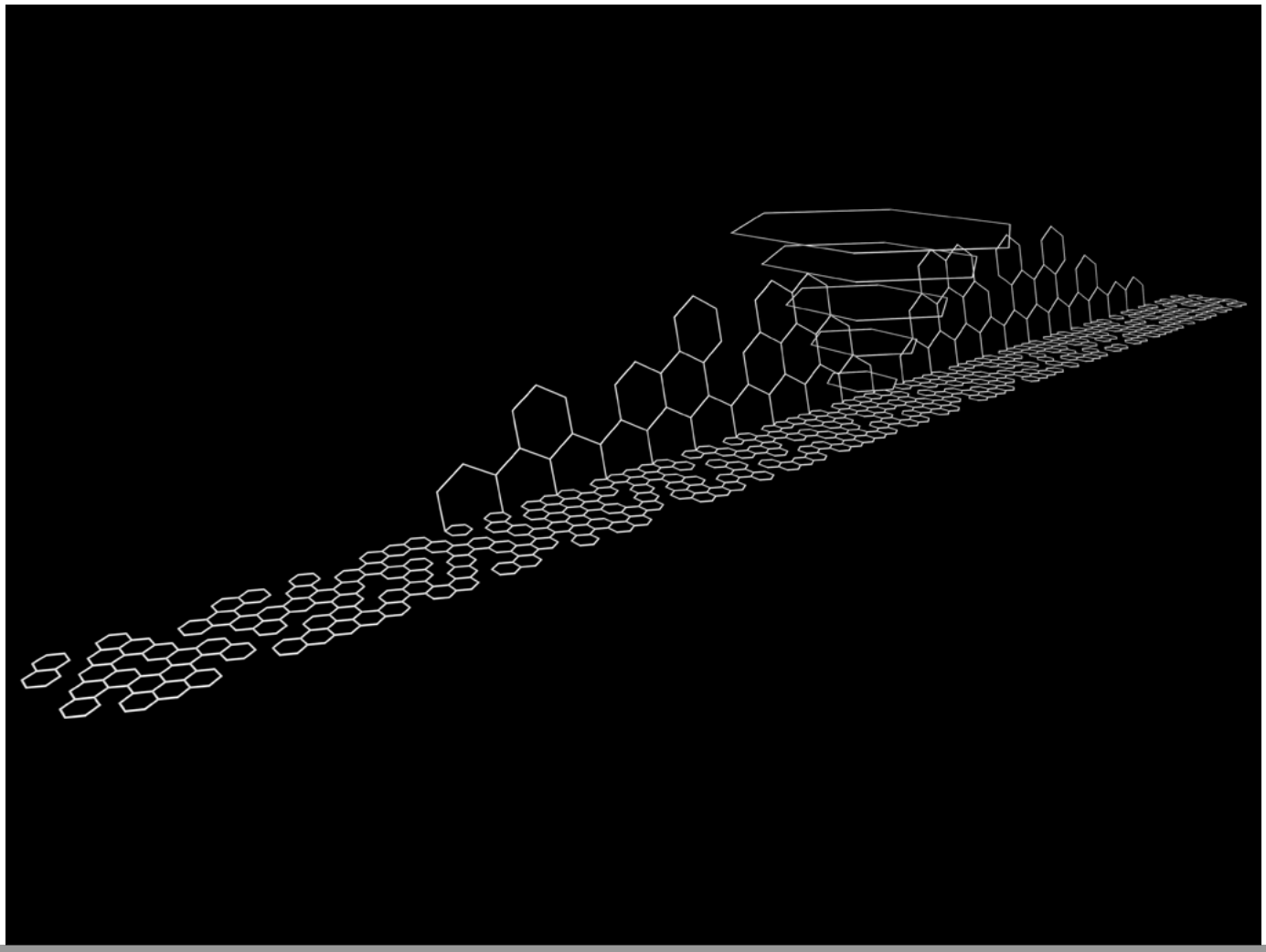


TABLE OF CONTENT

1- Introduction
1.1- Background 5
1.2- Purpose 5
1.3- For who 5
1.4- Questions 5
1.5- Delimitation 5
1.6- Method 6
1.7- Typology 6

2- Theory
2.1- Vision: 8
2.1.1- Health promotion 8
2.1.2- Transparency 8
2.1.3- Sustainability 8

2.2- Theory investigation 9
2.2.1- Health promotion 9
2.2.2- An active sidewalk 10
2.2.3- Factors that contribute to an active sidewalk experience 10

2.3- Case studies 14
2.3.1- Case study #1 14
2.3.2- Case study #2 15
2.3.4- Case study #3 16
2.3.5- Case study #4 17

2.4- Workshops 18
2.4.1- Workshop #1 18
2.4.2- Workshop #2 19
2.4.3- Workshop #3 20

3- Context
3.1- General overview 23
3.2- Large scale analysis 24
3.3- Space syntax/ VGA analysis 27
3.4- Small scale analysis 29

4- Design strategies
4.1- Preliminary discussion 37
4.2- Strategy diagram 38
4.3- Communicating the space qualities 39
4.4- Initial ideogram 41
4.5- Forming a concept 43
4.6- Preliminaries 44

5- Design proposal
5.1- Pathway plans 47
5.2- Sections 54
5.3- Hospital facade interaction 60
5.4- Facade 61

6- Discussion
6.1- VGA analysis argumentation 63
6.2- Summary 65
6.5- References 66

INTRODUCTION

BACKGROUND

There is growing evidence that the design of a healthcare facility will directly affect the health outcomes of patients (Ulrich, 2006).

"Despite admirable intentions, the efforts of the most highly qualified and assiduously dedicated community health caregivers are too often thwarted by architecturally dysfunctional conditions experienced in hospitals, outpatient clinics, and in any setting where medical and nursing care is administered. Anecdotal evidence in history points to the symbiotic relationship between architecture and health care, and recent empirical evidence points to the significant therapeutic role of architecture in relation to human health and well-being. Research within architecture and its allied environmental design disciplines, however, has generally overlooked the therapeutic and related affordances of the architectural care setting with respect to community public health milieu. Meanwhile, the deleterious effects of poorly planned clinical environments and urban space border routinely remain overlooked or entirely dismissed and the harmful effects of these conditions upon health and well-being remain undetected, often, for decades"(Verderber and Kimbrell, 2005).

This is where health promotional approach toward healthcare architecture becomes of vital importance. Health promotion acknowledges that individuals are not always accountable or responsible for their own health status, and that strong external elements are always in play. Broader determinants of health, such as ecological, cultural, economic and environmental factors, are known to determine the level of health of individuals and communities, and all have political underpinnings within an 'environmental engineering' process (Whitehead, 2004).

Purpose and aim

Partnerships between public health, urban planning, architecture, and local constituents should be cultivated toward focus on reducing health disparities (Brittin, Elijah-Barnwell, Nam, Araz, Friedow, 2015). The purpose of this master thesis is to rethink city and hospital meeting point in order to activate and identify a space which is health promotive and alive. It is aiming to look into the significance of architectural design in health promotional factors in that meeting point.

The aim with this project is to define a space through identifying the key factors of the architecture and how they interact with contextual factors in order to promote the perception of how and what supports health promoting. The outcome would be an influential transition point introduced by an appropriate dialog between healthcare facility and the urban space which will benefit both patients and neighborhood from health promotional point of view.

Stakeholders

This project parallels the design process for the new specialist hospital in Högsbo hospital site, so in one sense the project can be related to those who work on this new hospital design. At the same time it is quite a new definition of how a health promotional approach can be implemented within a hospital program and what sequences should be considered while inviting all neighborhood into the project. Consequently, in a long term perspective, the project can be used as a source of new ideas and an inspiration for who are taking initiatives in this process and helps out with building a better environment.

Questions

This master thesis looks for the answer to the following question: What can be defined as a meeting point of a hospital and city and how that be a place beyond parking lot and entrance? How can it be health promotive for the patients? How can it be used by other people? What activities will give a new character and identity to the space? What qualities should be introduced in order to fulfill the space needs? How can it be integrated within neighborhood?

Delimitations

The thesis will not cover a specific age or gender. It is not also going into detail planning of a hospital. The scale of the project will be a local scale and will not go further than a diameter of two kilometers.

Methodology

The method is to study references, statistics and case studies in order to realize the real demand of such space and acquire deep knowledge about the subject. Then, it will be tried to structure a new path from vision to strategy and finally design proposal. Besides , physical model and sketching is the tool for this MT to research and present directly. Meanwhile space syntax analysis will help me measure the connectivity and integration of the site within the area. I also take advantage of meeting with people who are responsible for the project and be aware of what the real projects demands are.

Typology

The main part of the project is a research for design. I started by reading literature and implement my impressions into the design.

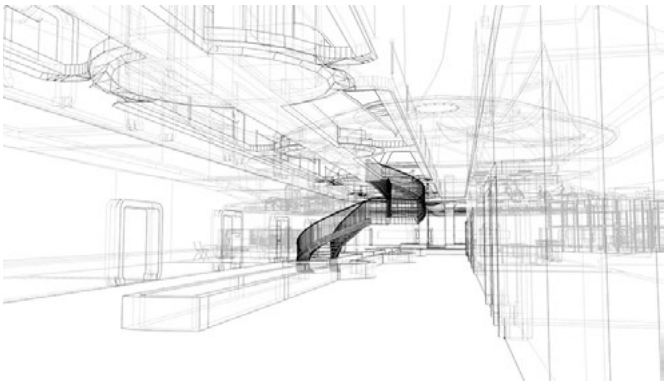
THEORY

VISIONS

1- Health promotion

Health promotion is the process of enabling people to increase control over, and to improve, their health. It moves beyond a focus on individual behavior towards a wide range of social and environmental interventions (World Health Organization,2007). In architectural deign it includes: improving access to transportation, improving access to recreational facilities and open spaces, improving access to fresh produce and groceries, improving community connectivity with street infrastructure, and facilitate bicycling for recreation and transportation (Vinnitskaya, 2012).
Besides, there is growing evidence that the design of a healthcare facility will directly affect the health outcomes of patients (Ulrich, 2006), which means healthcare architecture can play an important role in health promotive approaches.

2- Transparency
In this project the term transparency stands for a borderless and inviting atmosphere where all people can participate in space in different forms, and actively or passively take part in new processes of health.



3- Sustainability
Within 17 sustainable development goals defined by UN, I picked three most relevant ones to my project. I believe they will make the project to its initiative goals closer. They include:
a: Ensure healthy lives and promote well-being for all at all ages
b: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
c: Ensure access to affordable, reliable, sustainable and modern energy for all

THEORY INVESTIGATION:

HEALTH PROMOTION

Since the nineteenth century, we have learned to combat infectious diseases. Preventative measures have proven effective: build better buildings and infrastructure, and incidents of infectious illnesses will decline. It happened in the 19th and early 20th centuries with cholera and tuberculosis. In this century, the diseases that we face are often self-inflicted. Chronic diseases such as heart disease, diabetes, some cancers and obesity all have roots in the sedentary lifestyles and poor dietary choices that many people have today.
But much of the city is already conveniently walk-able – numbered streets, a regular grid, public transportation, a broad selection of parks and greenways. But what can the city improve? The guidelines are geared toward five key measures:

- Improving access to transportation;
- Improving access to recreational facilities and open spaces;
- Improving access to fresh produce and groceries;
- Improving community connectivity with street infrastructure, and facilitate bicycling for recreation and transportation.

Just as vital as it is to observe these guidelines for urban design uses, the building and its everyday uses and accommodations can inspire day-to-day healthy patterns. The key measures are:

- Increase stair use among the able-bodied by providing a conveniently located stair for everyday use, posting motivational signage to encourage stair use, and designing visible, appealing and comfortable stairs;
- Locate building functions to encourage brief bouts of walking to shared spaces such as mail and lunch rooms, provide appealing, supportive walking routes within buildings;
- Provide facilities that support exercise such as centrally visible physical activity spaces, showers, locker rooms, secure bicycle storage, and drinking fountains;
- Design building exteriors and massing that contribute to a pedestrian friendly urban environment and that include maximum variety and transparency, multiple entries, stoops, and canopies.

The guidelines, called Active Design Guidelines, read like a rating system. They are not part of scientific research; they are observations of behavior – how people interact with their environment and what precedents tell us about how spaces function, actively or passively. Other urban environments were assessed according to the five “D’s” – density, diversity, design (coined by Robert Cervero and Kara Kockelman), destination accessibility and distance to travel. The priorities of the guidelines are to encourage land use mix, walkability, bicycling, infrastructure, and parks and open space. This requires that planners consider the types of programs in a given neighborhood and encourage the development of full service supermarkets, physical activity facilities, public transportation routes, and outdoor parks. Some of these measures also encourage more responsible environmental design as well. By encouraging alternatives to cars for transportation and expanding green spaces, designers can reduce air pollutants and greenhouse gases in neighborhoods.

Together, these measures strive to find solutions that combine these various goals – active design, sustainable design and universal design – and finding a balance between design and cost.Jane Jacobs, in The Death and Life of Great American Cities, writes about the marvelous order for maintaining the safety

of the streets and the freedom of the city:

"Its essence is intricacy of sidewalk use, bringing with it a constant succession of eyes. This order is all composed of movement and change, and although it is life, not art, we may fancifully call it the art form of the city and liken it to the dance—not to a simple-minded precision dance with everyone kicking up at the same time, twirling in unison and bowing off en masse, but to a intricate ballet in which the individual dancers and ensembles all have distinctive parts which miraculously reinforce each other and compose an orderly whole. The ballet of the good city sidewalk never repeats itself from place to place, and in any one place is always replete with new improvisations."

The following discussion is adopted from ACTIVE DESIGN, SHAPING THE SIDEWALK EXPERIENCE; The arguments and descriptions can be connected to a pedestrian pathway which is the main design element in this project.

AN ACTIVE SIDEWALK

The pedestrian is an active participant, who walks through the center of a room— the center of what we call "the sidewalk room." It is a space defined by four planes:
a ground plane, a canopy, a roadside, and a building side, all contributing to the spatial quality of the room and to your overall experience within it.

A sidewalk is often represented in plan or section, in static two-dimensional drawings that capture and record key configurations or measurements. While these are useful tools for documenting and laying out pathway spaces, this document encourages a more dynamic spatial approach, with the larger goal of promoting active design and using the pathway as a space to encourage daily physical activity. Placing the pedestrians at the center of the "pathway room" encourages consideration of their perspective. How might they experience it? What are they seeing, smelling, and feeling? This means considering the physical space while also keeping in mind time, movement, and the human senses. Pedestrians typically experience a sidewalk by moving along it over a period of time and perceiving it with all seven senses, including proprioceptive (body position and force) and vestibular (moving through space against gravity). Sight is the most highly developed human sense, and critically important—but it should not be the only one taken into consideration. The sounds of busy traffic and people bustling about can make for a very different experience than that of birds chirping on a quiet stroll down a residential street. Overflowing garbage cans and vehicular fumes are not nearly as enjoyable as the aroma of fresh baked goods wafting from local bakery windows or spring flowers blossoming from sidewalk planting strips. The texture of the ground beneath the walker's feet and the relief of the shade beneath a lush green tree canopy on a hot summer day also impact the experience of the sidewalk room. It can be helpful to imagine yourself walking down a sidewalk in the context you are working in, recalling your most memorable sidewalk experience and thinking about what made it so.

FACTORS THAT CONTRIBUTE TO AN ACTIVE SIDEWALK EXPERIENCE

A n enjoyable sidewalk experience is different for each user, and is, of course, based on many factors. Design can impact some of these factors, while others are impossible to control. Beyond the physical space, the time of day, the individual's mood, and the walk's purpose are all variables. Regardless of the available level of control, there is a set of key factors that contributes to an enjoyable sidewalk experience. They are:

Connectivity

If a sidewalk is not connected at both ends in some way, it is unlikely to be well used. Ideally, connectivity is a consideration at the outset of neighborhood planning efforts. A well-connected sidewalk network has numerous intersections and short block patterns, and no dead ends—characteristics mostly found in street patterns forming a grid. A good sidewalk network allows people to choose multiple paths, including the most direct route between their origin and destination, allowing walking to be an efficient mode of transportation. Less connected sidewalk networks are often found in more suburban developments. Dead-end cul-de-sacs and convoluted street patterns can force pedestrians to walk far greater distances to reach destinations that might otherwise be relatively close, often resulting in a preference for vehicle use for local trips.

Accessibility

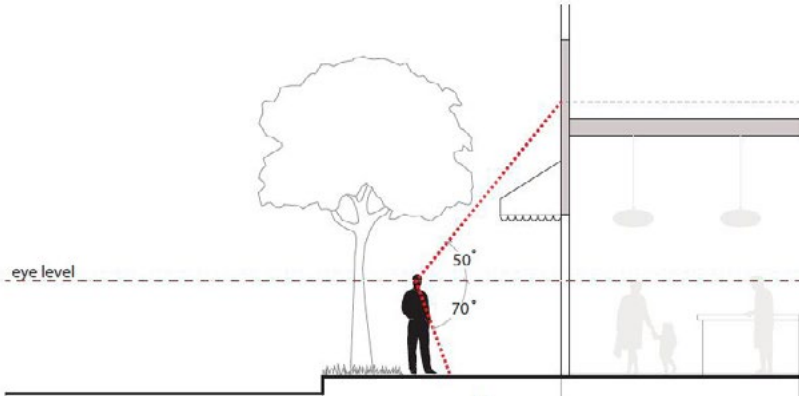
Designing a sidewalk to accommodate the widest range of users and appropriate pedestrian volumes is crucial to its success. Accessibility, as defined by the 2010 ADA Standard and the A117.1-2009 Accessible and Usable Buildings and Facilities Standards, establishes a minimum level of access for people with disabilities. Going beyond code requirements to create a more user-friendly environment should be encouraged (as in the NYC Inclusive Design Guidelines49) and can further help improve quality of life for everyone, especially children, seniors, and people with disabilities. Regardless of a sidewalk's scale, one can design a multisensory environment that enhances the experience and increases usability. An inclusive environment addresses not just user needs but also their preferences. Everyone falls within a range of abilities, which change as we age. Sidewalks must accommodate users of all ages, from infants to the elderly, and with a wide range of physical and mental abilities. Some individuals may find walking difficult and may be more active if they know that they will have plenty of places to sit and rest along the way. Young children experience sidewalks from a different vantage point than adults, a particularly important consideration on routes frequently used for walking to school. Limiting obstacles and enhancing the multisensory cues within the three-dimensional sidewalk environment will reduce difficulties for those who are blind or have diminished vision. An inviting and inclusive design makes every user feel comfortable.

Safety

The sidewalk experience is only enjoyable if users feel safe. Sidewalks should be appropriately lit at night, with pedestrian scale lighting spaced at appropriate intervals to provide the correct level of illumination. Where the ground plane is well surfaced, it can eliminate tripping hazards, and it is helpful to ensure that the appropriate processes and agreements for long-term maintenance and repair work are in place upon construction. Facing building entries and windows toward the sidewalk can help walkers feel that other people are nearby, and can make the sidewalk feel more interesting and walking distances seem shorter. Adding residential units to the mix in downtown commercial areas increases the likelihood that an area will be populated after regular office hours. Restaurants and similar establishments that support residential populations can help sidewalks stay active during the day and into the evening, keeping "eyes on the street," as Jane Jacobs famously recommended.

Human Scale And Complexity

Understanding how the human body perceives space is a first step in designing sidewalks at scales that improve human comfort. This requires conscious decisions that enhance their multisensory characteristics and recognize that sidewalks are three-dimensional environments and not just static planes. The scales, or zones, critical for an enhanced environment are based on spatial envelopes defined by variable boundaries along the path of travel. These envelopes create complex partial enclosures and make each sidewalk unique depending upon their composition. One of the defining features of the spatial envelope is the building wall plane; this document discusses increased attention to and complexity within this plane using two linear dimensions. These are the vertical height of the building wall plane—which passes immediately beside pedestrians as they are walking— and the horizontal distance, or the distance down the street that is visible to the pedestrian.

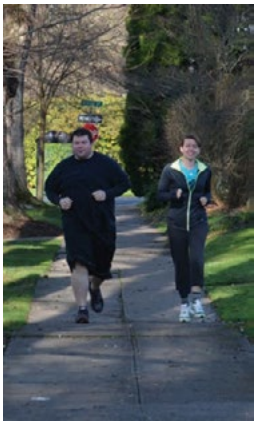


Continous Variety

a. Variety of speed: Streets and sidewalks function and are perceived at multiple speeds. For the last half-century, streets and sidewalks have often been designed with the speed of the automobile in mind. However, because the pedestrian—rather than the driver—inhabits the sidewalk room, it is important to focus on the average human walking pace of 2.5 to 3 mph (4 to 5 km/hr) when designing these spaces. At this slower speed, pedestrians have more time than automobile passengers to absorb their surroundings. It is important to design with enough complexity and detail to maintain the pedestrian's interest.
Even within the average walking speed of 2.5 to 3 mph (4 to 5 km/hr), it is important to keep in mind the variety of speeds at which people move. High density areas require sidewalks that allow people to move where they want to go quickly, but the best sidewalks often allow for a variety of pedestrian walking speeds. An adequate clear path for thoroughfare allows for fast-paced walking, but creating an environment that invites people to meander and pause as well, or offers the opportunity to stop for periods of rest or refreshment, can add to the diversity and interest of the sidewalk room.

b. Variety of activities: By catering to a range of speeds at which pedestrians can move, the best sidewalks allow for a variety of activities. At a basic level, sidewalks allow pedestrians to walk without having to use the roadbed and face dangerous conflicts with moving vehicles. However, this is only one of the functions of a sidewalk. The best sidewalks serve as stages for numerous other activities, including leisurely promenading (to see and be seen), chance encounters between old acquaintances, daily interaction with local characters, and surprise introductions to strangers. Sidewalk spaces should allow pedestrians to take a step aside and catch up with their neighbors, to pause against a building façade to rummage through a bag, and to rest beneath the shade of a tree and take a phone call. When appropriate, they should allow for resting and people-watching on public benches, for cafés and restaurants to spill out and activate the street, and, within limits, for stores to extend out and blur the boundaries between public and private

space. They should provide a variety of functions for diverse users at different times, acting as the crucial framework for the public realm.



Sustainability & Climate Resilience

A sustainable and resilient sidewalk is one that has been designed to suit the local context. Sidewalks are exposed to climate and weather variation, and it is necessary to plan for and consider local seasonal patterns in their design.
A sidewalk's provision of protection from overexposure to heavy rains, significant snowfall, and extreme heat can affect pedestrians' comfort levels and influence their decision to walk. Systems for clearing heavy snowfall quickly and efficiently should be in place so that pedestrians can continue to use the sidewalk without having to trudge through muddy snow or risk their lives on black ice. In Copenhagen, bike lanes and sidewalks are cleaned before the roadbed! W here possible, trees should be planted at regular intervals (approximately 25-foot spacing), with tree pits at least 5 feet wide to ensure their long-term survival. If designed appropriately, tree pits and planting strips can help manage storm water levels during heavy rains. Tree canopies also help clean the air and reduce the urban heat island affect, while sheltering pedestrians' skin from the hot summer sun. When choosing sustainable materials, consider the location of the source as well as the toxicity and durability of components.
In areas faced with the need to raise ground floor levels due to base flood elevations in flood zones, the interface between the building and the sidewalk should be carefully designed to ensure that the public realm remains active and engaging. When required, consider making multiple smaller level changes that are not taller than the pedestrian's waist level. This can help to avoid single tall, blank façades that reach beyond human eye height. Where possible, consider mitigating level changes with dry flood-proofing techniques or within the footprint of the building or front yard to minimize the impact on the public realm. Consider the impact of flood plain management regulations, and utilize landscaping, artwork, and pedestrian amenities like benches to enhance walkable neighborhoods where possible.

CASE STUDY

Case study 1:
2010, Alder Hey Children's Hospital in Liverpool, England

The new children's hospital with its undulating profile merges into the adjacent Springfield Park in Liverpool. The three fingers of the new building create a series of garden spaces for the therapeutic benefit of children, their families and staff – including a Garden of Reflection, play spaces within the 'Wet Ravine' and a quieter gardens in the 'Dry Canyon'.

Whilst at BDP, Sally, the landscape architect, led the landscape design from concept to planning for the gardens and grounds at the new Alder Hey Children's Hospital. It was really rewarding to be involved in creating through consultation with the hospital a rich external environment which responded to the strong architectural concept, whilst promoting a nurturing, holistic experience for children, their families and staff.

The following features are interesting in this project:

A: Building a park into a hospital
B: Playful features
C: High technology

CASE STUDY

Case study 2: The new Shriners For Children Medical Center outpatient clinic
2016, , California, USA

The new Shriners For Children Medical Center outpatient clinic under construction in Pasadena, Calif., takes the idea of “access to nature” to a whole new level by providing connections to the outdoors in quantities almost equal to the programmed clinical space. Shriners For Children Medical Center focuses on wellness by providing access at all levels to respite, play, and retreat areas, including an outdoor rehabilitation balcony on the second floor and a rooftop terrace for staff members. Additionally, an opening at the third floor roof terrace to an interior courtyard brings daylight inside to the surgery waiting room, reception area, consult space, and staff lounge.

Recognizing that family members of all ages will face long periods of waiting while young patients undergo surgeries and rehabilitation appointments, the outdoor courtyard is designed with a variety of places to sit, including semi-shaded areas near a water wall feature. The first floor lobby and clinic waiting area also have views to the garden as well as an enclosed play area.

The project was inspiring for me because it is successful in letting the flow use the nature horizontally and vertically. The atmosphere is also warm, welcoming and human scale.

CASE STUDY

Case study 3: Quay Quarter
2015 - ongoing, Sydney, Australia

Quay Quarter Sydney is a new porous and inviting city precinct. A sequence of places connected through its public domain which are habitable, pedestrian oriented and promote community and street life. Quay Quarter Sydney builds upon the existing network of streets and laneways and creates new layers of public activity for the city which respond to topography, circulation and highly articulated street addresses of the new city buildings. The vision for Quay Quarter Sydney is to create a highly activated precinct of great civic value – a new cohesive precinct where we can work, live and play in the CBD in a collection of high quality public and private spaces.
The integrated precinct between Phillip and Loftus St will host new office spaces, apartments, retail stores, restaurants and a new public domain, which will bring new experiences and link the harbor to the financial district.

The project's strength in creating public space, let ting the people move and variety of accessible spaces to the public such as green, outdoor cafe, shopping, etc are the main features I learned from this project.

CASE STUDY

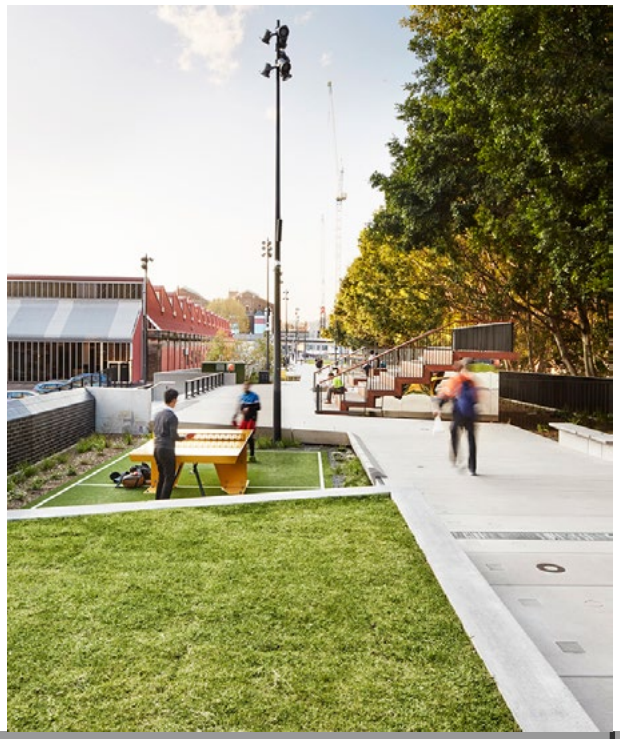
Case study 4: The Goods Line
2015, Sydney, Australia

The opening of The Goods Line in Ultimo brings the vision of a more connected, sustainable and innovative Sydney one step closer to reality.

The Goods Line, a NSW Government initiative and delivered by Sydney Harbour Foreshore Authority (now Property NSW), is the key strategic link and an important green space for this burgeoning part of the city. It provides a connection through to the Devonshire Tunnel under Central Station and Chinatown and Darling Harbour, as well as tapping into the various cultural, educational, and media institutions such as UTS's Frank Gehry designed Dr Chau Chak Wing Building, the ABC, and Sydney TAFE that border the park.

This unique elevated park has seen a disused rail corridor running from Railway Square to Darling Harbour reimagined as a leafy, energised civic spine in the heart of Sydney's most densely populated area.

I was inspired by this project because of its ability to create a strong link with a new identity for the area, where people are invited to injoy and involve in space.



WORKSHOP 1

Connectivity measurement of the urban spaces using Depthmap software

Participants:

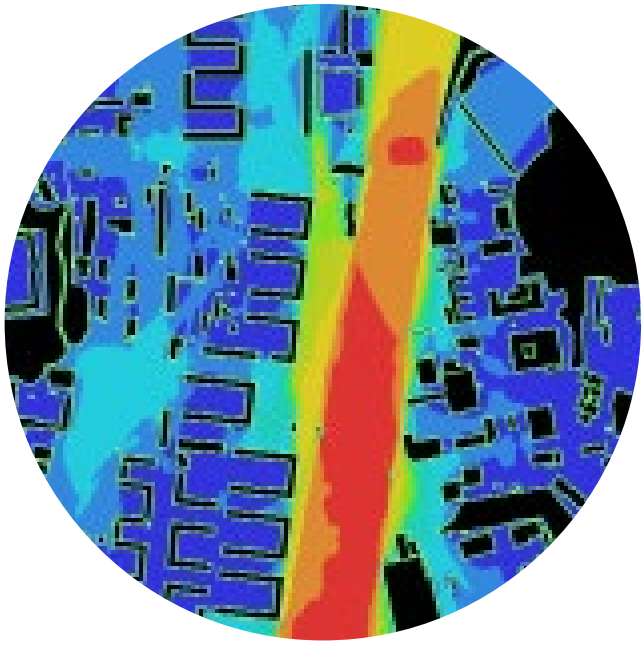
Gianna Stavroulaki, researcher at Spatial Morphology group, Chalmers University of Technology
gianna.stavroulaki@chalmers.se

Negar Tatari, master student at Chalmers University of Technology.
negart@student.chalmers.se

Aim: To capture an understanding of how the urban connectivity of an area as well as the inner parts of a plot could be measured in order to be able to use the result to prove the project's achievement in forming a well-connected area.

Introduction to the software: The Depthmap software is a software developed by Space syntax and is basically used to measure how an urban area is visually and spatially connected.

Result: Accomplishing the ability of connection assessment of the area in different forms, which resulted in interpreting potentiality of further possible connections that can strengthen the project.



Visual connectivity: This map shows how an urban context is visually connected regardless of presence of the roads. This means even if there is not any path towards a destination, people are still able to see and approach it. The color spectrum changes from blue which stands for the least connected parts to red which means high connectivity.

Road connectivity: This map shows the road connectivity situation within the same area of the previous map. The color spectrum functions the same as visual analysis which means the red parts are the ones with the most direct connection with other roads. This can be interpreted in the potential of attraction of the public into these areas.

WORKSHOP 2

Health promotion in action

Participents:

Elke Miedema, Phd student at Chalmers University of Technology
elke.miedema@chalmers.se

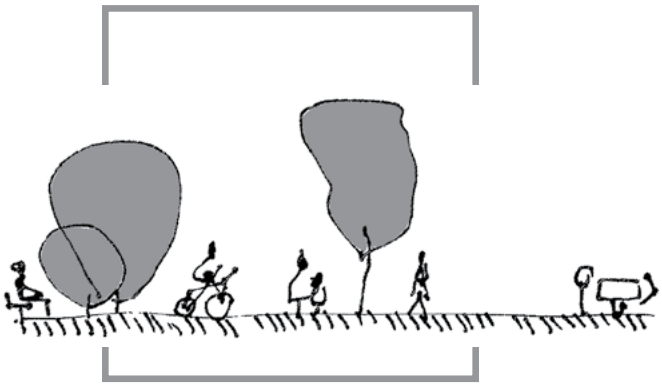
Negar Tatari, Master student at Chalmers University of Technology.
negart@student.chalmers.se

Aim: To deepen the understanding of how health promotion could be a part of hospital and design.

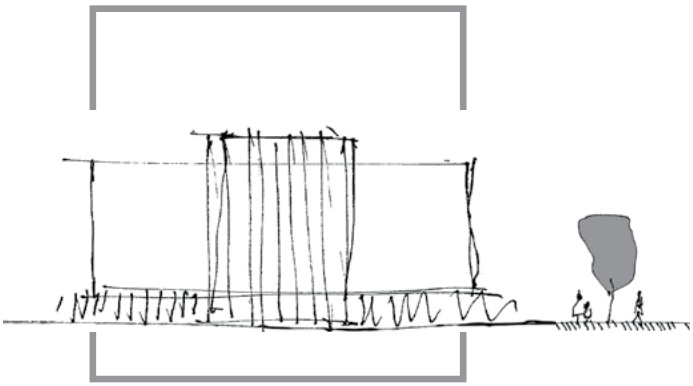
Process: The whole materials, literature and case studies were examined and through some small exercises I learned how all information could fit into aim, strategy and design.

Result: being provided with the ability of translating ideas into real health promotion strategies and design ambitions and systematizing them.

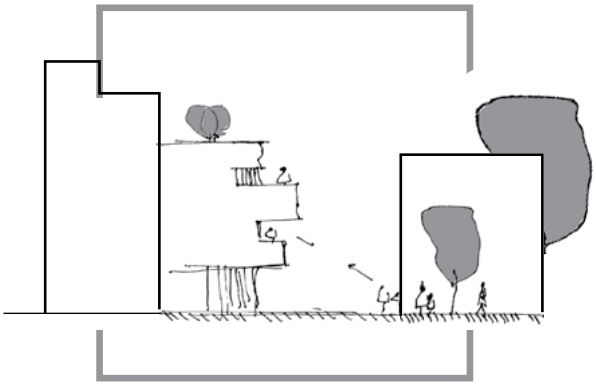
Active pathway



Dominent health promotive mass



Active facade



WORKSHOP 3
Landscape design practice

Participents:
Lin Tan, Architect at Liljewall arkitekter
lita@liljewall.se

Negar Tatari, Master student at Chalmers University of Technology.
negart@student.chalmers.se

Aim: Getting familier with landscape design main guidelines

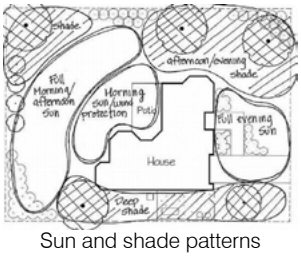
Process: Lin helped me with references and books and main guidelines within the landscape architecture. I went through the points she mentioned in order to reach my final design

Workshop process description in a nutshell:

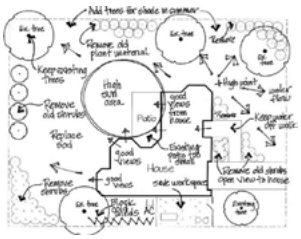
The five steps of the landscape design process include:
1) conducting a site inventory and analysis,
2) determining your needs,
3) creating functional diagrams,
4) developing conceptual design plans, and
5) drawing a final design plan. The first three steps establish the aesthetic, functional, and horticultural requirements for the design. The last two steps then apply those requirements to the creation of the final landscape plan.

While going through these steps it is important to consider the following points:

1. The site for plant selection and activity location needs to be understood.

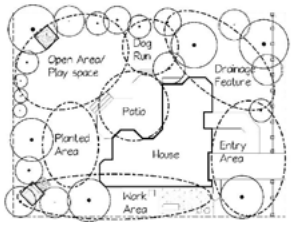


Sun and shade patterns
Credit: Gail Hanson



Site Inventory
Credit: Gail Hansen

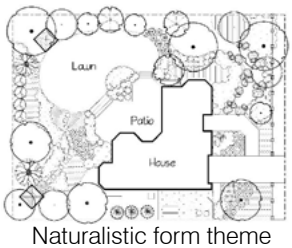
2. The user is an important parameter in needs of a project.



Current use areas
Credit: Gail Hansen

Proposed use areas
Credit: Gail Hansen

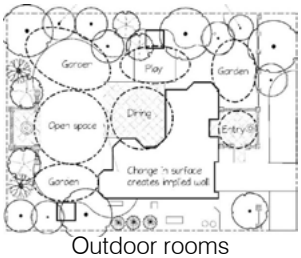
3. Using form and/or style theme can help determine shapes and organize spaces.



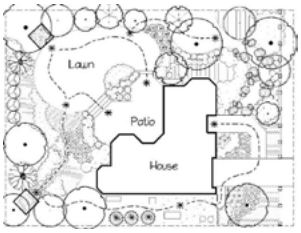
Naturalistic form theme
Credit: Gail Hansen

Formal style theme.
Credit: Gail Hansen

4. Spaces should be created and linked by designating activity areas and linking with elements.



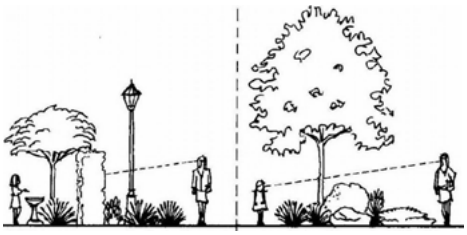
Outdoor rooms
Credit: Gail Hansen



Linked spaces.
Credit: Gail Hansen

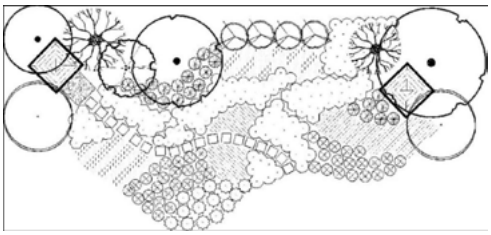
5. The function of plants for both the environment and the user needs to be considered.

Physical and implied barriers
Credit: Gail Hansen


Microclimates
Credit: Gail Hansen

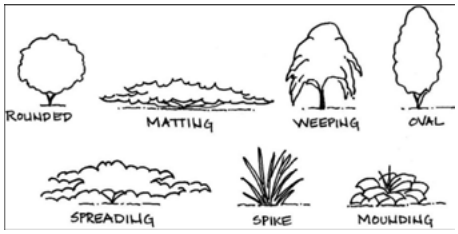
6. The plantings should be structured by using massing and layering techniques.

Vertical plant layers
Credit: Gail Hansen


Horizontal plant layers
Credit: Gail Hansen

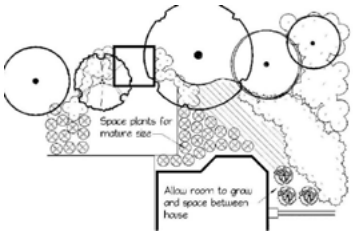
7. Highlighting the important points such as transition areas and focal points is necessary.

8. Detail in the materials, the colors, and the surface textures need to be paid attention to.



Plant forms
Credit: Gail Hansen

9. Time is an important factor to be taken into account when it come to the growth and maintenance of plants



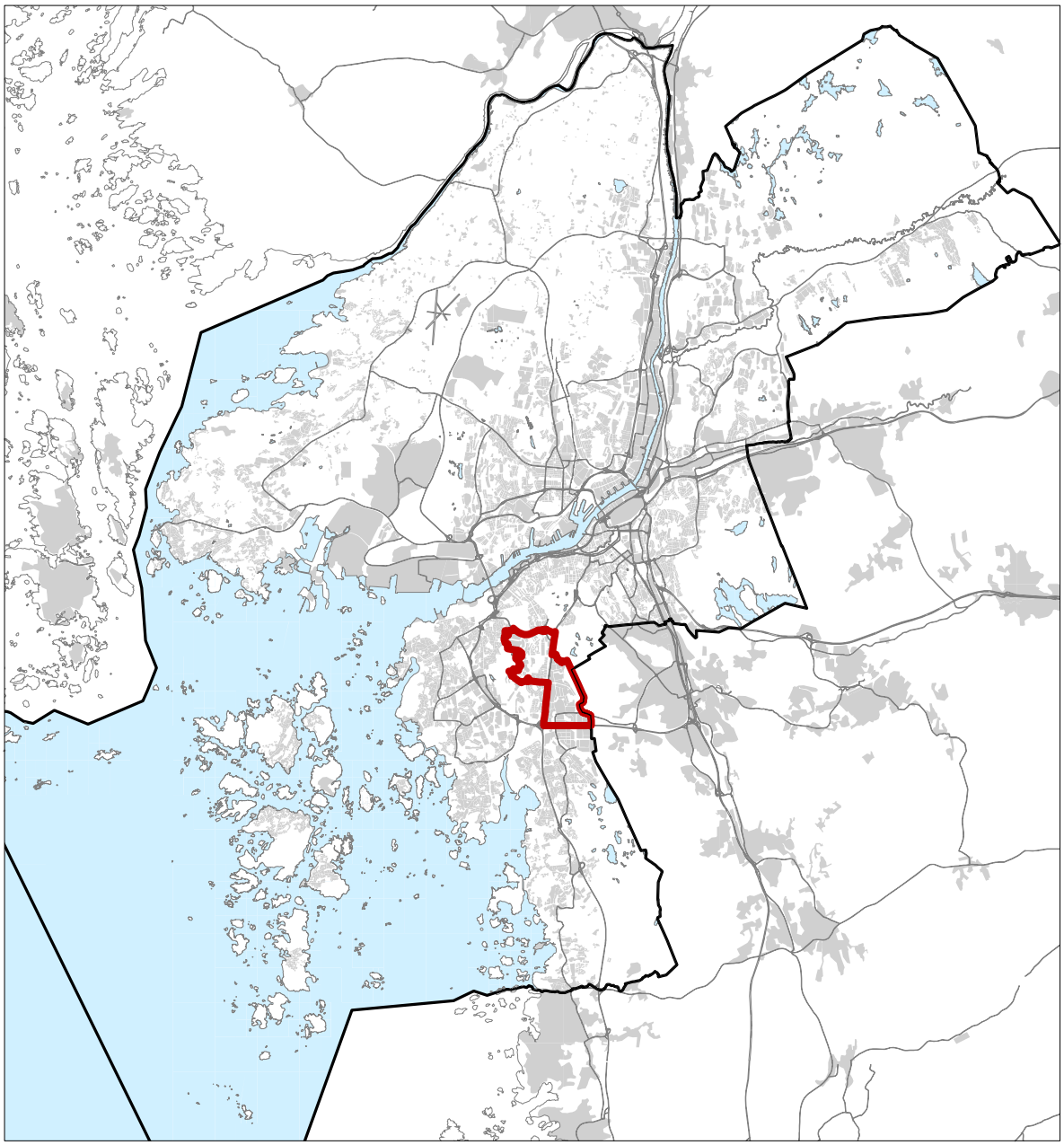
Plant spacing.
Credit: Gail Hansen

10. Protect your resources by using sustainable design practices

SITE ANALYSIS

GENERAL OVERVIEW

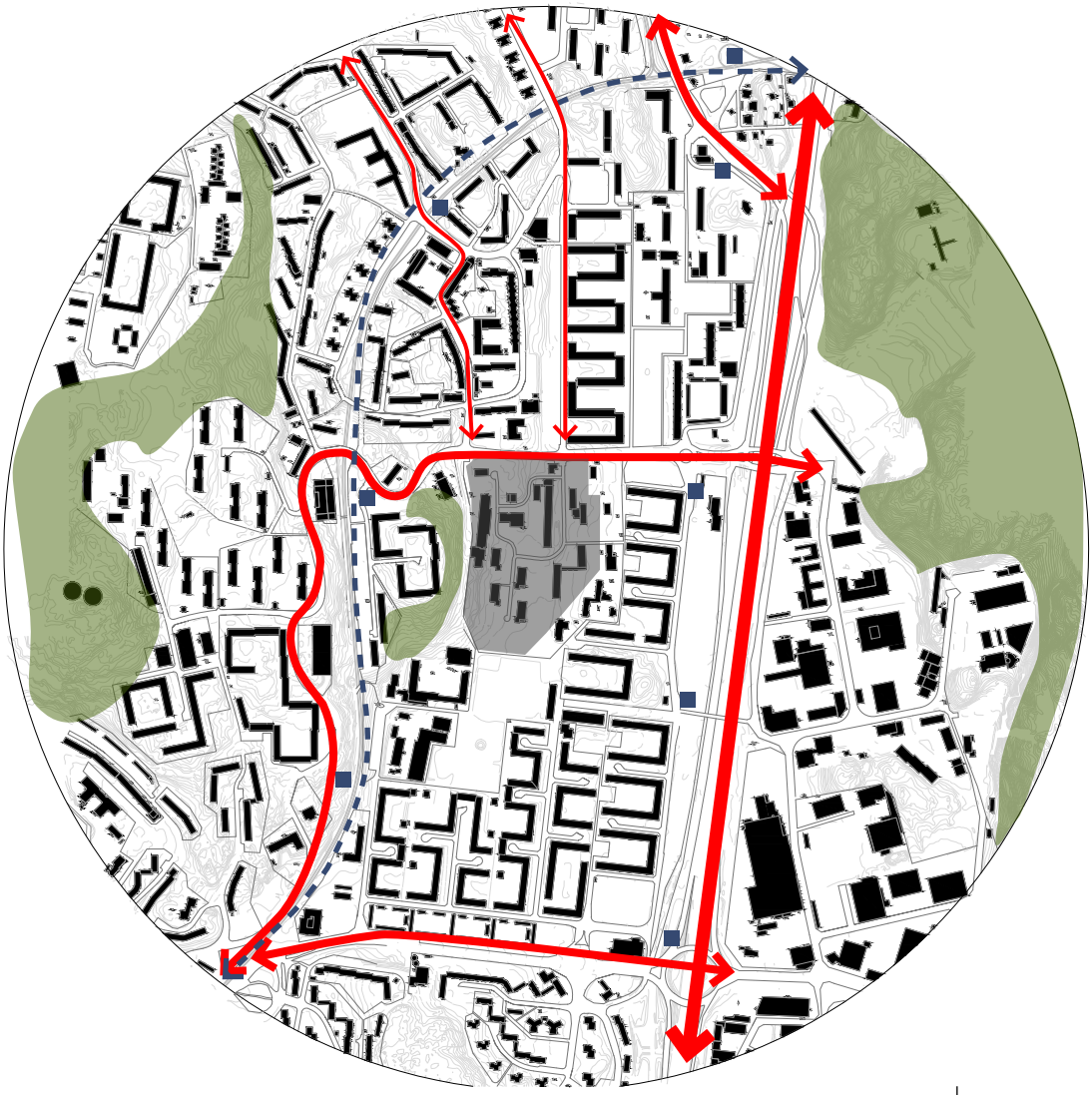
Högsbo belongs to the rim of the neighborhoods that were built during the 1950s and 1960s. Högsbo consists of two parts with completely different characteristics: first, purely residential areas, and second commercial.
Högsbo is almost fully developed within the district's boundaries and there are no large panels to incur for new buildings. However, there residual surfaces that are possible to build on, in terms of both the residential parts of the west and commercial part of the east. When it comes to housing is a need for more accessible apartments and more apartment types.
Högsbo is one of Gothenberg smaller neighborhoods, both in terms of area and number Inhabitant. Here live about 17 000 people, comparatively many of them are elderly.
In recent years, the proportion of families with children has increased slightly.
Residential areas - Högsbotorp, Högsbohöjd, Flatås and Kaverös - are calm and stable. The residents of Högsbo thrives in general very good in their neighborhood, in terms of both young and old. Especially estimated the green character of the residential environments, Axel Dahlström's Square as center, and close to both the center of Gothenberg and the sea and nature.
There are around 13 000 jobs in the district as a whole. Most of these are in the business area east of Dag Hammarskjold trail. Högsbo and Sisjö activity serves as a cohesive unit.
The area has changed from traditional manufacturing to a profile logistics, trade and service companies.



Högsbo district - Gothenburg, Sweden

TRAFFIC

Högsbo hospital is located on one of the main streets that opens up Högsbo neighborhood into the artery which links Högsbo to the city center and northern districts. The two main major public transportation stops (Marklandsgatan and Axeldahlströms torg) are also considered as the nodes communicating with other parts of Gothenburg via many buses and trams.



SITE PLAN
NO SCALE

MAIN CAR FLOW

SECONDARY CAR FLOW

TERTIARY CAR FLOW

TRAM LINE

PUBLIC TRANSPORTATION STOP

PUBLIC GREEN AREA

HOSPITAL PLOT

FUNCTIONS

Situated in the heart of a quiet neighborhood surrounded by residential blocks, the hospital can actually stand as a center leading people to a lot of public and health related activities.

All other functions within the area bear neighborhood scale such as schools, small squares and minor retails.

- RESIDENTIAL
- NEW HOSPITAL SITE
- HOSPITAL
- HEALTH FACILITY
- SCHOOL
- SQUARE
- PRIVATE OFFICE
- SENIOR HOUSING
- RESTAURANT
- CHURCH
- PARKING LOT
- INDUSTRIAL UNITS

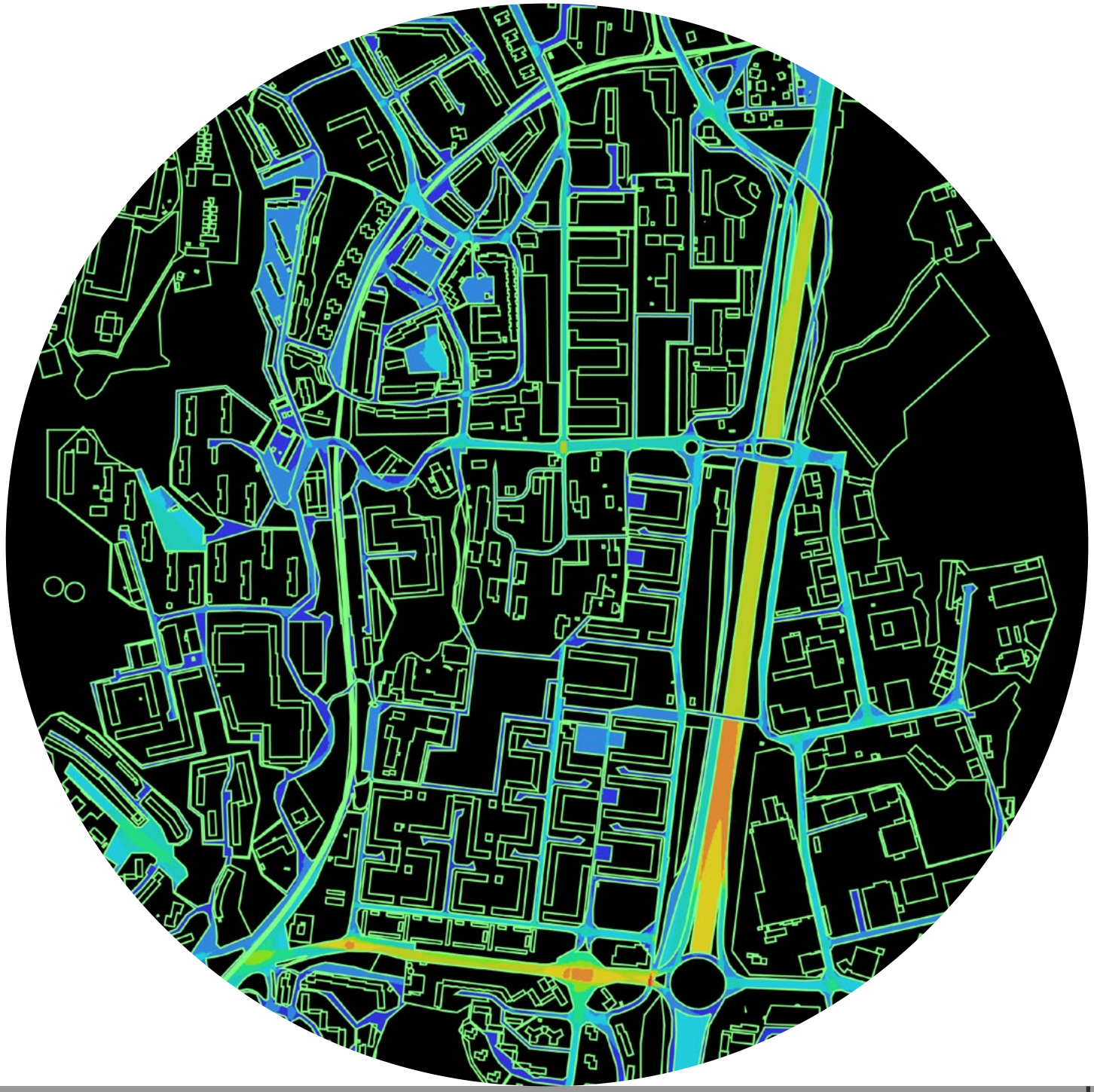
SITE PLAN
NO SCALE

VGA ANALYSIS, A TOOL FOR MEASURING URBAN CONNECTIVITY

a: ROAD CONNECTIVITY; EXISTING SITUATION

Description:

As previously discussed, this analysis illustrates how roads and paths are directly connected. The the orange color of the highway as well as the main southern street indicates that they are the most well-connected path in the area. The roads around the hospital colored in green-blue implies a lack of desired connectivity in the middle of the map. The belt at the west part of the illustration also means that the tram line provides a rather good connection.



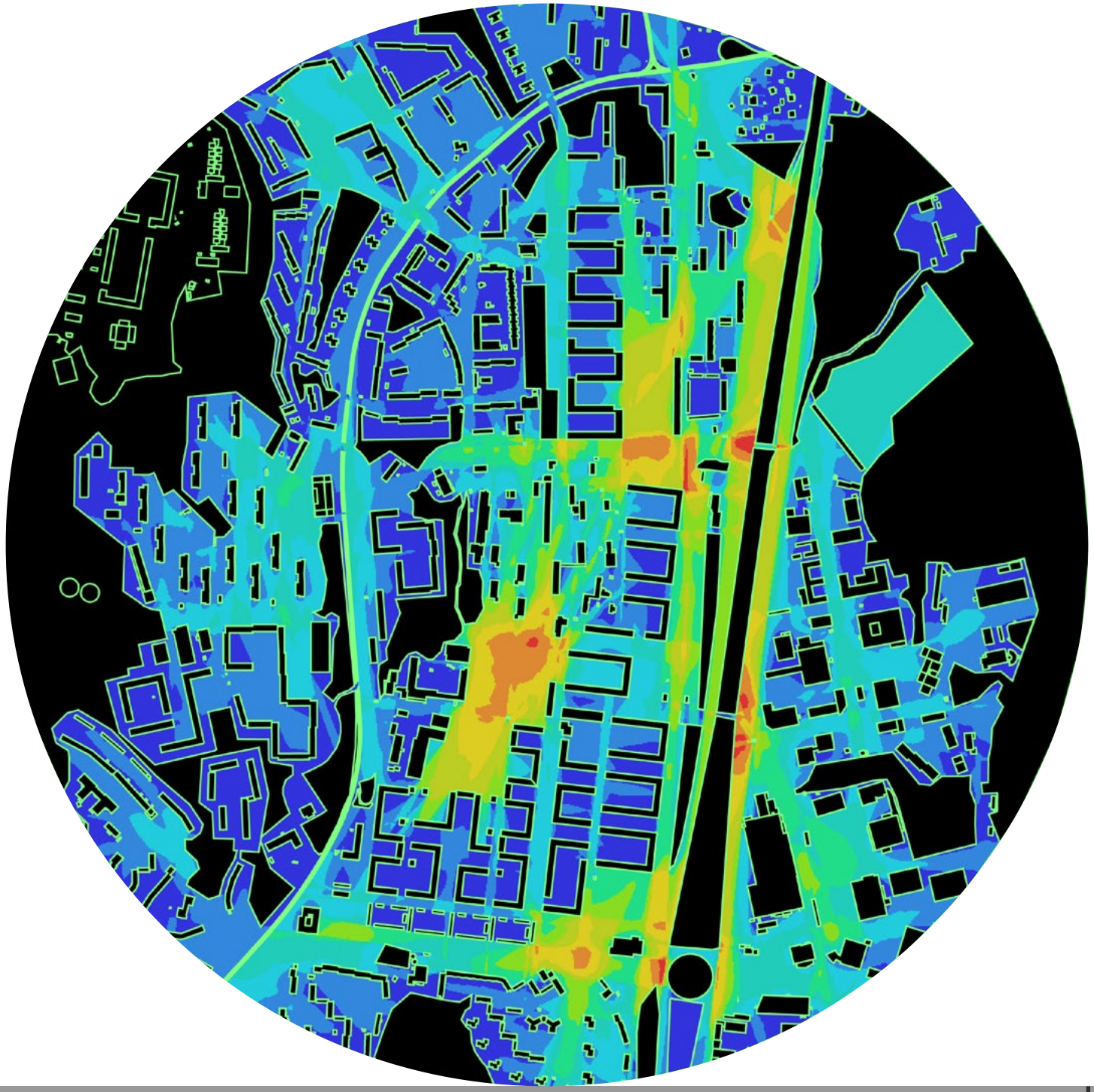
VGA ANALYSIS, A TOOL FOR MEASURING URBAN CONNECTIVITY

b: VISUAL CONNECTIVITY; EXISTING SITUATION

Description:

The yellow and orange color of the hospital's north east and its south differentiates visually connected parts in the area. Being colored in light blue,to the hospital environment is not so well connected either; Meaning that the space between hospital blocks are not really visible for the public and therefore they are not inviting enough to let the public in.

This leaves the hospital area with both opportunities and challenges to be more connected.
The dark blue color, basically seen in the court yards as well as the spaces inscribed by buildings blocks, belongs to the least visually connected parts.



SMALL SCALE ANALYSIS

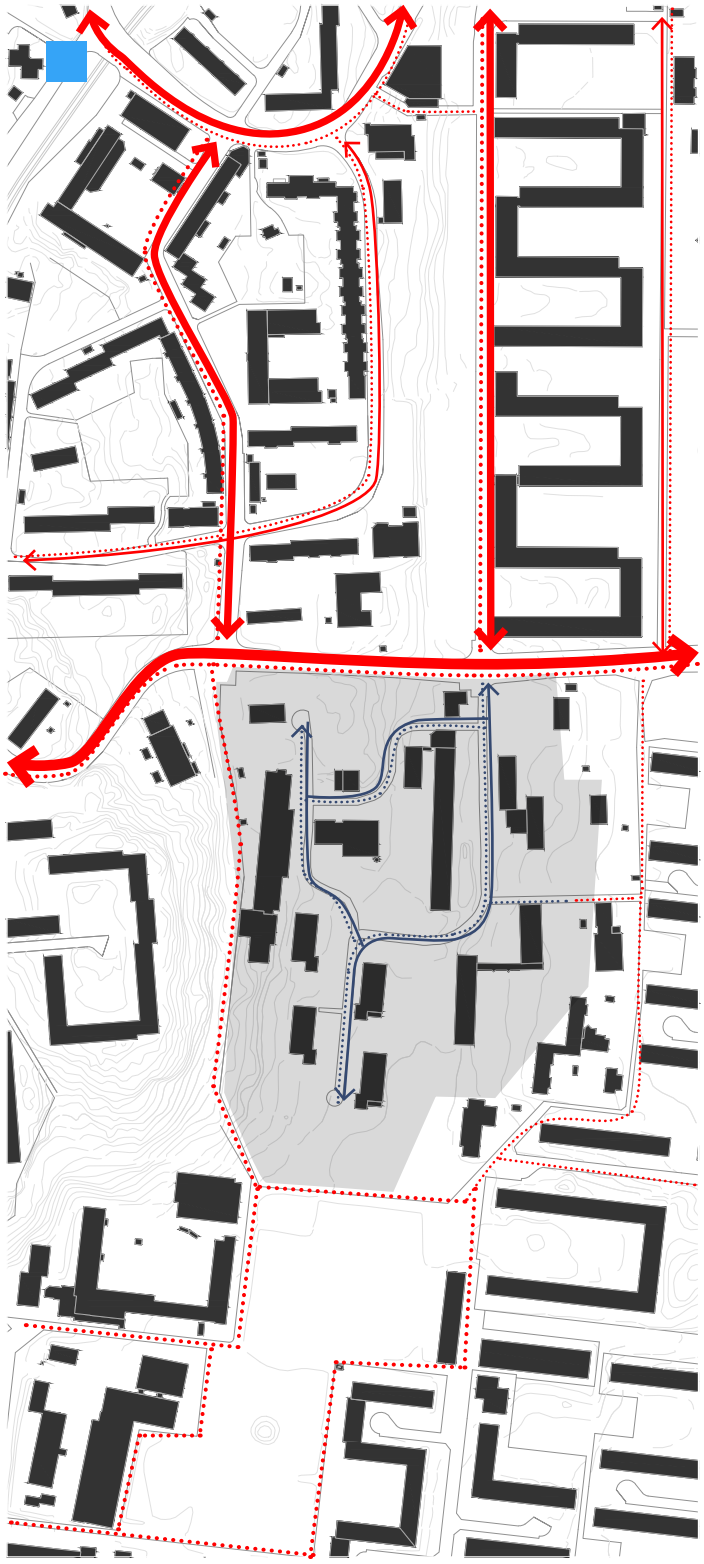
After analysing the area in a zoomed out mode, a more zoomed in analysis of the hospital and its surroundings was provided in order to dig deeper into the space qualities, challenges and assets to realize the potential of further developments.

FLOW ANALYSIS

The street on the north side of the hospital bears the main car traffic flow in the surrounding. The important secondary streets as well as access streets are highlighted in the diagram. Cars are also allowed within the hospital site for the access to different blocks. Pedestrian paths differentiated in dotted lines also play an important role in the neighborhood, sometimes giving a quicker access by introducing short cuts to the users.
Axel dahlströms torg, the main public transportation of the area and the closest one to the hospital, is located at the left top corner of the map where many buses and trams pass by and transport many locals as well as strangers.

The overall conclusion:

In the upper half of the map, the streets which cross the main street, are not connected internally. This missing connection is even more obvious in the middle part.
In the south part the connection is way weaker. Only some pedestrian pathways make the area accessible. The pathways within the hospital are not used publicly, so the hospital stands as a barrier to the neighborhood connection.

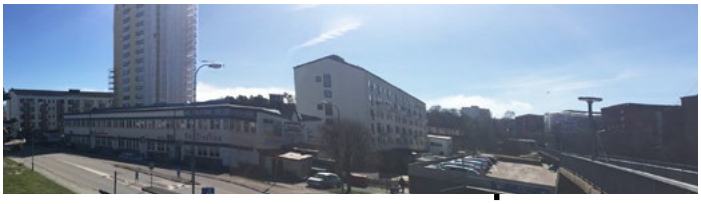


MAIN CAR FLOW
SECONDARY CAR FLOW
TERTIARY CAR FLOW
PEDESTRIAN FLOW
HOSPITAL CAR FLOW
HOSPITAL PEDESTRIAN FLOW
HOSPITAL PLOT
PUBLIC TRANSPORTATION STOP

FUNCTION ANALYSIS

As discussed earlier, the majority of the area is consisted of residential blocks. The rest is belonged to hospital and other health facilities, private offices, school, squares, retails and a church.

- RESIDENTIAL
- NEW HOSPITAL SITE
- HOSPITAL
- HEALTH FACILITY
- SCHOOL
- SQUARE
- PRIVATE OFFICE
- SENIOR HOUSING
- RESTAURANT
- CHURCH
- PARKING LOT



AXEL DAHLSTRÖMS TORG

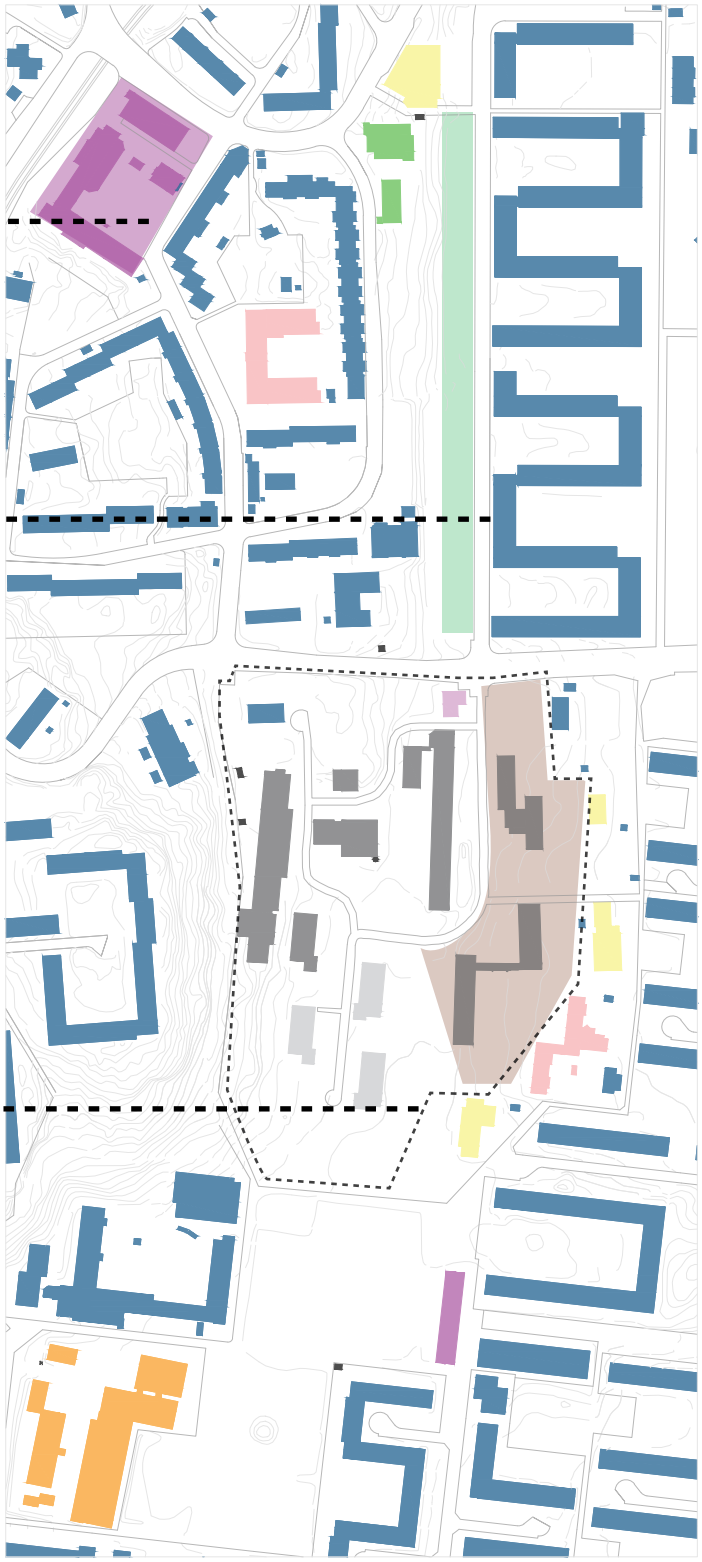
- *The main square of the area*
- *An important pubic transportation node*
- *Well-connected to rest of the city*
- *Can be easily differentiated due to function and spatial quality*

RESIDENTIAL AREA

- *Three-story high apartments located right in front of one of the main urban axes*
- *Benefiting from well-arranged semi private green areas*
- *They open up the residences and extend the sphere of influence and surveillance well into the adjacent street by way of balconies and semi private yards in between them.*

HÖGSBO HOSPITAL

- *Low-rise small building blocks scattered generously within the site*
- *The buildings have their own semi private open space*
- *Nice green area and quiet environment*
- *Great potential in open space but currently not functioning as effectively*
- *The new hospital will be placed on the east side of the site which highlighted darker.*
- *The hospital also provides senior housing*



Senior Housing

Hospital Green Area

Högsbo Hospital

Högsbo Hospital

Hospital Adjacent blocks

FLATÅS TORG

- *A small square in the area with a few retails*
- *Well-defined open space as play ground and green area*
- *The open space is surrounded by school, residential blocks and the hospital*

Flatås Torg, West Side

Flatås School

The Open Area under Construction, Future Green Area

OVERALL CONCLUSION

The mixed land use functions and variety of the building functions and users provides the area with a great potential for the public life and public activities. But in reality the neighborhood lacks such a brilliant quality and people don't have the opportunity to take advantage of this asset, because the current setting of the different functions in the context is unable to provide the users with a further step toward the public life.

ENVIRONMENTAL ANALYSIS

Topography:

The area is slopped quite a lot and it is more visible in the west part of the map as well as the middle part. This can sometimes cause segregation within the neighborhood and also the slopped areas are hard to be used and not accessible enough. It also has a great influence on the perception of the physical space.

Green:

The area is rich in green area. The whole neighborhood is laid on a green canvas of lawn and bushes. There are also some considerable and condensed green areas which are highlighted in dark green on the map.

The green areas not only provide nice views and environment for the neighborhood, but they also make the area rich in biodiversity; that is why the courtyards of the residential areas are considered important parts in green areas of the neighborhood, however they are semi private.

There is an ongoing green park project on the south part of the hospital which also will play an important role in the future greenery of the area.

The overall conclusion:

In the middle part of the map, the height differences has provoked the segregation between the two western and eastern zones at the same time the slop is not used as a nice green area.

The prosperous green quality of the neighborhood is not as accessible as the area demands it to be.

PUBLIC GREEN AREA

SEMI PRIVATE GREEN AREA

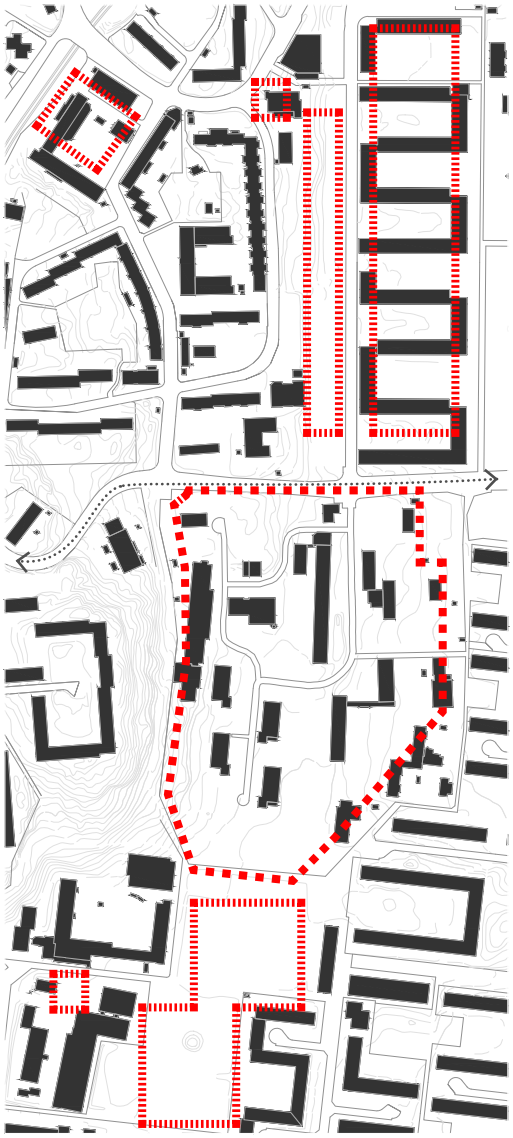
FUTURE GREEN AREA

TOPOGRAPHY

OVERALL DIAGNOSIS

The area is rich in open and sunny spaces, semi public and public green spaces, public and local functions and therefore has a good potential in creating public activities but it lacks this quality. In other words, there is a negative process in public activities and according to Jan Gehl, *'nothing happens because nothing happens.'* This issue exists in different scales within the neighborhood. Although it has been a good effort in providing the area with mixed and public functions, it still lacks the public life. People don't use the space. Similarly, people don't use the hospital open space even though it has a calm, green and beautiful atmosphere.

All in all, the neighborhood components are segregated. Topography, setting and sequence of the functions and the missing connection in the middle part ,as proved by VGA analysis, provoke the segregation. The area misses the link which can bind them all together.



DESIGN STRATEGIES

PRELIMINARY DISCUSSION

According to Jan Gehl, outdoor activities in public space can be divided into three categories, necessary activities, optional activities, and social activities.

Necessary activities include those more or less compulsory, going to school or to work, shopping, waiting for a buss, … . In general, everyday active tasks and pastimes belong to this group.
These activities take place throughout the year under nearly all conditions, and are more or less independent of the exterior environment.

Optional activities: that is those pursuits that are participated in if there is a wish to do so and if time and place make it possible are quite another matter. This category includes such activities as taking a walk to get a breath of fresh air, standing around enjoying life or sitting and sunbathing.
These activities take place only when exterior conditions are favorable when weather and place invite them. This relationship is particularly important in connection with physical planning because most of recreational activities that are especially pleasant to pursue outdoor are found precisely in this category of activities. These activities are specially dependent on exterior physical conditions.

Outdoor activities and quality of outdoor space:

When outdoor areas are of poor quality, only strictly necessary activities occur.
When outdoor areas of are high quality, necessary activities take place with approximately the same frequency- though they clearly tend to take p a longer time, because the physical conditions are better. In addition however a wide range of optional activities will also occur because place and situation now invite people to stop sit eat play and so on.

In streets and city spaces of poor quality only the bare minimum of activities take place. People hurry home.
In a good environment , a completely different broad spectrum of human activities is possible.
Social activities are all activities that depend on presence of other public spaces. Social activities include children at play, greeting and conversations communal activities of various kinds, and finally, as the most widespread social activity passive contacts, that is simply seeing and hearing other people.

Different kinds of social activities occur in many places, in dwellings; in private outdoor spaces , gardens, and balconies; in public buildings at places of work ; and so on. But in this context only those activities that occur in publicly accessible spaces are examined

These activities can also be termed resultant activities, because in nearly all instances they evolve from activities linked to the other two activity categories

Social activities occur spontaneously, as a direct consequence of people moving about and being in the same place. This implies that social activities are indirectly supported whenever necessary activities are given better conditions in public spaces.

Conclusion:

The following strategy diagram rests on this discussion. The idea is to provide people a link connecting the necessary activities (shopping, going to school, going to work and coming back home, etc), meanwhile utilizing the space with qualities which result in as many optional activities as possible (using the green space, exercising, seating with a friend, etc). This way we could be able to add a connection within the neighborhood where people can enhance their health on a daily basis, doing their daily activities.

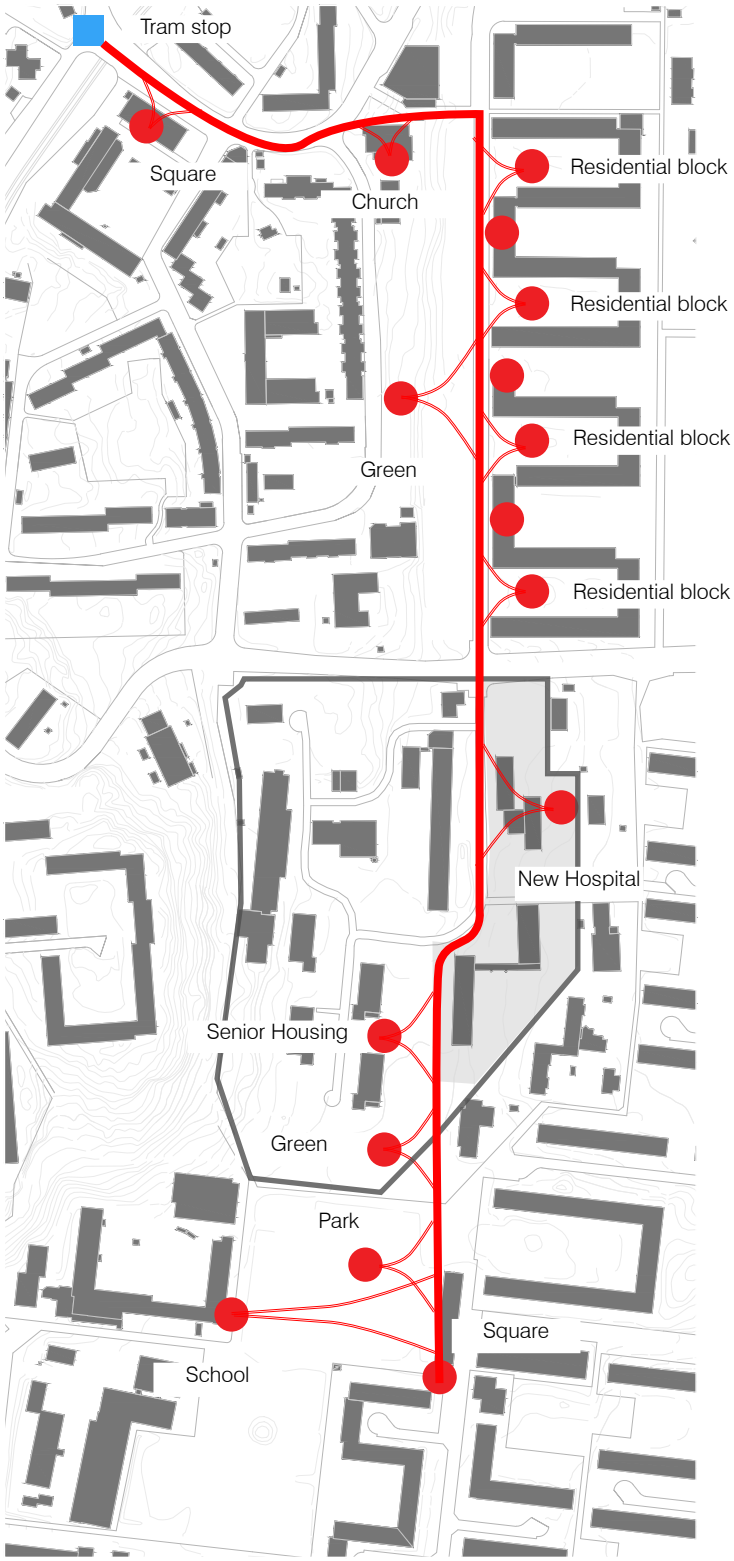
STRATEGY DIAGRAM

Based on previous analysis and the preliminary discussion, the image illustrates the main concept of the project. The Health Line is a new civic spine for Högsbo. Being located right on one of the main axes of the neighborhood, the new element will be reinterpreted to carry the precious cargo of a healthy neighborhood culture, creativity and community. The limits of the link is are firstly defined by the space surrounding the strong and clear urban axis which is started from the adjacent dwellings and continues to the hospital site; then it expands to edges of neighboring building blocks.

The Health Line provides people with daily destinations to walk to, as well as safe, continuous, and interesting pathways on which to travel, consequently, can have an enormous impact on individuals' decision to incorporate physical activity into their daily lives.

The collaboration between municipality and hospital can create a public destination which connects a major part of all 17000 residents including students and locals as well as visitors to the many public attractions of Högsbo neighborhood while bringing health for them.

The idea is to create a link between necessary and optional activities of everyday life so that people can -intentionally or unintentionally- participate in different kinds of health-promotional processes and take advantage of them.



SITE PLAN
NO SCALE

MAIN LINK

CONNECTION SIGN

LINKED COMPONENTS

PUBLIC TRANSPORTATION STOP

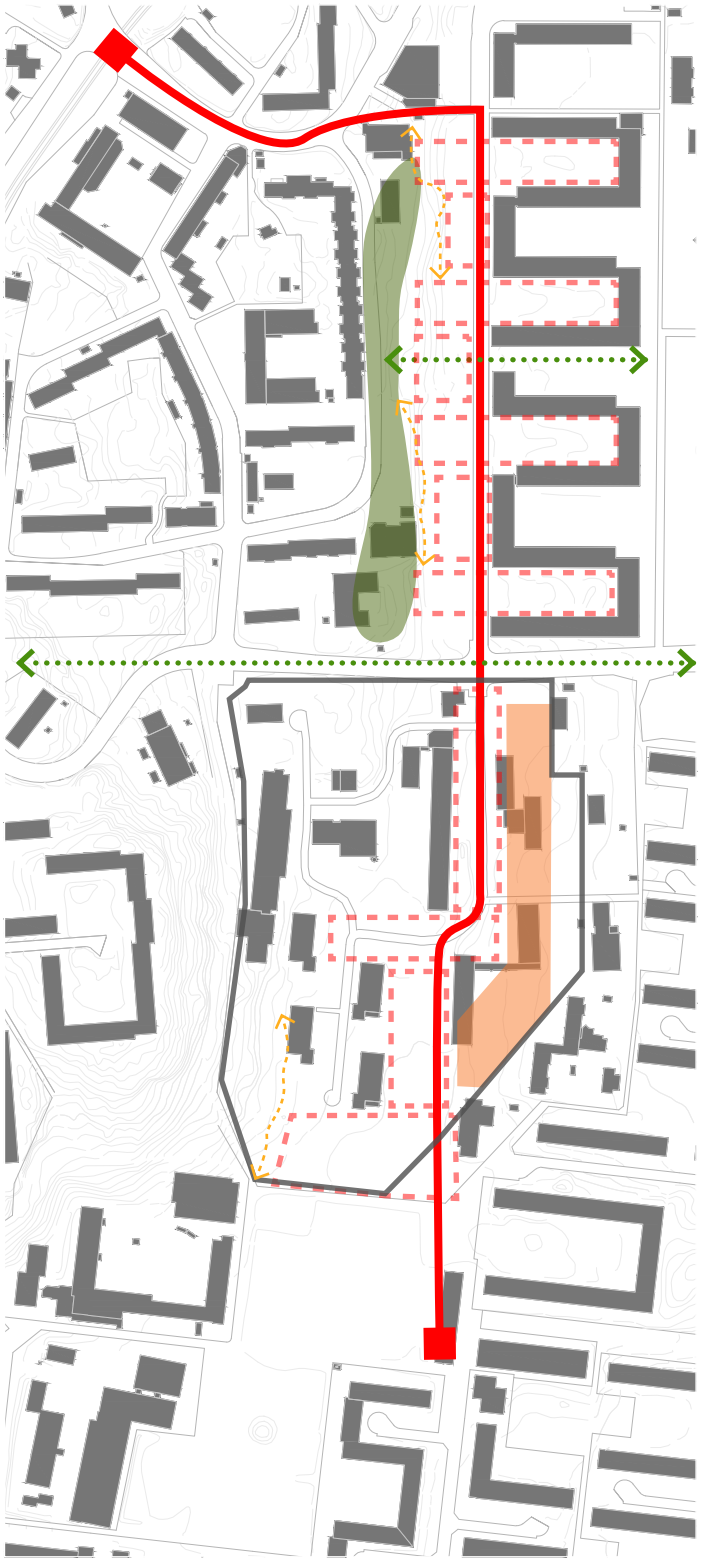
HOSPITAL PLOT

COMMUNICATING THE SPACE QUALITIES

Referring to the former analysis, the two following diagrams illustrate the process for navigating site qualities potential spots for locating the related strategies.

As shown in the diagram, the architectural character of physical space changes alongside the path, expanding and squeezing rapidly; defined by building blocks, topography and green space.

The idea is to maintain this quality while emphasizing on the space distinctions in order to divide a large and undefined open space, which is felt to be cold and unfriendly, to distinct smaller spaces which equal warm and intimate spaces. At the same time taking advantage of this deep understanding of space to implement suitable design strategies.



SITE PLAN
NO SCALE

MAIN LINK

PERCEPTION OF PHYSICAL SPACE

EXISTING GREEN AREA

HOSPITAL PLOT

SCHEMATIC NEW HOSPITAL BUILDING

TOPOGRAPHY

COMMUNICATING THE SPACE QUALITIES

Following the previous discussion, here we describe distinctive parameters of the space circumscribed about the link:

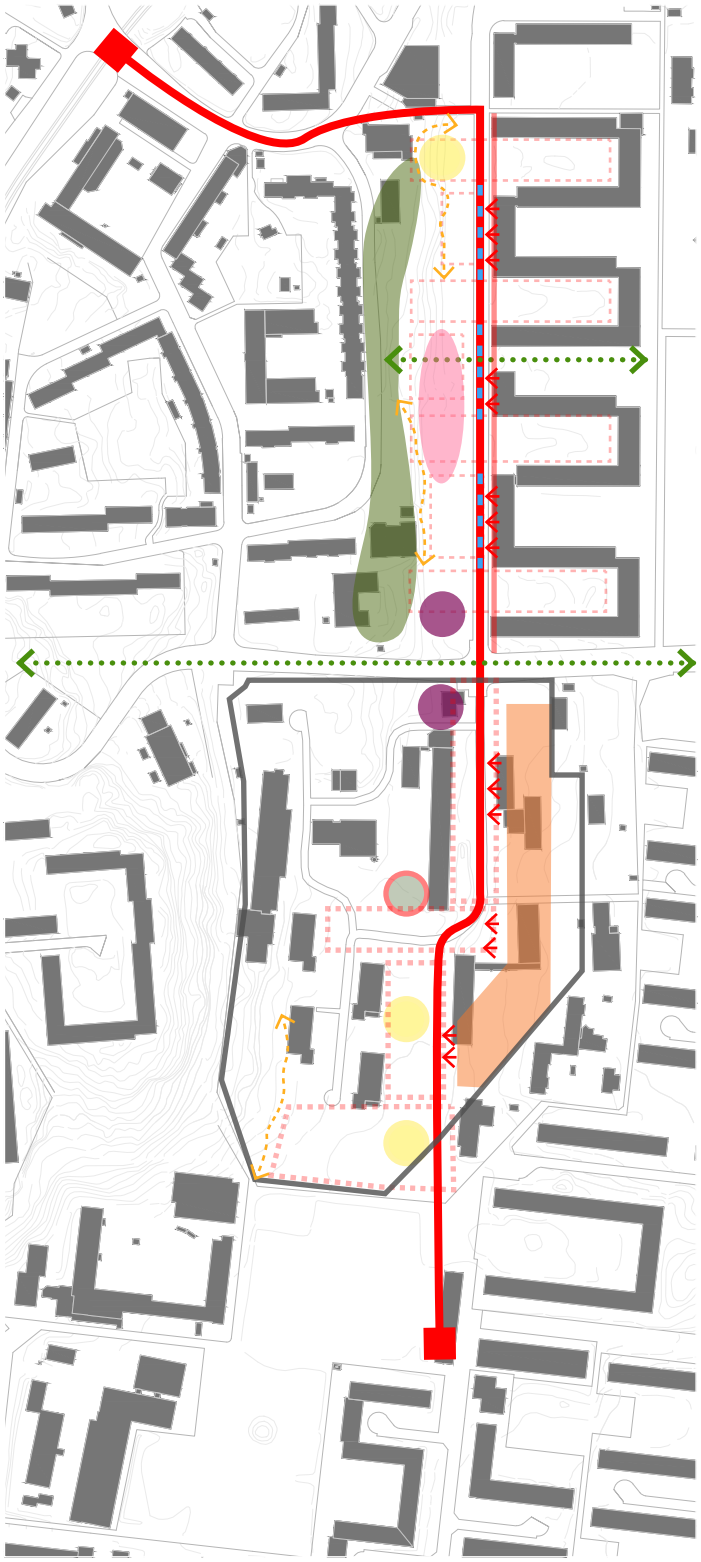
The balconies provide a good level of surveillance into the path and guarantee a strong interaction between the pathway and building facades. However the dwellings still need to be provided by a buffer zone not to invade privacy.

Condensed green area together with existing blocks can generate semi public spaces with an intimate character.

Some access streets crossing the pathway create the opportunity to aggregate public even more. Such crossings are the best opportunity to create public meeting points or small public plaza with small retails.

On the other hand, some spots at which the physical space squeezes have the potential of inviting people to walk and move faster, inculcating a sense of motion in people's mind.

Reaching to the hospital site, all the discussed qualities of space are tried to be preserved. Plus, the pathway needs to stay activated by an element with almost the an active and public character from the adjacent building blocks. This saves the public character of the pathway and leads it toward more activation.



MAIN LINK
PERCEPTION OF PHYSICAL SPACE
EXISTING GREEN AREA
HOSPITAL PLOT
SCHEMATIC NEW HOSPITAL BUILDING
TOPOGRAPHY
FACADE INTERACTION
POTENTIAL PLAZA
POTENTIAL INTIMACY
POTENTIAL HIGH INTIMACY
POTENTIAL PARK

INITIAL IDEOGRAM

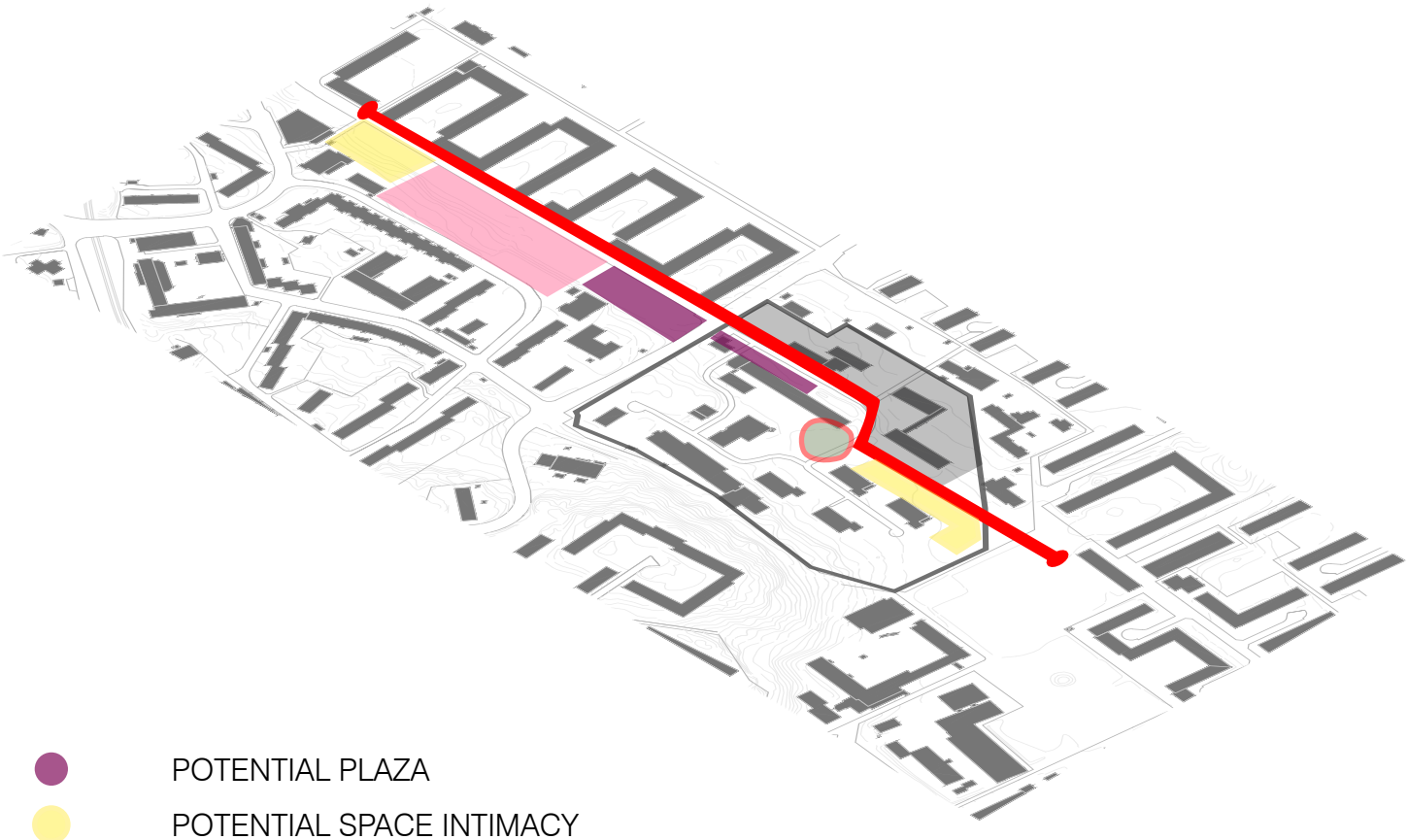
Summarized all above, the space alongside the path introduces different qualities each of which is suited for specific activities and atmosphere. Here I will describe four types of space qualities.

Type one:
The physical space is rather small and inscribed by green and building blocks with a quiet character. These spaces colored in yellow are more suitable for individual and calming activities

Type two:
The space is large and is colored in pink. It is a meeting point of the dwellings at two sides. It has a quiet environment has the potential for creating a small park where the residences as well as other people can benefit from it as a recreational area with greenery, pond, some small scale urban agriculture , etc.

Type three:
It is where the space starts to shrink again but this time the link is crossed by the main street, therefore a plaza character can be applicable. The space is colored in purple and can include kiosks, seating areas and small retails.

Type four:
This type is specifically belongs to the hospital and has an intimating and private character suited for group rehab and therapy garden.



POTENTIAL PLAZA

POTENTIAL SPACE INTIMACY

POTENTIAL HIGH SPACE INTIMACY

POTENTIAL PARK

INITIAL IDEOGRAM

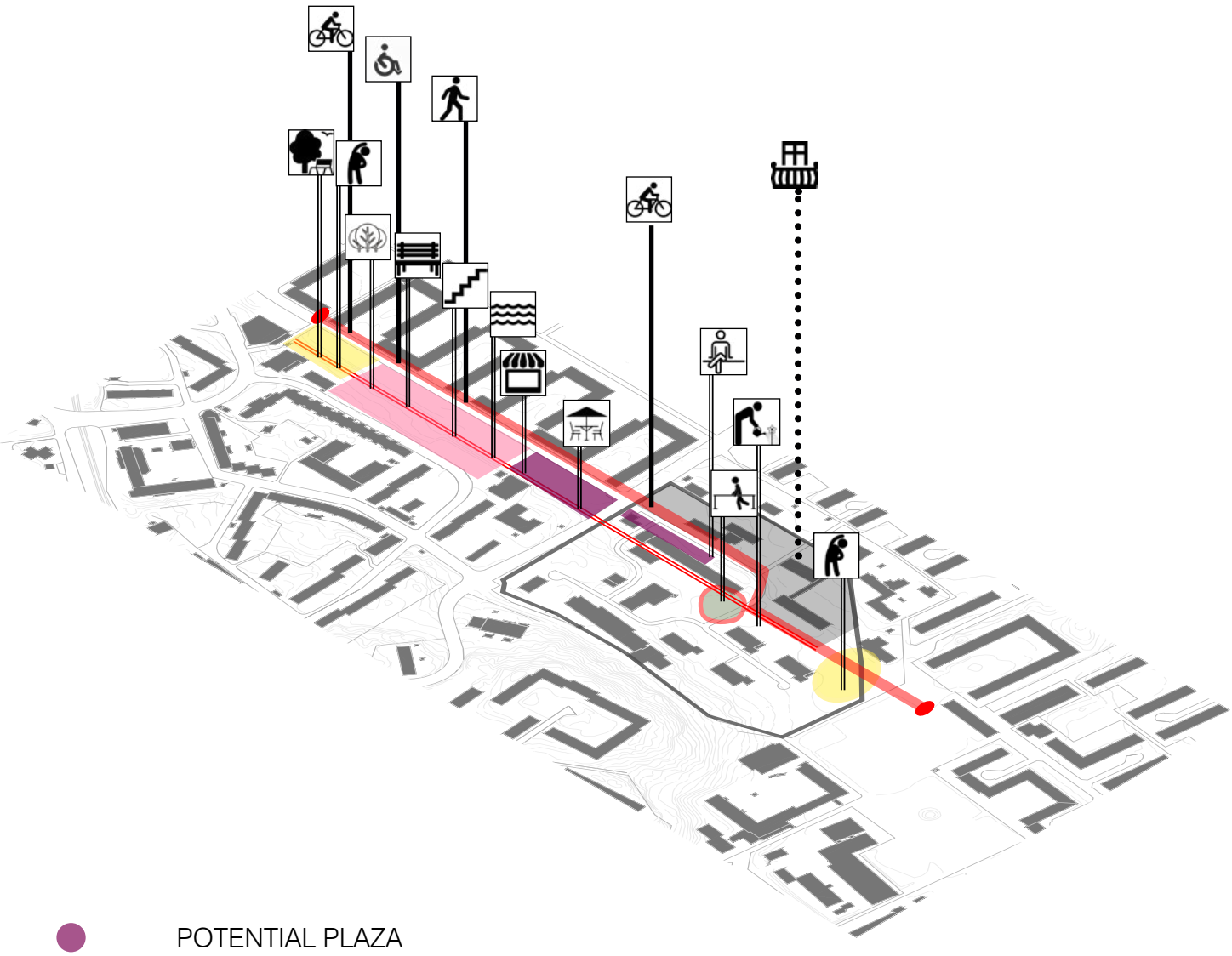
Summarizing all the points above, we come to this ideogram showing the health promotional activities alongside the pathway according to quality of each section. The activities are more populated at the north part of the link, where it is meeting point for residences and other users, making the most out of the slopped area and the green spaces; but the number of activities squeezes when it reaches to the hospital site, adapting to a calmer environment. This quality is more tangible at the end of the pathway where it is surrounded by senior housings.

- Exercising
- Seating
- Seeing & hearing
- Studying
- Chatting
- ...

- Fishing
- Gardening
- Walking
- Playing
- Recreational activities
- ...

- Shopping
- Seating
- Eating
- Socializing activities
- ...

- Group rehab
- Education courses
- Outdoor therapy
- Contempla-tion
- ...



POTENTIAL PLAZA

POTENTIAL INTIMACY

POTENTIAL HIGH INTIMACY

POTENTIAL PARK

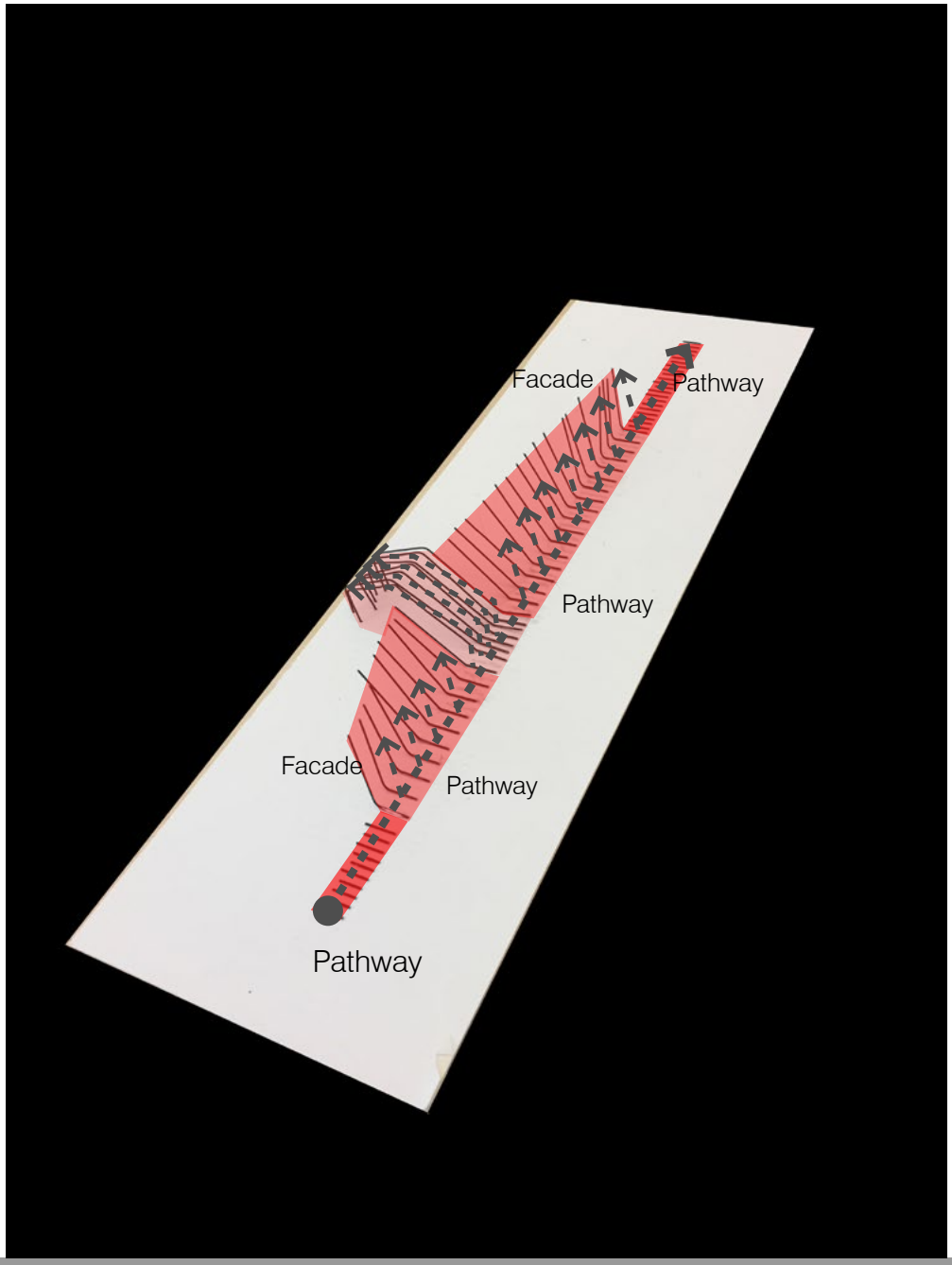
FORMING A CONCEPT

This model shows the design proposal in concept as well as the focal point in my project. It is an element defined by the primary components in the architecture (vertex, line, surface and volume) smoothly turning to one another; meaning converting a vertex to a line, a line to a surface and a surface to a volume- and the cycle of this metamorphosis is repeated over and over.

Accordingly, the design starts by line -meaning a pathway- initiating from the tram stop and continues its way towards the hospital. Reaching the hospital, the element begins to transform character from a line to a surface which represent the facade of the hospital. Later on the way, this surface element changes to a volume and includes one part of the hospital building. Subsequently, the volume becomes surface again and finally a path reaches the other destination which is the square at the south part of the hospital.

The element is tried to be illustrating the idea of the functioning as a link as well as implying the continuity, transmission and permeability.

Discussing the vertex, line, surface and volume, I merely mean the elements with zero, one, two and three dimensions respectively and transmission of one to another by removing or adding one dimension; rather than the geometrical shape of each element. The geometrical choice will be fully discussed later in the booklet.



PRELIMINARIES

There are many different ways to define "enjoyable." Allowing for a variety of pedestrian experiences is important in contributing to the interest and diversity of a city or neighborhood. In considering the types of experiences appropriate to a particular pathway, various regulatory tools—and their relative rigidity or looseness—can be used to achieve different desired outcomes. Consequantly, several design guidelines are designated:

A: Pathway design guidelines:

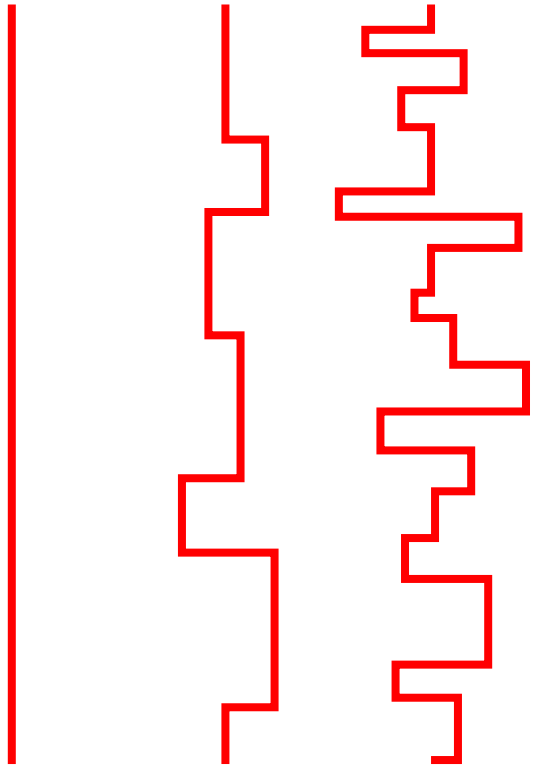
1- The pathway is decided to be an only-pedestrian path in order to create a safe and continuous link which promotes walkability.

To confirm this idea, provide variety of spatial experiences and make the most of the existing topography to promote movement, three different flows are introduced; suited to different speeds of movement:

a- The fast-tack: Used by runners and or suited emergency access. They benefit from passive participation in the space while heading to their destination.

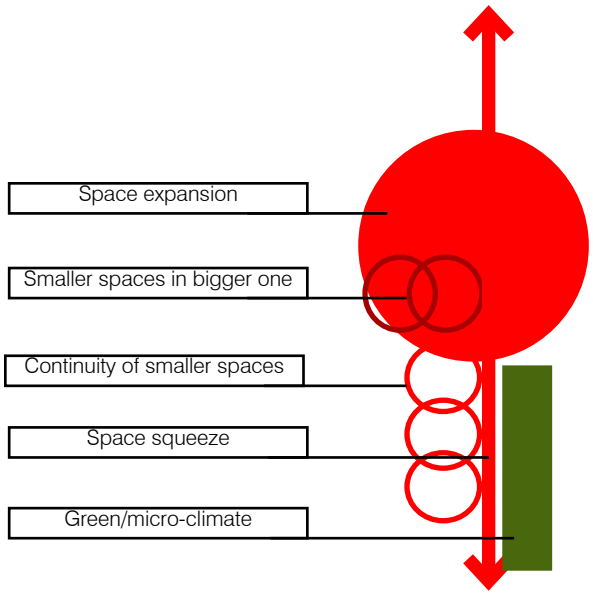
b- The slow-track: Used by people who want to engage in space and to some extend, experience the activities and qualities of space. They can take advantage from both active and passive participating in the health processes.

c- The stroll-track: Used by pedestrians who are willing to involve in and explore the space and activities. They fully engage in different zones of the area.



FAST TRACK SLOW TRACK STROLL TRACK

2- Combination of outdoor spaces with different characters, offering diverse space qualities throughout the path is preferable- intimate areas for quiet contemplation, open spaces for group rehab or communication, spaces that accommodate public activities and micro-climates for local flora/fauna.



PATH

LARGE SPACE

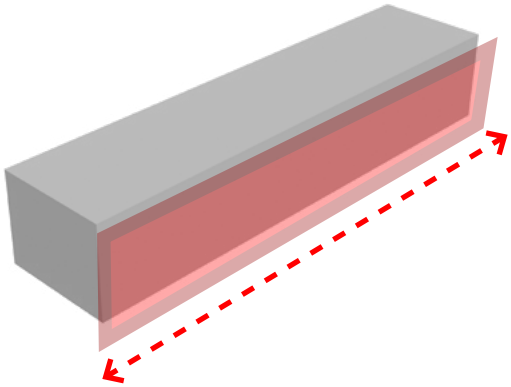
SMALL SPACE

GREEN SPACE

PRELIMINARIES

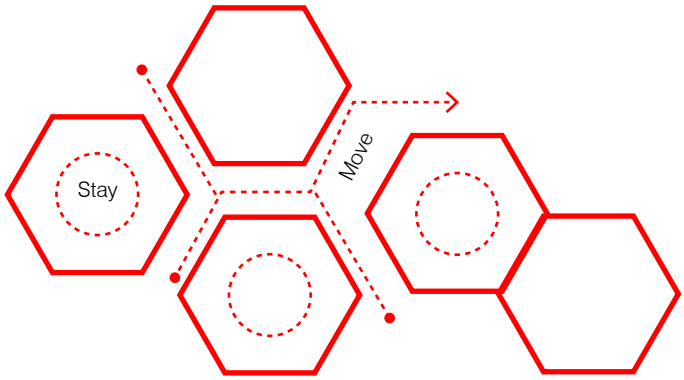
B: Fcade design guidelines:

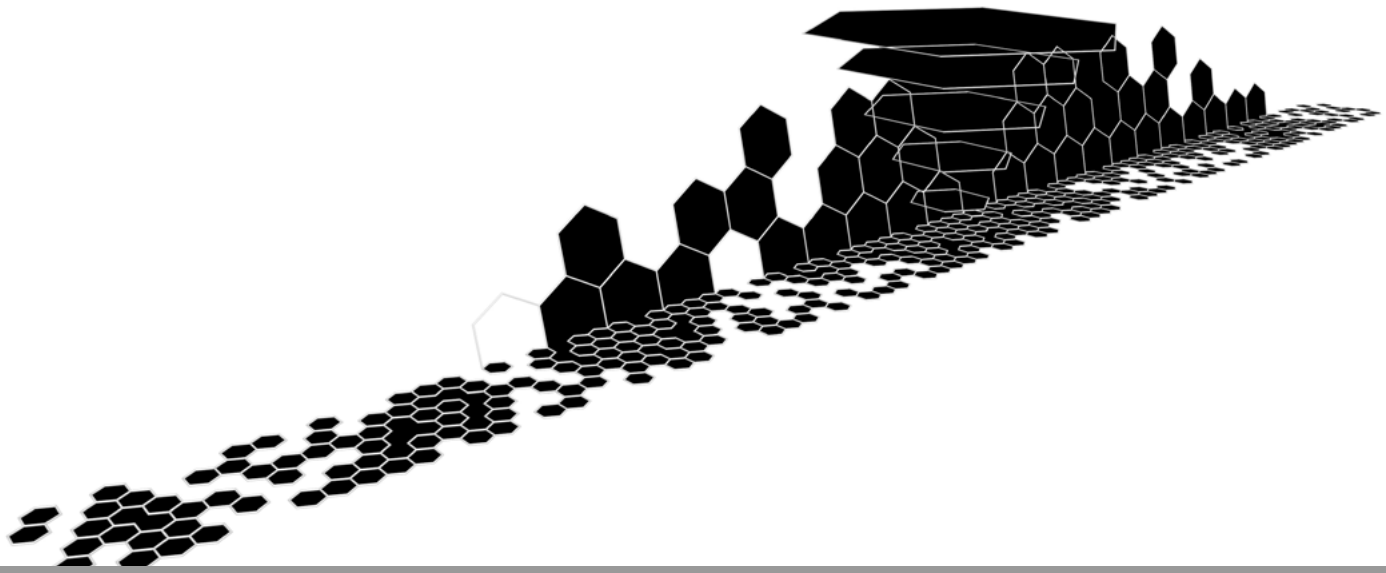
In this project the proposal for the new plays an important role since it could reinforce the idea of communication and integration of the hospital within the neighborhood.
Therefore the facade as the exterior layer of the building which interact with the outdoor space is of great importance. So, an active facade is desired to communicate with the pathway and maintain the public character of the pathway. Balconies, transparency and porocity are the main elements that can support the idea of an active facade.



Geometry

In design process, there was an emphasis on a unique geometrical shape which can be applicable to the all design elements (landscape, facade and volume) in order to associate one cohesive architectural language throughout the link. Hexagon as an organic shape which correlates with the community identity was the best option while fulfilling the initial idea. It was also rich in creating different atmospheres along the way, being able to inculcate the static feeling of space as a surface, while inviting to move when it comes to the edges; smoothly changing direction.





DESIGN PROPOSAL

PATHWAY

The design proposal in detail is restricted to the marked area but the same principles are applicable to the rest of the pathway as well as all other spaces with the same potential within the neighborhood.

PATHWAY DESIGN PROPOSAL

Following the hexagonal pattern, the path introduces three flows (colored light, medium and dark pink in this map). Alongside the path, the flows overlap each other in order to let the users switch between them as they wish. They also provide connection with the west and east street.

It is tried to provide spaces with different characters, open and close- private and public. Furthermore, people in all age group can participate in their favorite activity such as children play area.

Stairs provide seating, seeing talking hearing and communicating for public, also they shape and define the adjacent space while guarantee some movement. The space defined by the stairs are designated to be used for exercising.

Intimate spaces within the densely wooded areas are suited for contemplation while creating micro climate. They also let the biodiversity continue living within the area.

Small urban agriculture and gardening entertain people and help them stay healthy and the plaza close to it is where the Eco products are sold in small kiosks.

Reaching to the hospital the three tracks overlap each other more frequently as the space squeezes. The high level of intimacy provided by existing hospital buildings provides the opportunity to dedicate the stroll track to the patients in this part; where they can go through a semi loop of rehabilitation walk.

The activities provided along the path are dramatically reduces as it gets closer to the end; adapting to the calm space demanded of adjacent blocks.

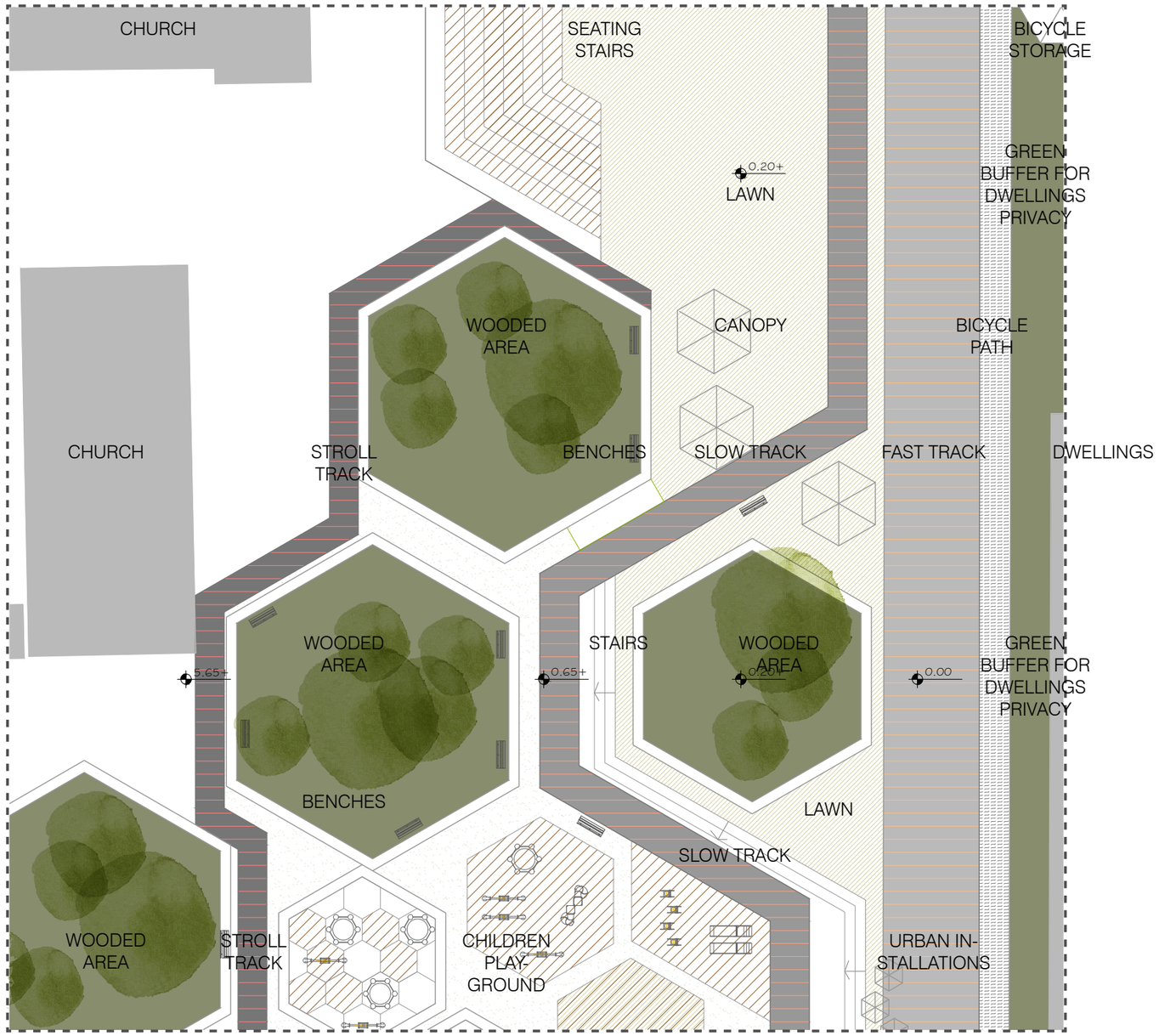
EXISTING BLOCKS
THE FAST TRACK
THE SLOW TRACK
THE STROLL TRACK
SEATING STAIRS
LAWN
TREES
POND
AGRICULTURE/GARDENING
KIOSK

GROUND FLOOR
SCALE 1:5000

ZOOMED PLANS

ZOOMED PLAN N1:

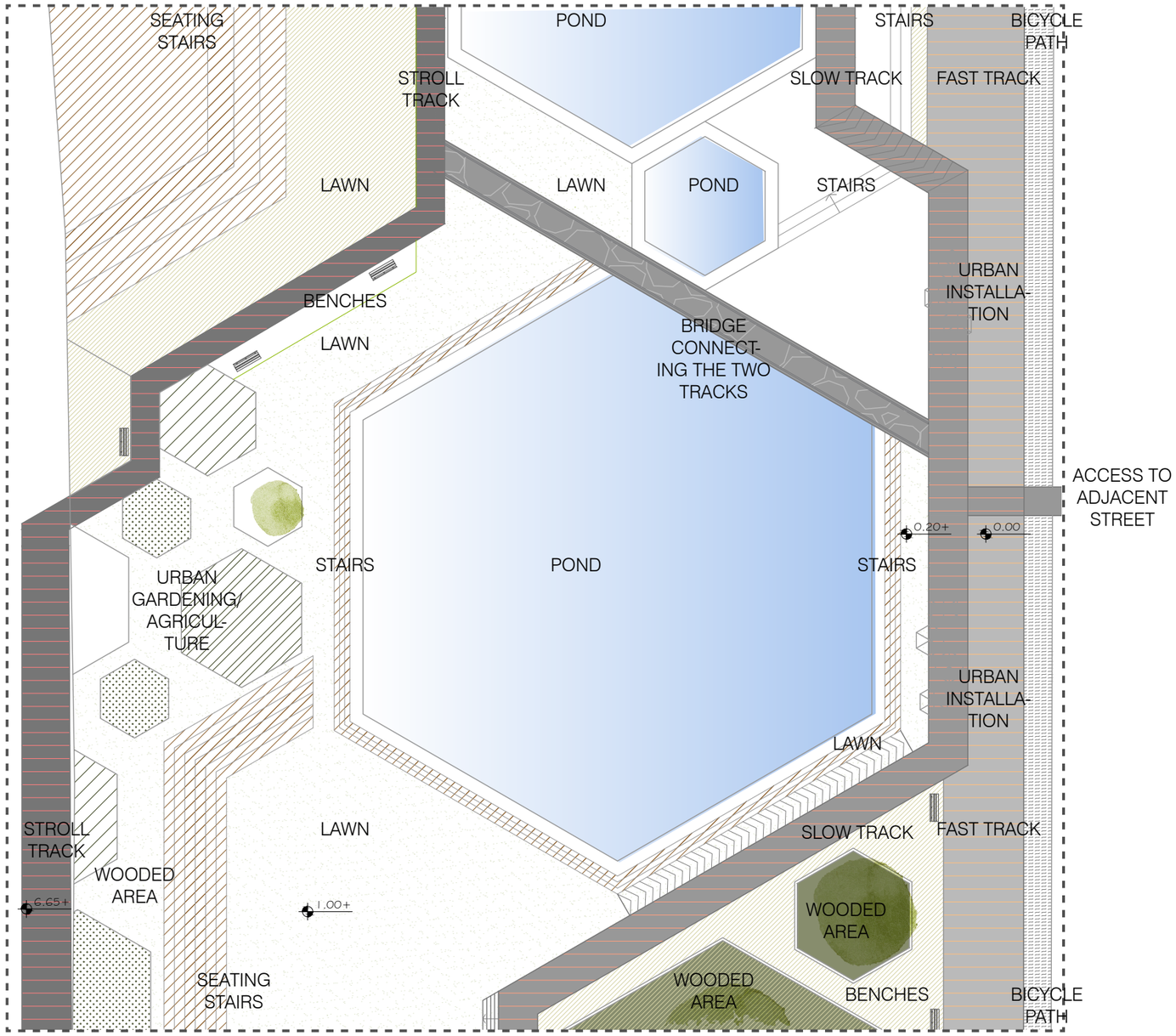
SEATING STAIRS, CHILDREN PLAYGROUND, WOODED AREAS AND THREE TRACKS



ZOOMED PLAN N1
SCALE 1:400

ZOOMED PLAN N2:

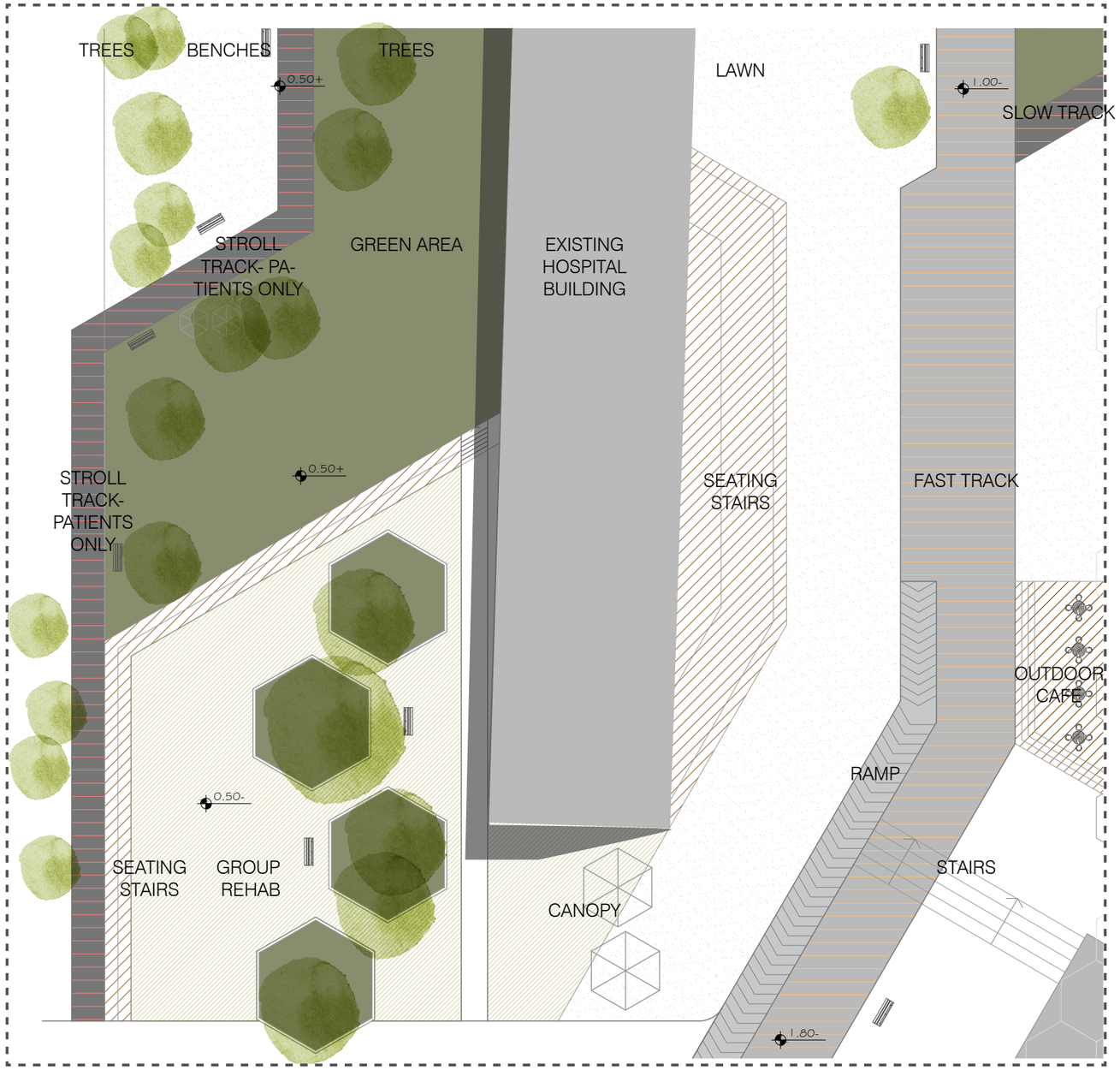
PONDS



ZOOMED PLAN N2
SCALE 1:400

ZOOMED PLAN N3:

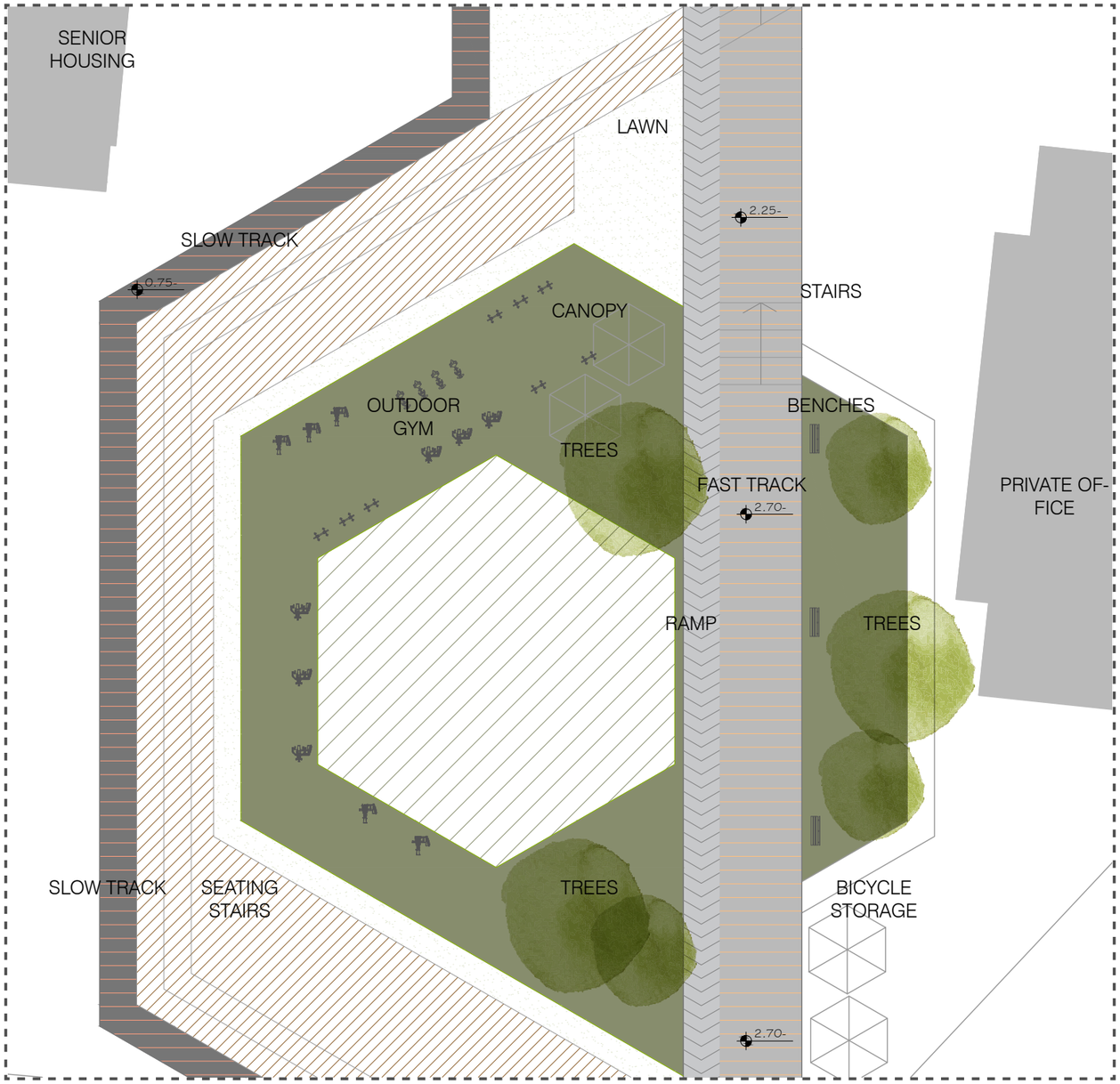
OUTDOOR REHABILITATION



ZOOMED PLAN N3
SCALE 1:400

ZOOMED PLAN N4:

OUTDOOR GYM



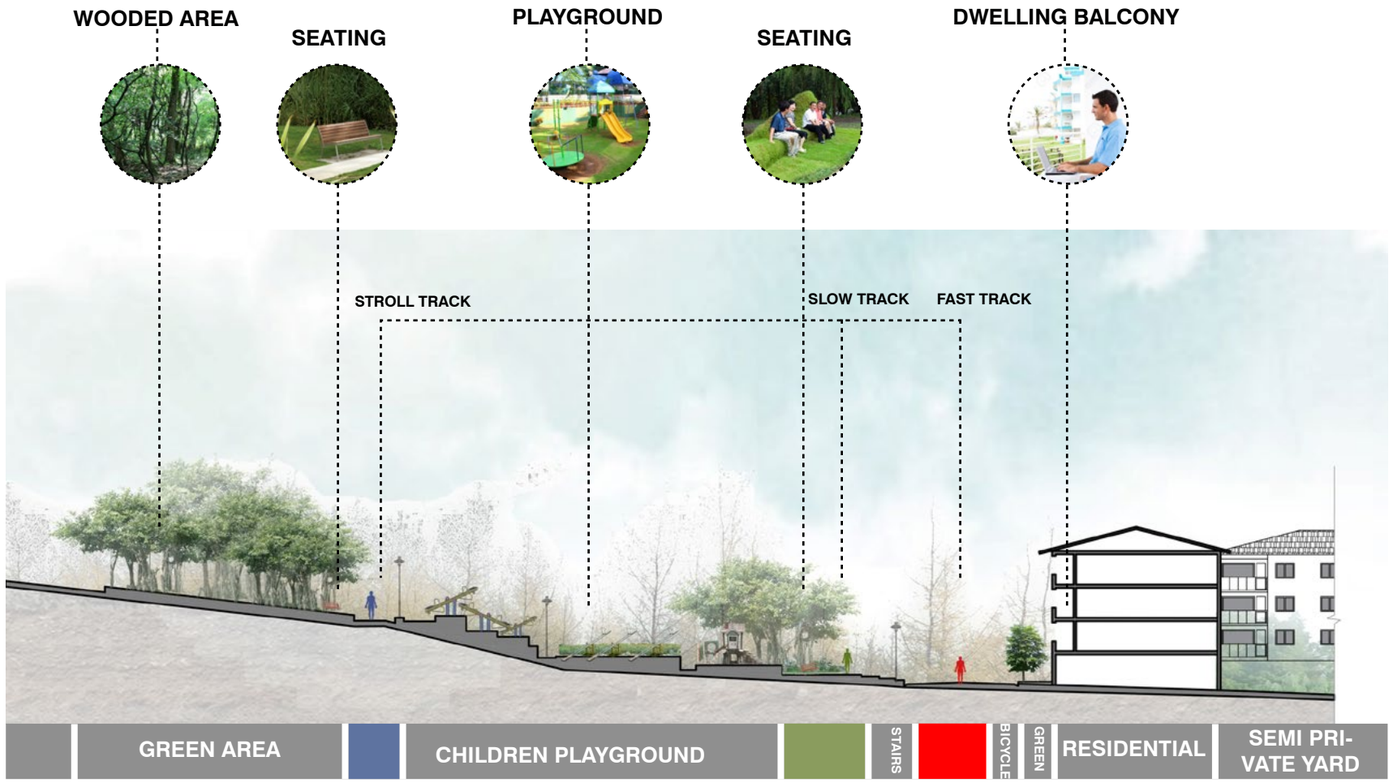
ZOOMED PLAN N4
SCALE 1:400

SECTIONS

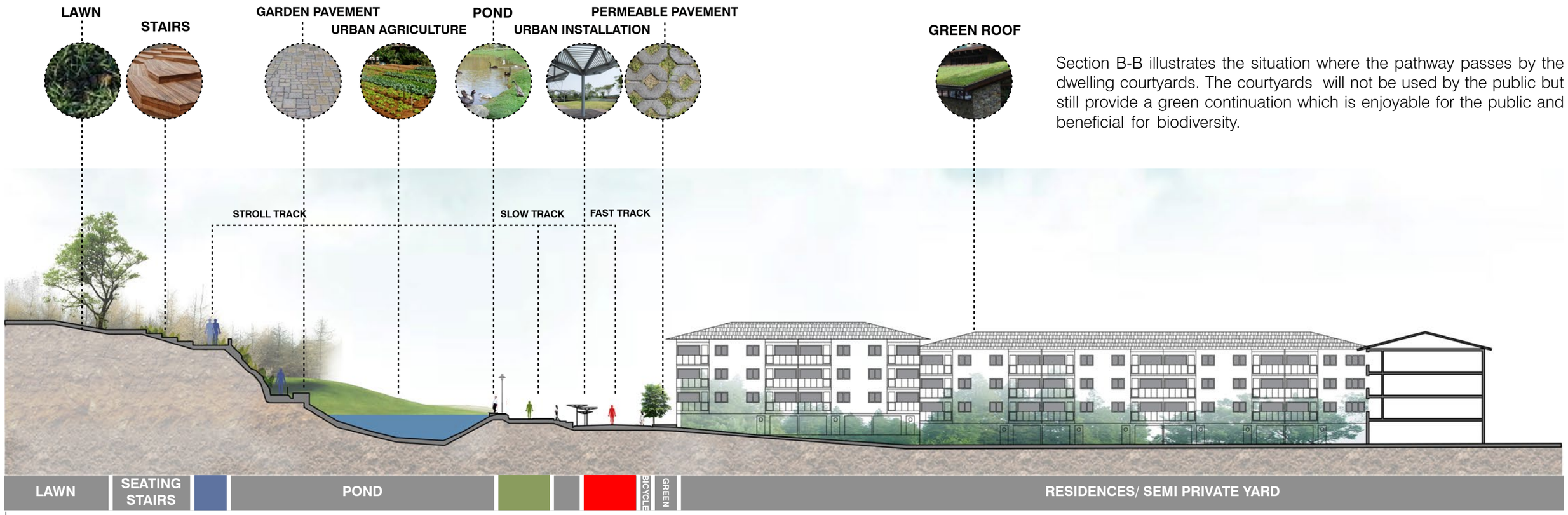
In this chapter, the sections illustrate a more detailed description of the pathway design. The maps show three different flows (fast track in red, slow track in green, and stroll track in blue) continue their way parallel and experience different spatial qualities alongside the pathway. The idea is to let people participate in their desirable activities while they trip to their destinations. Activities such as seating, gardening, walking, biking, fishing, exercising, climbing the hill and so on. In the maps, it is also tried to show some principles of sustainable design in order to make the project more regenerative and nature-friendly.

SECTIONS

Section A-A illustrates the situation where the pathway is in direct contact with facade of dwellings.
The balconies maintain and reinforce the activation of the pathway. They also benefit from nice view of green area and people moving about. The green layer adjacent to the residential blocks protect them from invading the privacy.
Three flows show a hierarchy of space privacy as well as space engagement.



SECTION A-A
SCALE 1:800

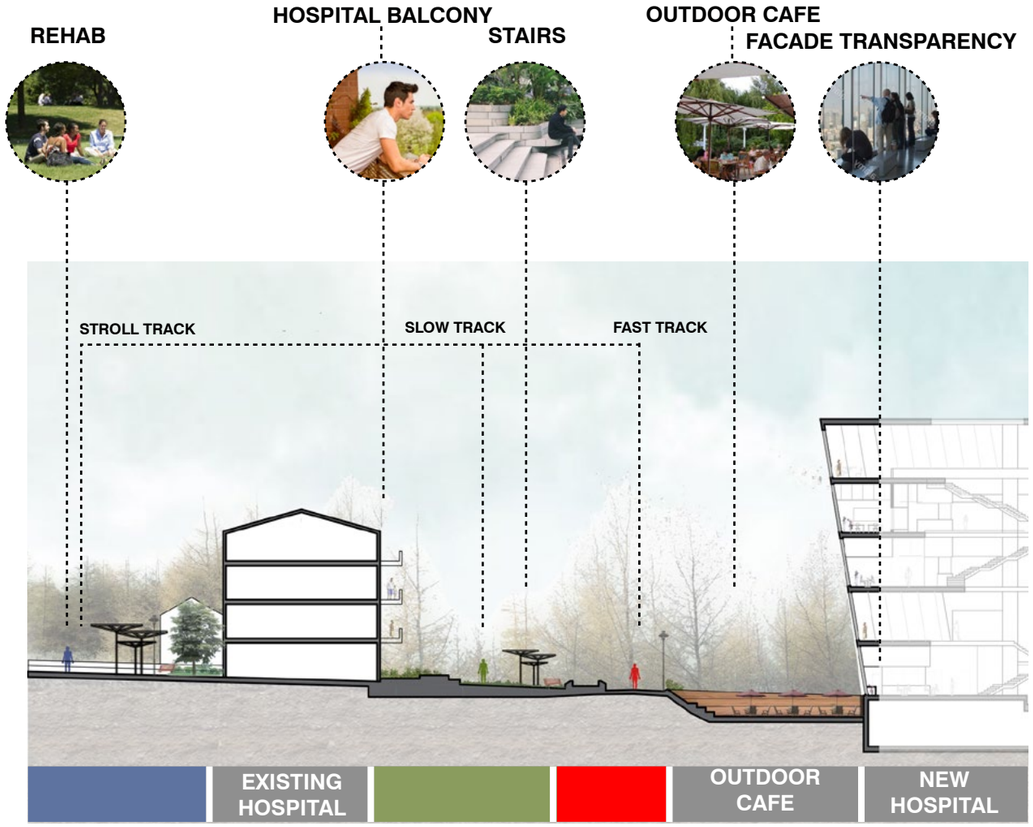


Section B-B illustrates the situation where the pathway passes by the dwelling courtyards. The courtyards will not be used by the public but still provide a green continuation which is enjoyable for the public and beneficial for biodiversity.

SECTION B-B
SCALE 1:800

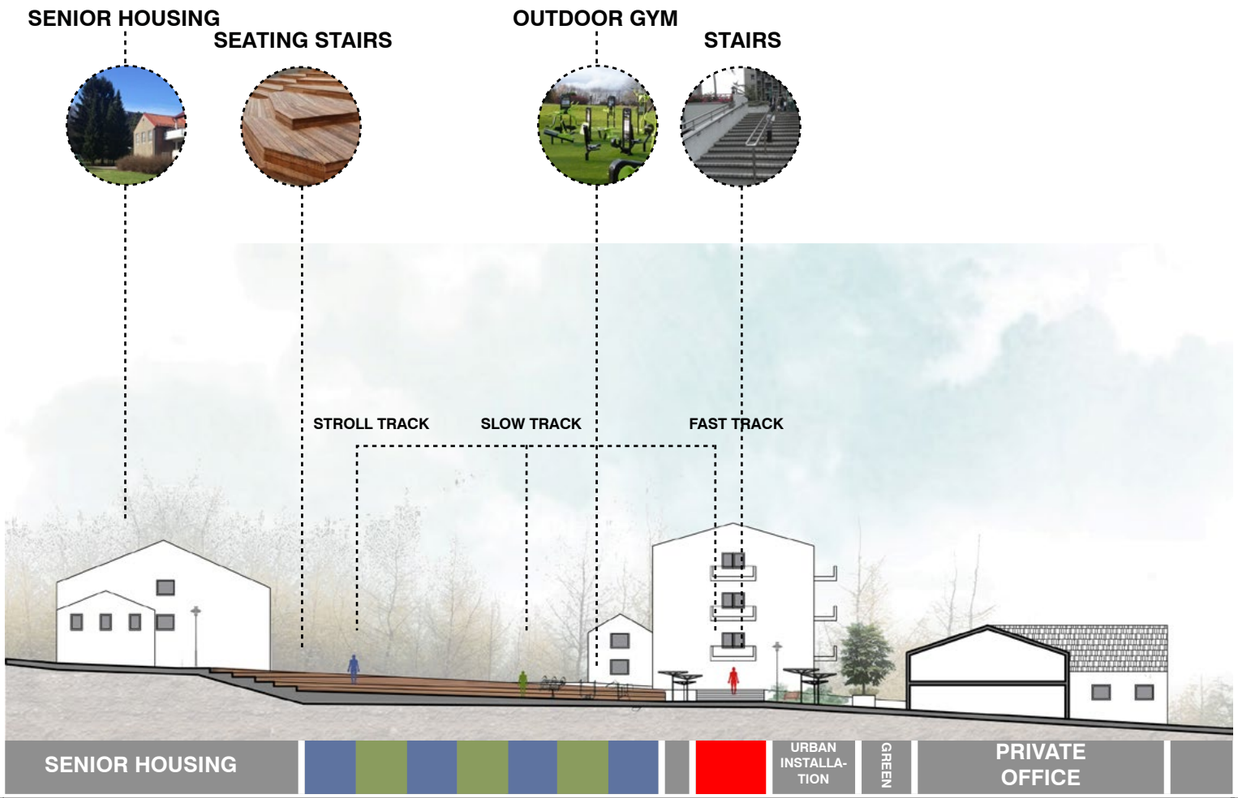
SECTIONS

Section C-C cuts through the hospital and shows the interaction between the pathway in the middle and the facade and balconies of the hospital. The idea is to provide as much building transparency as possible to let the pathway stay lively. The space behind the hospital with a good level of privacy provide the opportunity for the stroll track to be assigned as patients-only; so, the patients at this spot will be able to go through a rehabilitation loop without being disturbed by the public.



SECTION C-C
SCALE 1:800

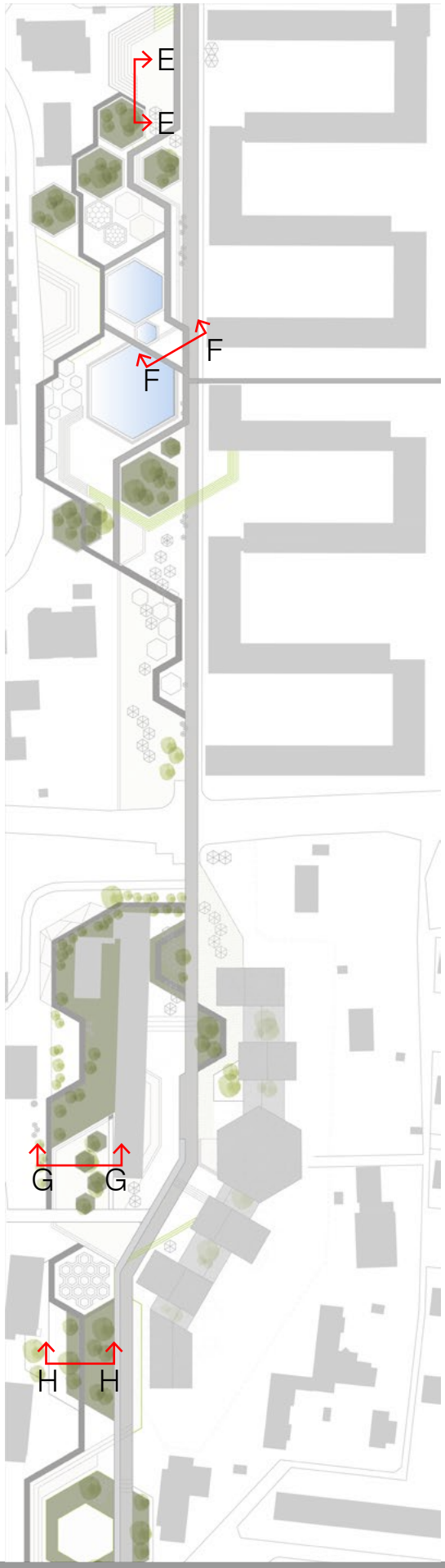
Section D-D is showing the pathway in the end part, where the activities are less populated to keep the atmosphere suitable for senior housing and rehab area.



SECTION D-D
SCALE 1:800

ZOOMED SECTIONS AND QUALITY OF SPACES

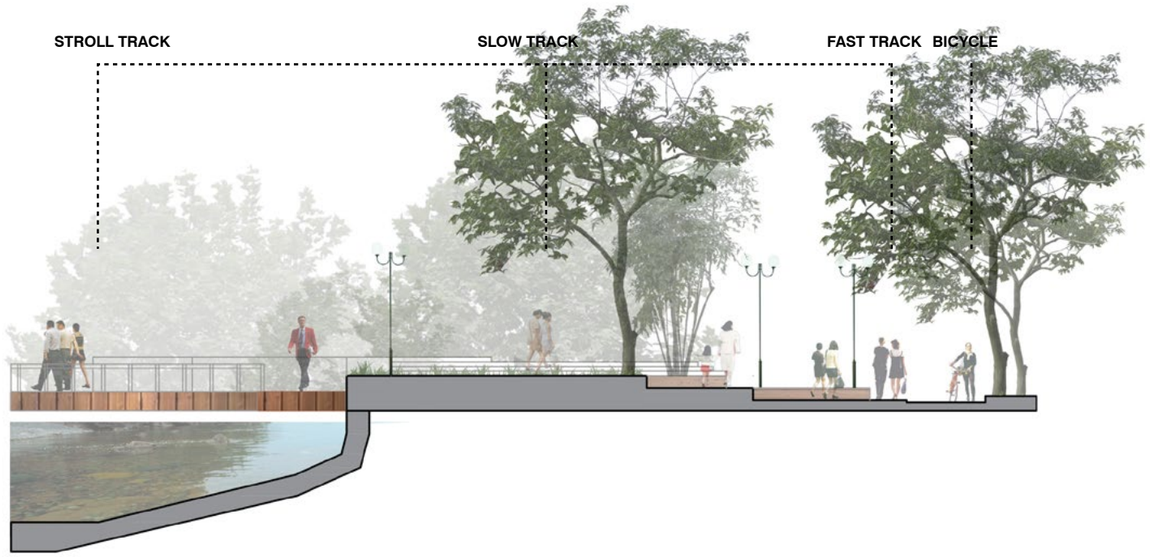
The aim with providing the zoomed in sections are to getting more familiar with quality of spaces and having a better interpretation of spatial proportions.



ZOOMED SECTIONS

SECTION E-E
SCALE 1:200

SEATING STAIRS



SECTION F-F
SCALE 1:200

FLOWS INTERSECTION

ZOOMED SECTIONS

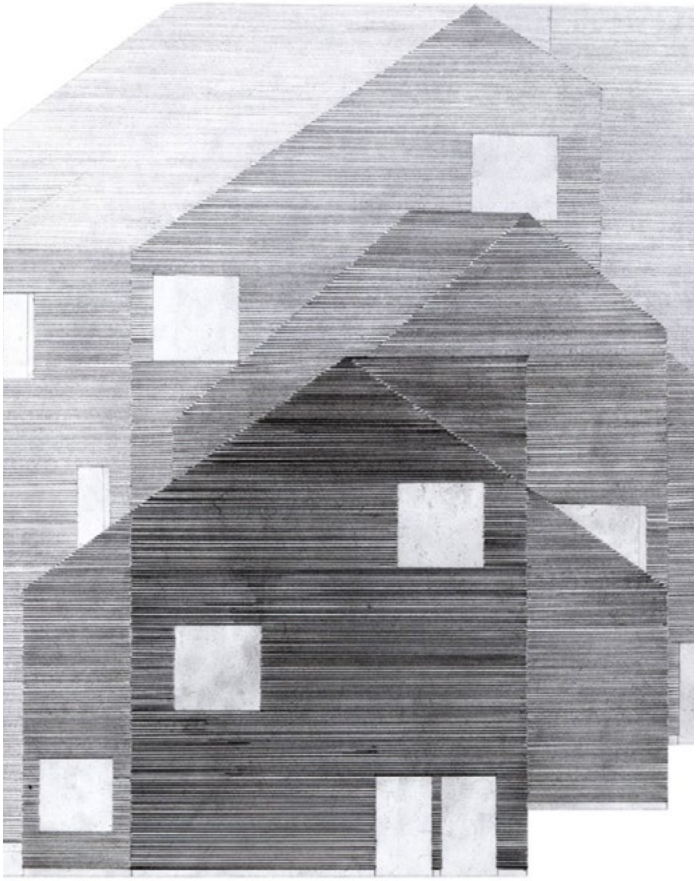
SECTION G-G
SCALE 1:200

SPACE INTIMACY

SECTION H-H
SCALE 1:200

OUTDOOR REHABILITATION

HOSPITAL FACADE INTERACTION

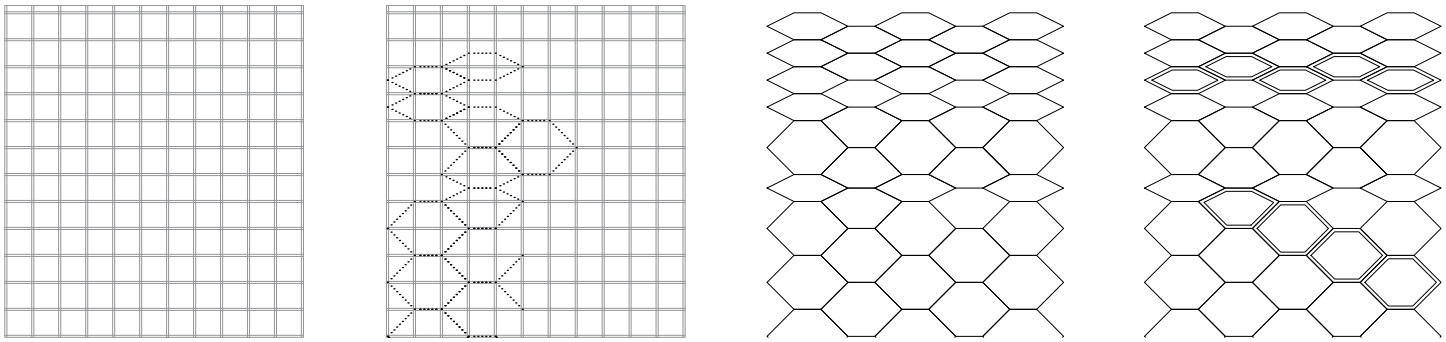


Previously mentioned in the hospital design guidelines, the intention with the facade is to make it as permeable as possible in order to create an active facade which is able to support an activate path; saving its public character.

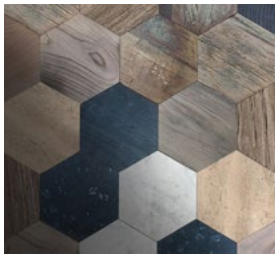
In other words, the aim is to bring the hospital users and the pedestrians together, through the facade element. Furthermore, the fact that people are more likely to stay at the edge of spaces (Gehl, 2006), makes the facade even more important in this project.

To achieve this purpose, a totally glazed facade is suggested supported by a second layer of vertical wooden louvers which can not only function as sun protection but they also let the users communicate, see and observe, hear, stand and even talk.

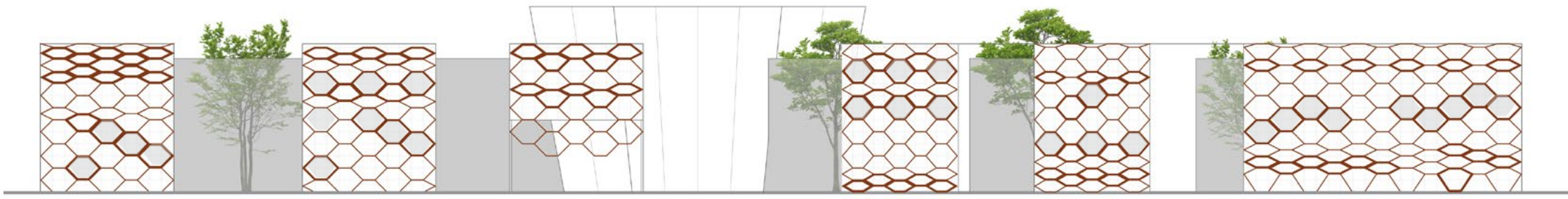
Following the hexagonal pattern in design, the facade is also made up of a hexagonal pattern originated from a modular system, which function as balconies and windows. The hexagon's edges are protruded in order to emphasize on the shape as well as creating sun protection. The result pattern is repeated all over building's main facade but one module moving upwards for each volume, creating the motion and variety in the facade.



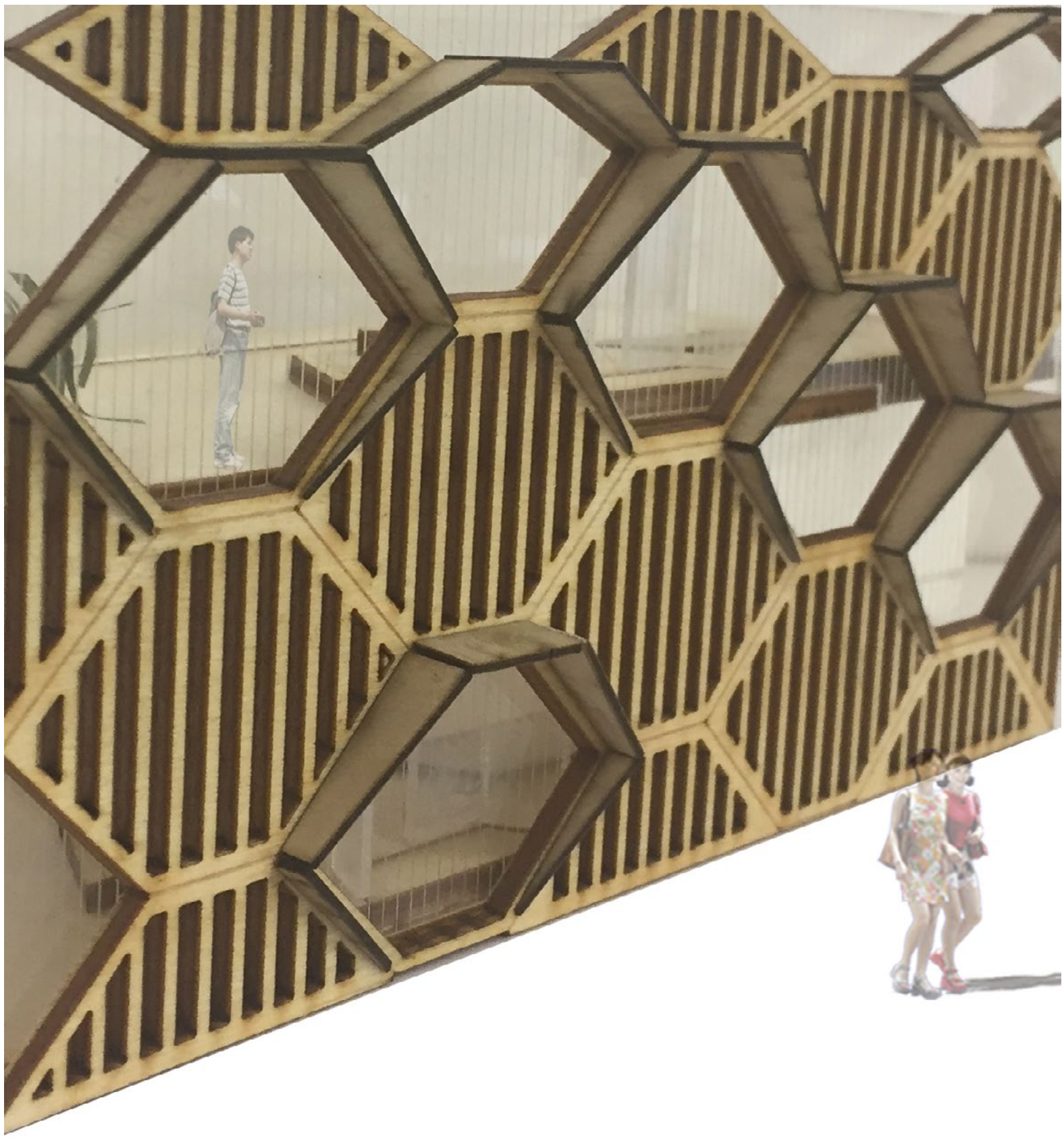
The material for the second layer of the facade is wood which is associated with warm and homelike feeling, suited for the neighborhood scale of the area as well as expressing the same theme as the rest of the buildings within the site.



FACADE PROPOSAL



PERSPECTIVE



DISCUSSION

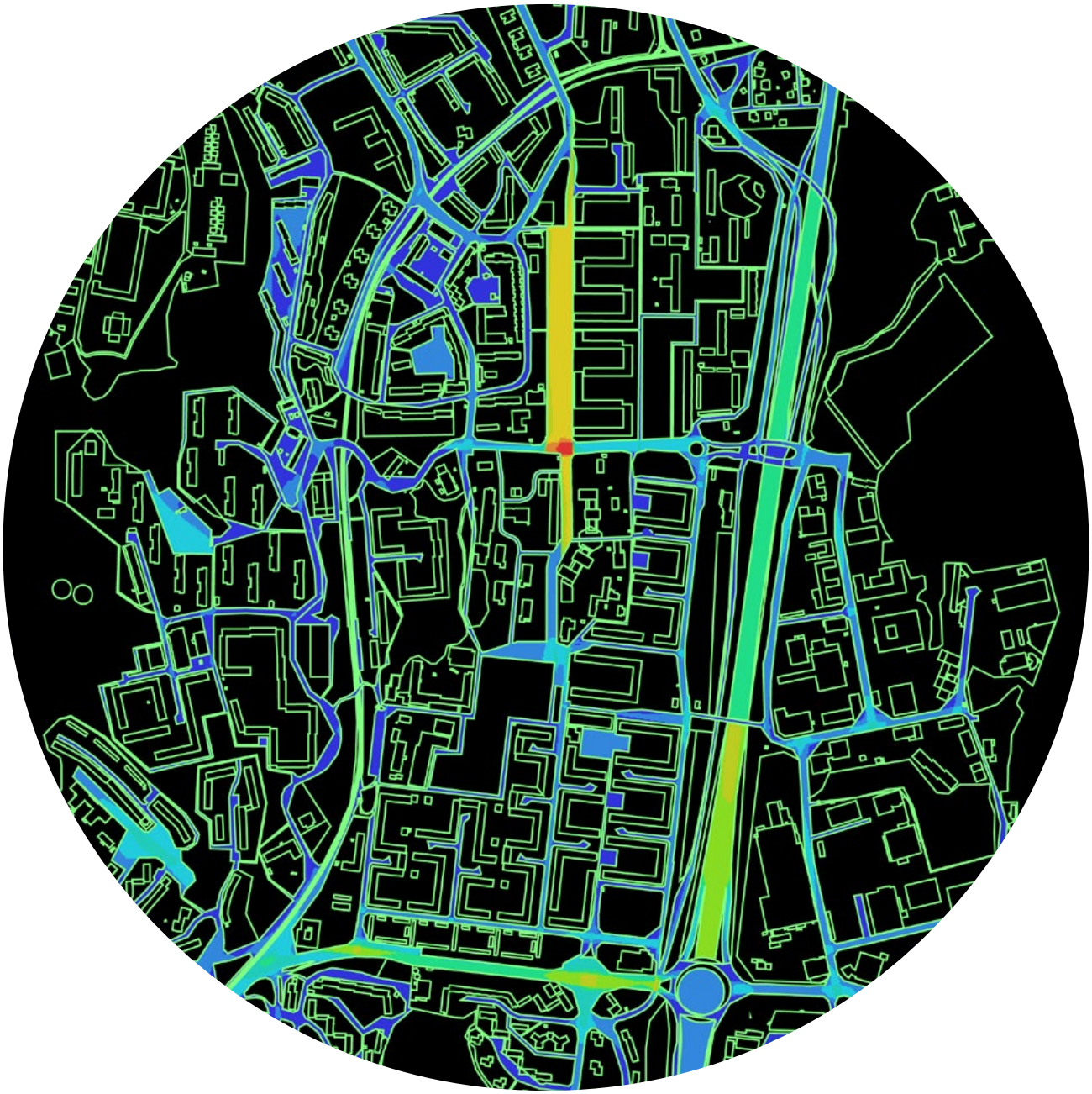
VGA ANALYSIS ARGUMENTATION

1.1 : ROAD CONNECTIVITY; NEW INTERVENTION

Description:

To argue that the new intervention results in a better area connectivity which was previously stated as the second vision for this project (transparency),the VGA analysis was performed once more. The new out-turn, colors the path way in yellow orange, which proves a high level of road connectivity. Reaching to the hospital, the color is substituted with red which means the highest connectivity at the entrance of the hospital site, and define a vital node within the neighborhood. The yellow color still exist until it reaches the main entrance of the new proposed hospital and health promotional core. Although the path color changes to light green and blue, meaning a less road connectivity in this part, it still provides a better connection in comparison to the previous condition.

All in all, the new pathway delineates a new connection through the hospital at the heart of the neighborhood which was missing before.

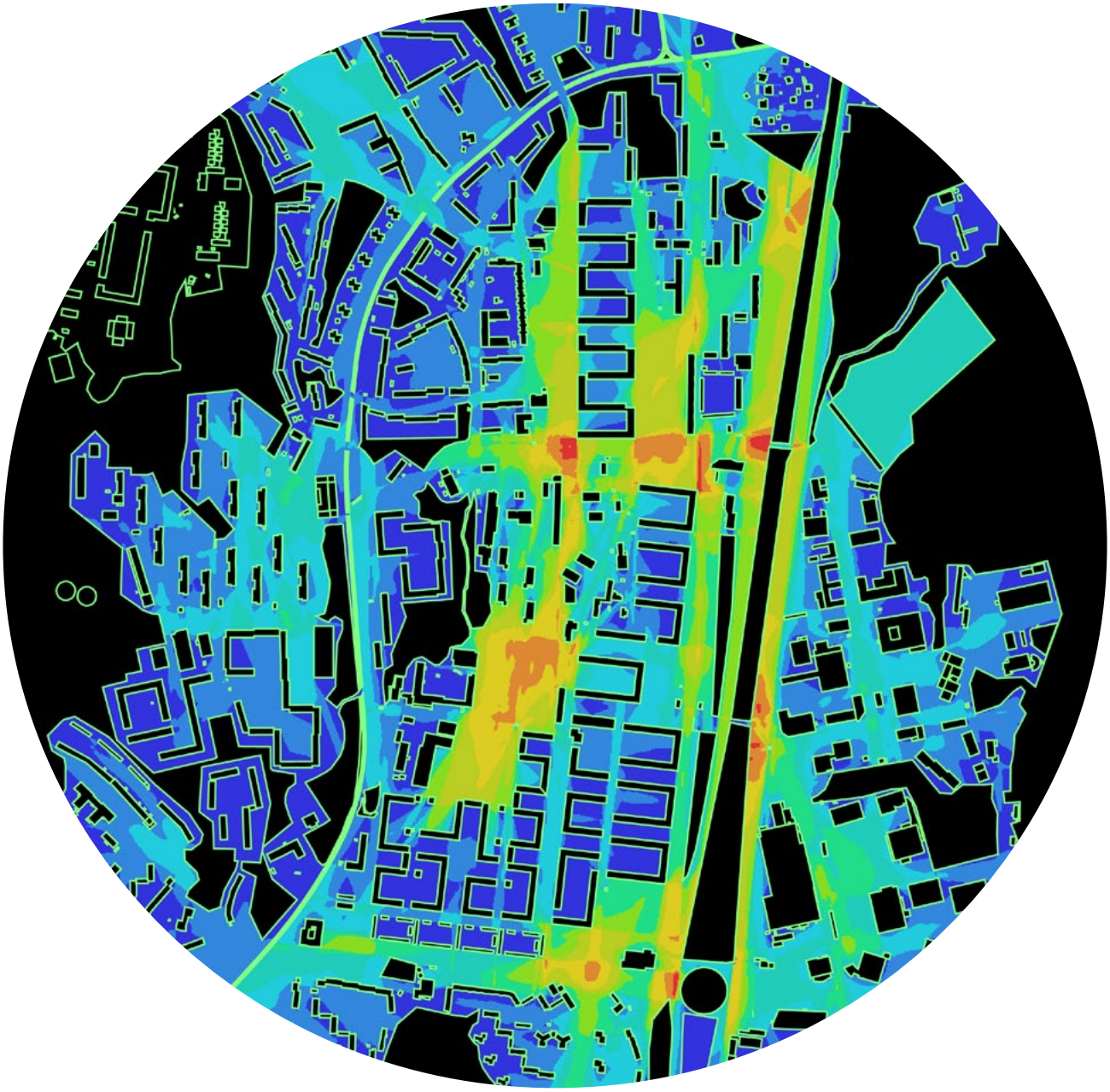


VGA ANALYSIS ARGUMENTATION

1.2 : VISUAL CONNECTIVITY; NEW INTERVENTION

Description:

The Health Line is easily distinguished the new visual analysis. The new yellow and orange color in the middle of the map indicates the intervention accuracy in terms of visual connection. Defining a new visual corridor, the design will attract a lot of attention within the area. By being visually exposed, the project will have an enormous influence on the Högsbo community and therefore on the public health in the neighborhood .



SUMMARY

This project was an attempt to define a borderless and well-connected hospital where all people who pass by are welcomed into, by means of a health promotive link which connects people's everyday activities through the hospital; letting them engage in an enjoyable space by allowing for a variety of pedestrian experiences which is important in contributing to the interest and diversity of a neighborhood.

In considering the types of experiences appropriate to the pathway, three different tracks were introduced. The three tracks— termed as fast track, slow track and stroll track— with a hierarchy in speed of movement, level of intimacy and activity participation helped achieve the desired outcomes. At the same time they allow for high-range participation of the public within different groups of age, special movement conditions and different demands.

In the process, the VGA analysis was used as a tool for measuring urban connectivity and intervention accuracy in this perspective. Comparing the existing situation with the final outcome proved the validity of the new pathway function; arguing that thanks to the intervention the area is now considerably better-connected specially in the hospital spot— changing color from light blue to red. This means that the intervention have been successful in creating a space which is now inviting public into it a lot more than before.

REFERENCES

- Jason Corburn, 2014, City planning as preventive medicine
Preventive Medicine, Volume 77, Issue null, Pages 48-51
- Christopher Alexander, Sara Ishikawa, Murray Silverstein ; with Max Jacobson ..., 1977, A pattern language : towns, buildings, construction
- Jan Gehl, Birgitte Svarre, 2013, How to study public life
- Jan Gehl ; translated by Jo Koch, 2006, Life between buildings : using public space

- Aaron Antovsky, 2013, The salutogenic model as a theory to guide health promotion1

- Dean Whitehead MSc RN, 2012, Health promotion and health education: advancing the concepts

- Brittin, Jeri; Elijah-Barnwell, Sheila; Nam, Yunwoo; more..., 2012, Community-Engaged Public Health Research to Inform Hospital Campus Planning in a Low Socioeconomic Status Urban...

- Stephen Verderber and Joseph Kimbrell, 2005, The Role of the Architectural Environment in Community Health: An Evidence-Based Initiative

- Elke Miedema ; Peter Fröst ; Marie Elf , Healthcare architecture for health and well-being From hospital to neighbourhood care (PROARCH)

- Sternberg, Esther M, 2010, Healing spaces: the science of place and well-being, 1st Harvard University Press paperbacked.

- Marcus, Clare Cooper; Sachs, Naomi A, 2013, Therapeutic landscapes: an evidence-based approach to designing healing gardens and restorative outdoor spaces

- Bártolo, Helena Maria, 2013, Green design, materials and manufacturing processes

- Zimring, Craig; DuBose, Jennifer, 2012, Healthy Health Care Settings

- Harris, Debra D; Leibrock, Cynthia A, 2011, Wiley Series in Healthcare and Senior Living Design: Design Details for Health : Making the Most of Design's Healing Potential

- NYCDepartment of Design and Construction, 2015, Active Design Shaping the Sidewalk Experience

WEBSITES

http://www.archdaily.com
http://www1.nyc.gov/site/ddc/about/active-design.page
https://www.mghihp.edu/overview/phd-rehabilitation-sciences-program
http://www.sallybower.co.uk/portfolio/alder-hey-childrens-hospital-liverpool
https://www.asla.org/awards/2004/04winners/entry346.html