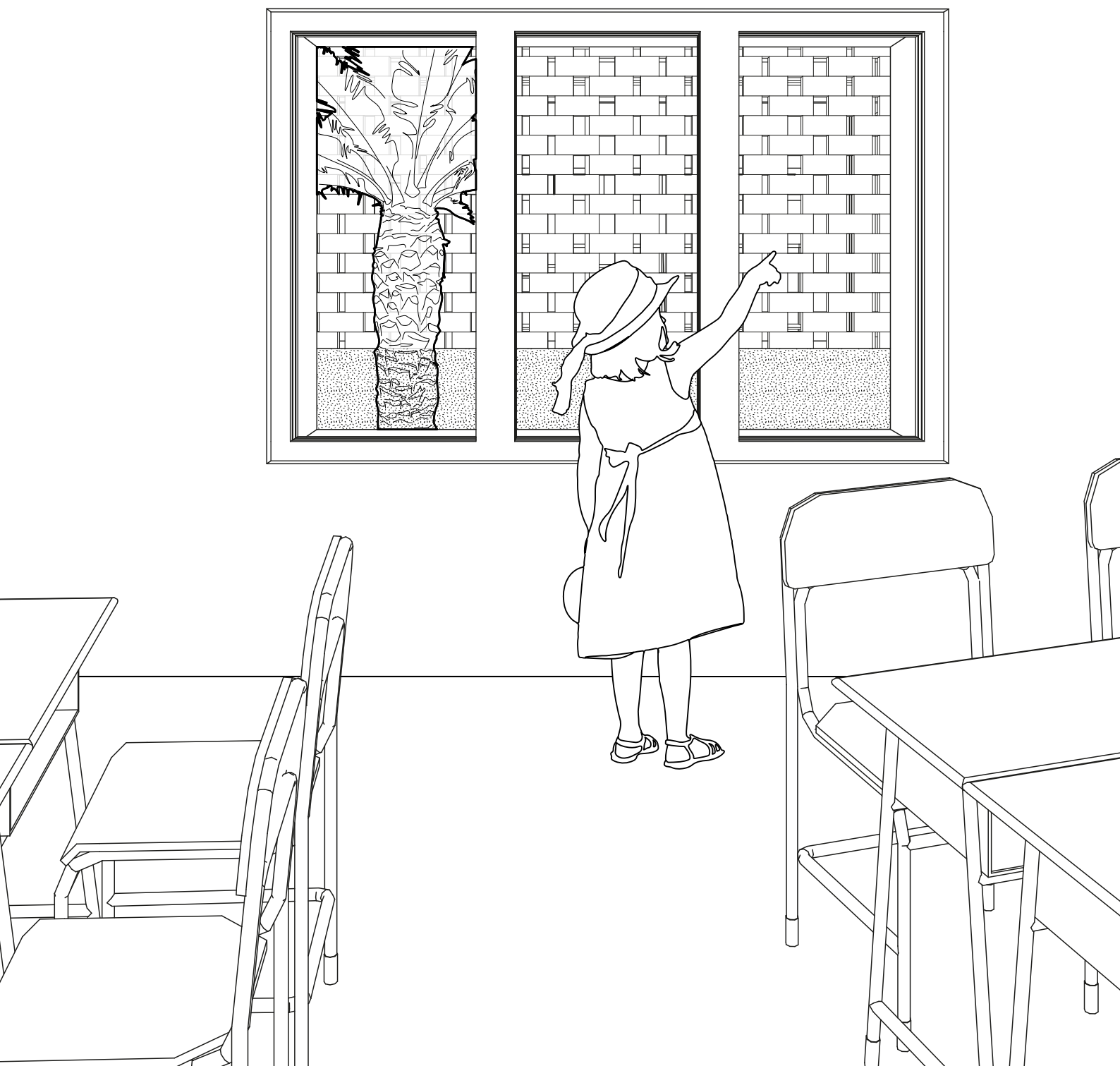


Research booklet

2021/2022  
COMPLEX PROJECTS GRADUATION  
STUDIO

Lisa van Vliet  
4970977

# JNAH PUBLIC SCHOOL



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## COLOFON

### **Complex projects**

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# P 0.5

## INTRODUCTION ESSAY EDUCATION



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# Private education in Beirut

01

Lisa van Vliet 03/10/2021

TOPIC : EDUCATION

In Lebanon, the quality of education is very good. In 2013 the World Economic Forum even ranked it 10th in the world.<sup>1</sup> Beirut, the capital of Lebanon has by far the most universities in the country.<sup>2</sup> Some of these are outstanding universities, such as the American University of Beirut which has the best employability rate in the MENA region according to the QS World University Rankings 2022.<sup>3</sup> In total there are 32 universities located in Beirut.<sup>4</sup> These universities also own a lot of the libraries and museums with Lebanon's history. However, even though there are so many good education establishments, only about half of the citizens of Beirut have a secondary education, that could be compared the high school level of education. Also, only 30% of the students that finish their secondary education will go on to get a university degree.<sup>5</sup>

One of the main reasons for this, is that 28 of the universities in Beirut are private universities with very high tuition costs. An average person in Lebanon earns 2.280.000 LBP per month, which equates to about 1.400 USD.<sup>6</sup> However, the American University of Beirut for example, has a tuition fee for a bachelor's degree of 19.000 USD each year.<sup>7</sup> This means that even citizens with middle-income in Beirut would have to pay about a years' worth of salary for one year of university. With only four public libraries in the city, this also means that most of the libraries and museums in Beirut are unavailable to most of its citizens. Global times reported in May of 2021 that AUB and the Lebanese American University even increased their tuition price due to the economic crisis with 160%,<sup>8</sup> therefore increasing this education gap.

This privatization of education doesn't start at a university level. About two-thirds of high schools and primary schools are also privatized.<sup>9</sup> This came to be because of two main reasons. The first reason having to do with the economic situation of Lebanon. There is just very money for public schools

so private schools filled up the need for more schools. The second reason has more to do with the social political situation of Lebanon. In the country there is a lot of segregation between people of different religions and political parties. This was also the cause of the civil war. Even now there are conflicts between these different groups.<sup>10</sup> The schools that can best provide a specific curriculum tailored to one specific group of people are the private schools. Making it so that even lower education is mostly privatized and has therefore become expensive, especially in the economic crisis. France 24 reports that more than 90 thousand high school students have been pulled from school since the economic crisis started in 2019.<sup>12</sup>

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currency rate changes each day making it so the worth of the average income changes each day

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# P 1.0

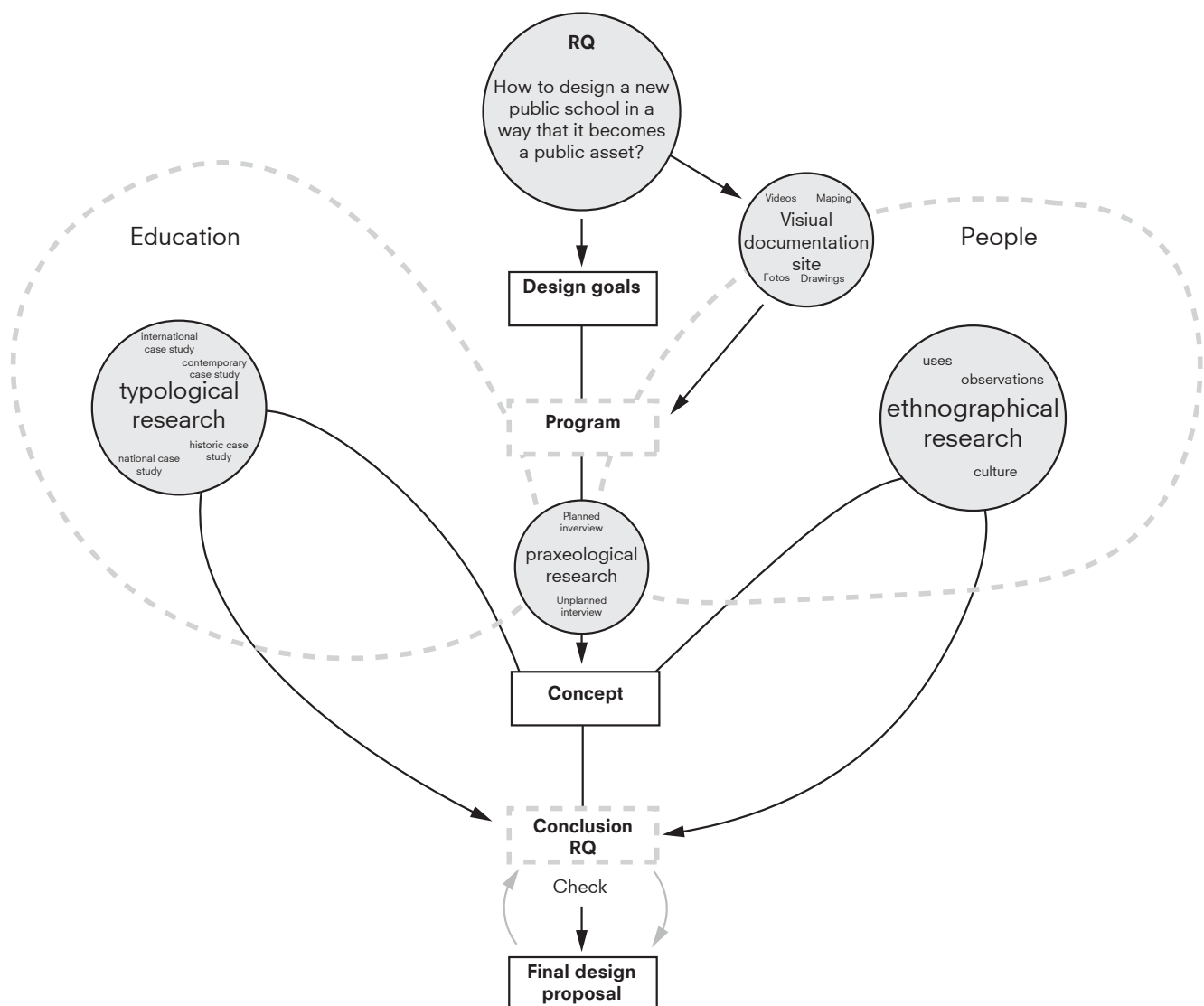
## RESEARCH PLAN



## Research methodology

The aim of this research is to make a design proposal for a public school in Beirut. This proposal would envision how Beirut could benefit from having a good public school system. The research question will be answered by a set of research methods including a ethnographical, praxeological and typological investigation. Leading to a test of the conclusion as a design proposal. The first step of the study was to put together a general analysis of the education and culture around education in Beirut and more specifically in the Ramlet al Baida beach suburb. Following this first stage there was a site visit, this supported the praxeological research as well as provided visual material of the Ramlet al Beidan beach suburb. The phenomenological research was conducted by means of interviewing locals about the

education system in Beirut. The people interviewed were; Rani al Rajjii a local architect involved with the Dutch embassy, David Aoaud a professor of architecture at the Lebanese American University, Mona Fawaz a professor of the urban lad at the American University of Beirut and Lina Kerbage Al Khal the head teacher of Collège Protestant Français. The praxeological research was conducted by visiting several educational institutions experiencing the live of the high school students first hand and by visiting the Ramlet al Beidan beach suburb. The third stage of this research will use national and international case studies to make a typological research. And finally research by design will lead to the design proposal.



01 research metods diagram

## Problem statement

In Lebanon, for a long time, the quality of education was very good. In 2013 the World Economic Forum even ranked it 10th in the world<sup>17</sup>. Beirut, the capital of Lebanon, has by far the most universities in the country.<sup>16</sup> Some of these are outstanding universities, such as the American University of Beirut which has the best employability rate in the MENA region according to the QS World University Rankings 2022.<sup>12</sup> In total there are 32 universities located in Beirut.<sup>16</sup> These universities also own a lot of the libraries and museums with the documented history of Lebanon. However, even though there are so many good education establishments, only about half of the citizens of Beirut have a secondary education that could be compared to a high school level. Also, only 30% of the students that finish their secondary education will go on to get a university degree.<sup>7</sup>

One of the main reasons for this is that 28 of the universities in Beirut are private universities with very high tuition costs. An average person in Lebanon earns 2.280.000 LBP per month, which equates to about 1.400 USD on 10th of October 2021. However, the American University of Beirut for example, has a tuition fee for a bachelor's degree of 19.000 USD each year.<sup>15</sup> This means that even citizens with middle-income in Beirut would have to pay about a years' worth of salary for one year of university. Furthermore, this problem has only become worse because of the general financial crisis in Lebanon. Global Times reported in May of 2021 that AUB and the Lebanese American University even increased their tuition price due to the economic crisis with 160%, therefore increasing this education gap.<sup>14</sup>

Not only a university degrees have become out of reach for most citizens of Beirut because of high tuition. Also, almost all museums and libraries -with the exception of 3 public libraries<sup>3</sup> - in Beirut are owned by private universities and schools and are therefore non-accessible for the public. Also about two-thirds of high schools and primary schools are privatized.<sup>10</sup> This came to be because of following two main reasons:

The first reason has to do with the lack of funding for public education by the Lebanese government. A review of the

education in Lebanon from 2017 states that only 2,45 percent of GDP is spend on public education. This is clearly lower than the European average of 4,0 percent of GDP spent on public education as well as the 4,6 percent that the Netherlands spent on public education.<sup>9</sup>

The second reason is more linked to the social political situation of Lebanon. In this country, there is a lot of segregation between people of different religions and political parties. This was also one of the drivers for the civil war that lasted from 1975 until 1990. Even now, there are still conflicts between these different groups. For example, the Shia Hezbollah movement blames the Christian politicians for the recent shooting on protestors on the 14th of October 2021.<sup>11</sup> This segregation is also present in the private education system, in comparison to the public system which is essentially accessible to everyone.

When putting all of these issues together, it becomes apparent how less fortunate children seeking education are victims to the previously stated problems that Beirut is dealing with. In theory, more public schools and funding would be able to create more opportunities to the less fortunate children. The public schools where it is encouraged for people of different religions to work together could therefore help with integration. A Dutch research about public schools where different religions all work together describes how this is an essential part of a multi-cultural society.<sup>4</sup> At last, the earlier mentioned review of the education in Lebanon also states that an individual who has a university degree earns on average 171% more than someone without any degree.<sup>17</sup> Having more higher educated people benefits the individual as well as the general economy of Lebanon.

In support of the main research question this preliminary research looking into the problem statement will answer the question:

**What should the main goals be for the design of a new public school in a suburb of Beirut to become a big public asset?**



## 02 Ramlet al Baidan beach suburb location

### Ramlet al Baidan beach suburb

Ramlet al Baida beach suburb is referring to the area of Beirut underneath the main circle road around the city center to the east of Ramlet al Baida beach. (Figure 2) This area was for a big part of Beirut's history mostly unbuild because the Bir Hassan Airfield and city sewerage were located here. (Figure 3) This is one of the reasons why one of the oldest refugee camps of Beirut 'Mar Elias' was placed in this area around 1950's. It was only later, from 1970 on, that more luxurious apartment buildings that would make up the UNESCO area, were built along the beach.

(Figure 4) And finally, the southern part of this area was built after 1970's. (Figure 5) Part of this last wave of construction is the Jnah school complex. This complex consist of several private primary schools, secondary schools and a gymnast school are clustered together.

03 1943

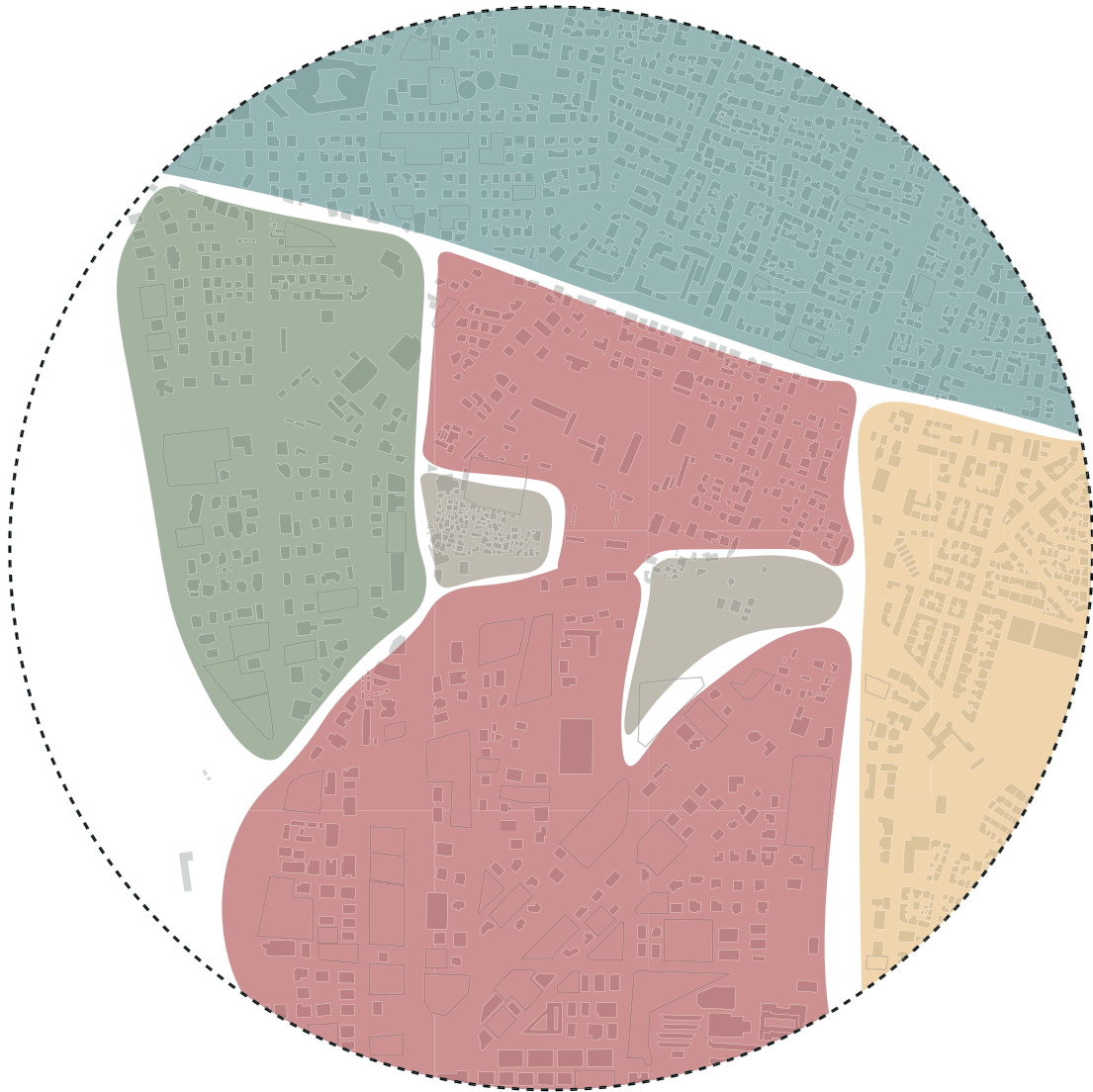


04 1970



05 2021





## 06 Districts

### Second home

The different developments in this area are strikingly different in characteristic. The UNESCO area is a high income residential area similar in that way to the city center. (Figure 7) The refugee camps in the area are a separated low income community within Beirut. And the most eastern part of this area is a very densely build residential area where middle to low income citizens live. (Figure 8) Finally the central part of this area being used by commercial functions such as the store Spinneys. (Figure 9)

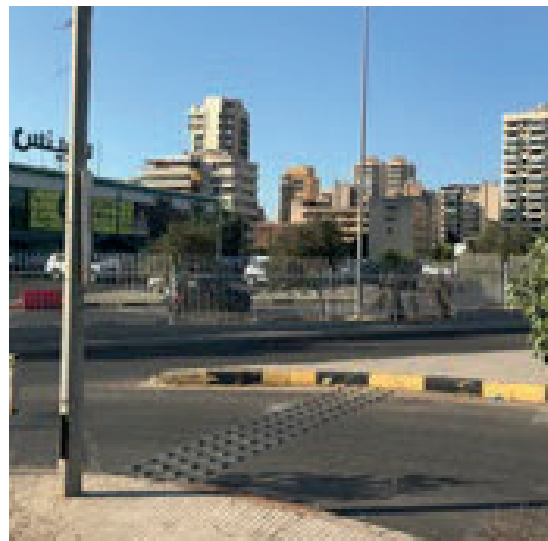
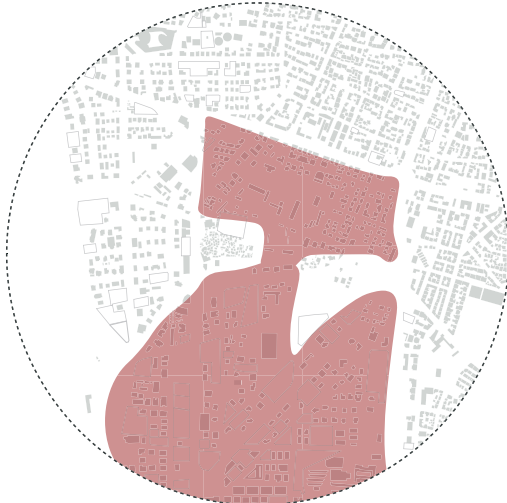
## 07 High income

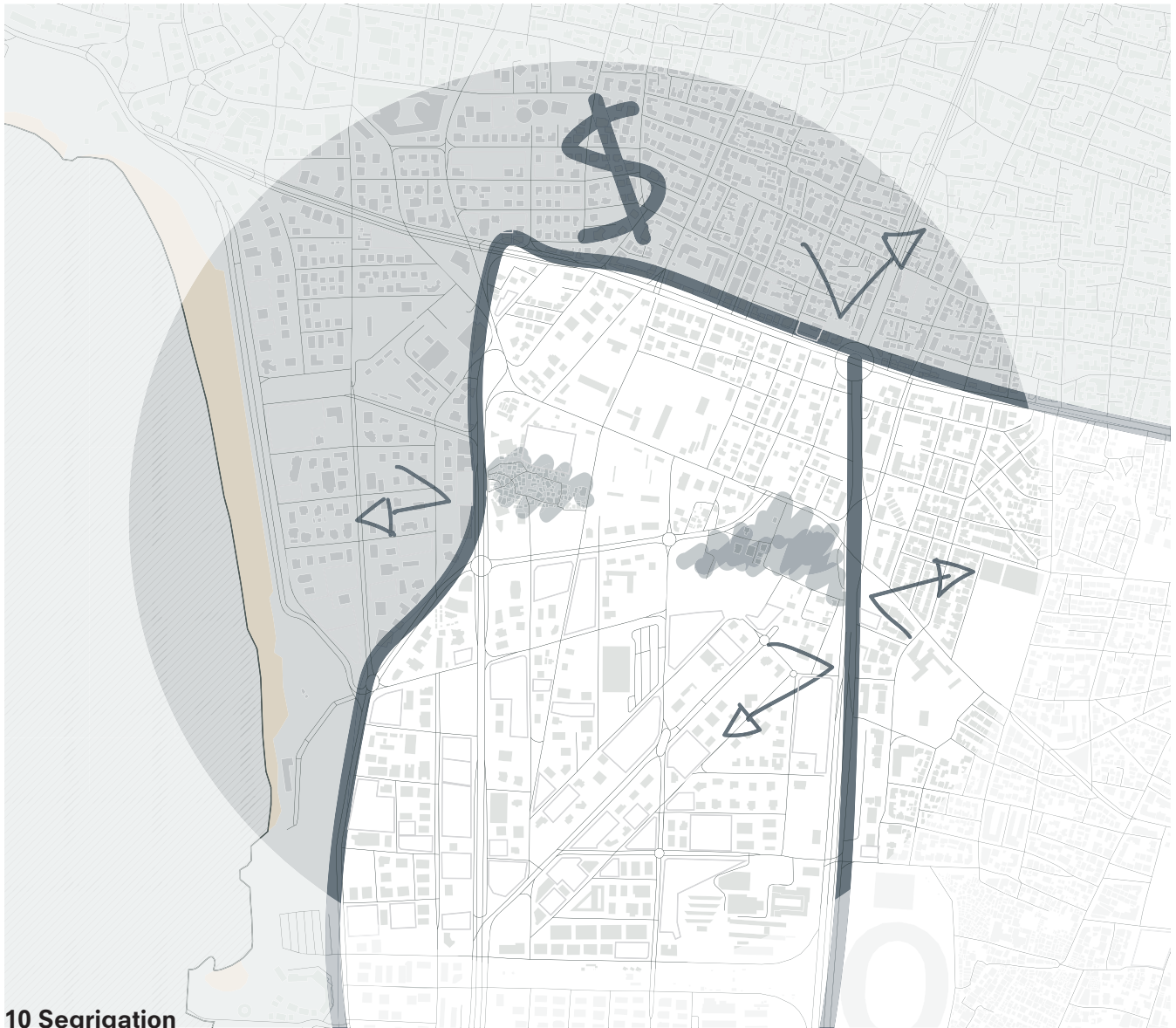


## 08 Refugee + Low income



## 09 Commerical area





**10 Segregation**

## Second home

This big difference in the area is mostly caused by the segregation between high and low income people. (Figure 10) The few schools that are located in this area reflect this segregation. Each one of them is specifically meant for one group of people, such as College Saint-Elie Btina which is an orthodox Greek school and El Kabri elem school which is an Palestine Islamic school. (Figure 11 and 12) A new public school should encourage people from all different parts of this area to come visit and attend school here. One of the goals should be to become a 'second home' for especially the children of this area. This means that prayer rooms and double kitchens for food restrictions and a library to connect to other users should be included.

(Figure 13). The school should also be in direct connection with other functions that children are making use of. Placing this new school near the Jnah school complex would ensure that students from other schools in this complex would be able to use the public functions of this new school. (Figure 14)

11 College Saint-Elie Btina



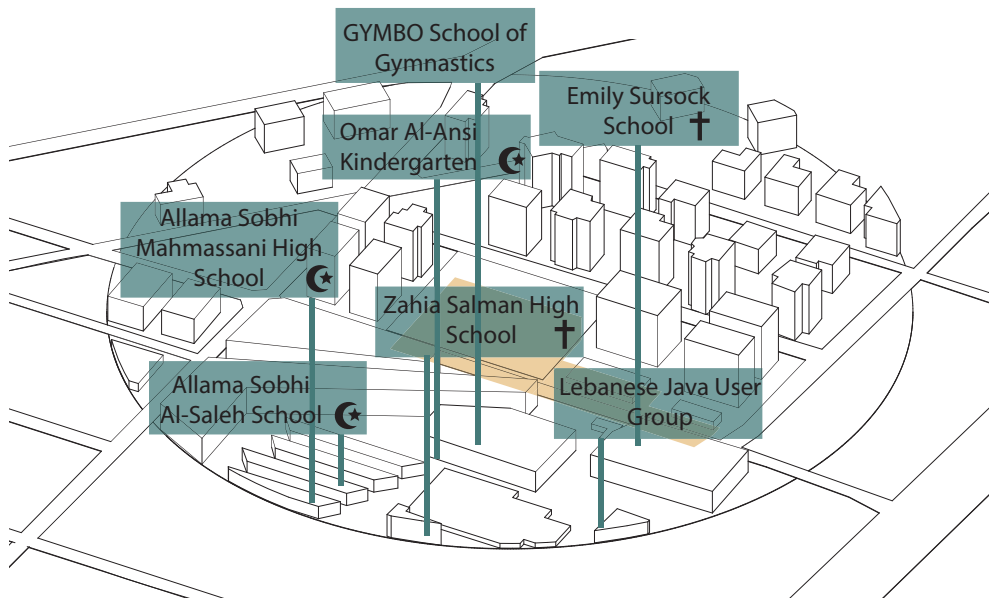
12 El Kabri elem school

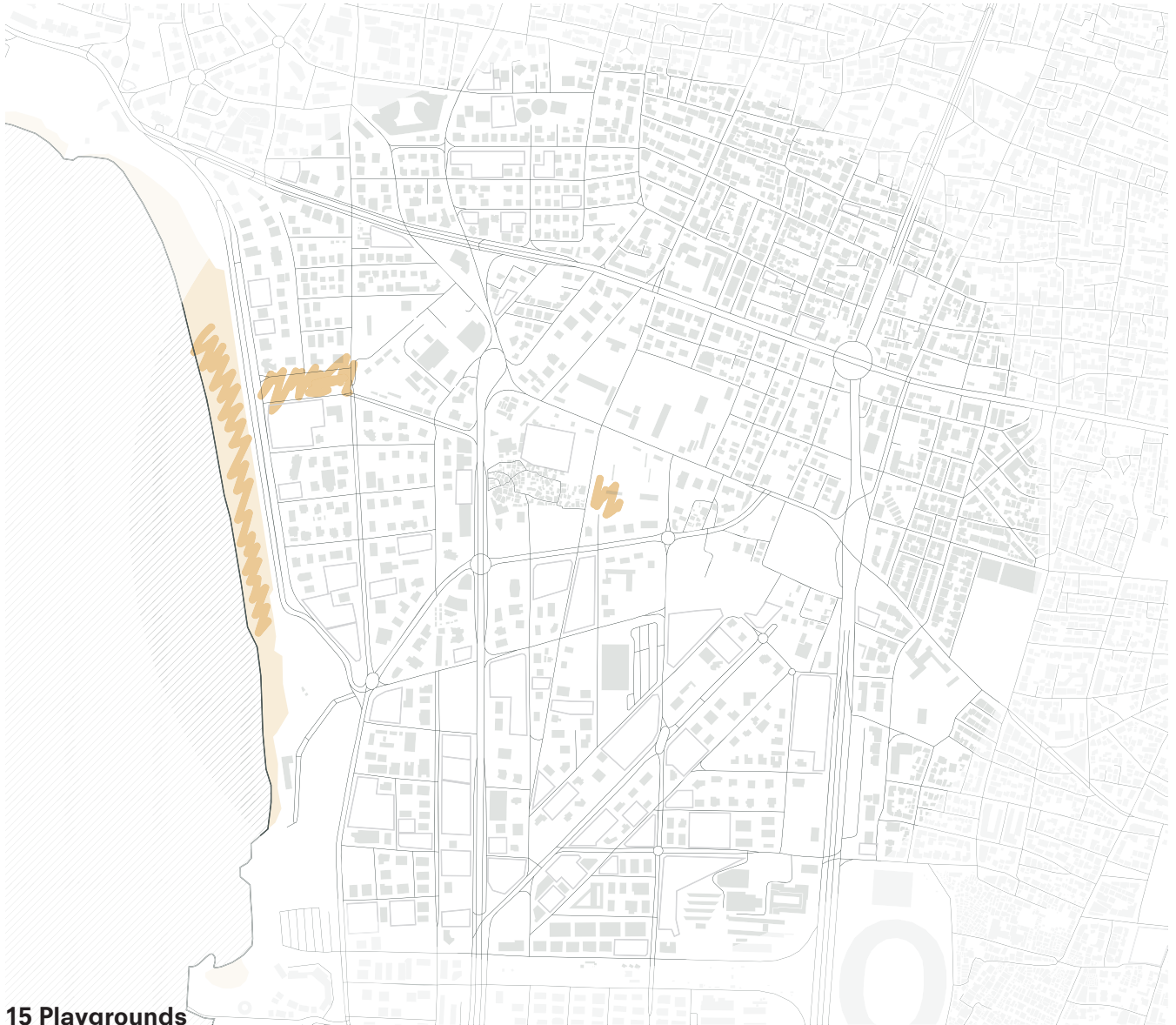


13 Second home



14 Schools of Jnah school complex





15 Playgrounds

## Safe space to play

What can be recognized throughout the whole Ramlet al Baida beach suburb is how there is very little public space incorporated in the urban tissue. This lack of public space also means that the children living in this area have no space to play outside with others. There are no squares in the whole area and only one small park which has no playground feature and is filled with garbage. (Figure 16) Besides just the lack of space there are also almost no public functions where people are able to meet each other for free. The only spots where people can meet right now are by the few cafes and the big supermarkets in the center of the site. The one exception for this lack of public space and playground space is the Ramlet al Baida beach. However, this

beach and the water next to it is polluted by the city sewage which creates health safety issues. Also, the lack of shadow on the beach makes it an uncomfortable outside space to be with the climate in Beirut. This is a real necessity for the area because, what became clear during the site visit, is that children are seen playing on the marble factory site which is not a safe space for them to play. (Figure 17) Concluding, in total there were three spots that could be used as a playground in the whole area. (Figure 15) A new public school would be a real asset to this area if it would be able to provide a 'Safe space to play' for the students attending the school but also other kids for the area. (Figure 18)

## 16 Public park

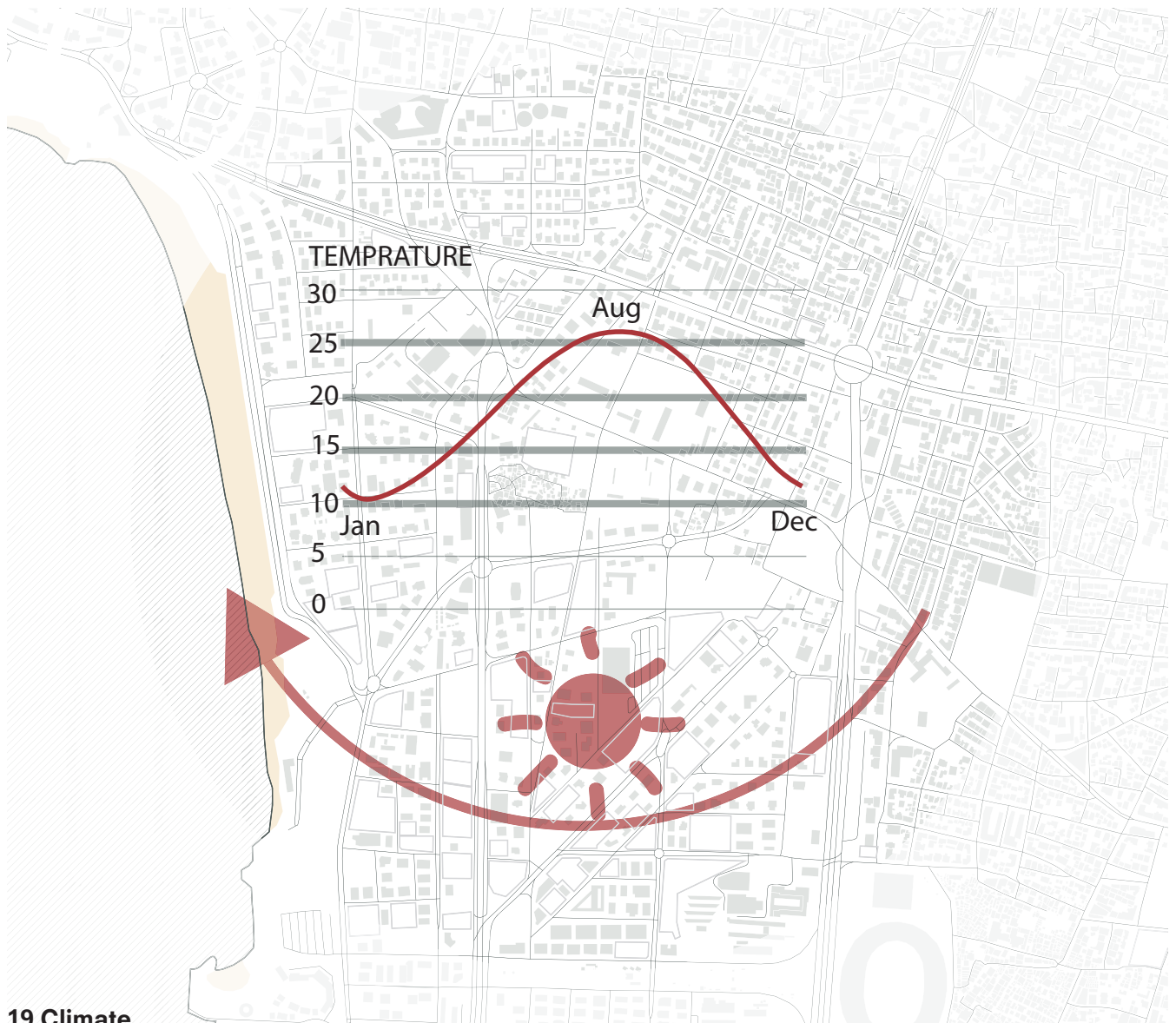


## 17 Stone cutting factory



## 18 Safe space to play





## 19 Climate

### Comfortable inside climate

Beirut has a relative hot climate most of the year. When visiting the city it was apparent how all buildings have adapted to these climate conditions. There were some buildings that have big air-conditioning installations that used a lot of electricity. But also, a lot that were using passive techniques like making the large windows to the north, balconies and plants to provide shadow (Figure 20) and small wall openings all around to create a draft (Figure 21). Children learn better in a comfortable inside climate. A new public school should be adapted to the relative hot climate of Beirut by use of passive techniques to make sure that this comfortable climate inside is reached with little monthly payment for air conditioning. (Figure 22)

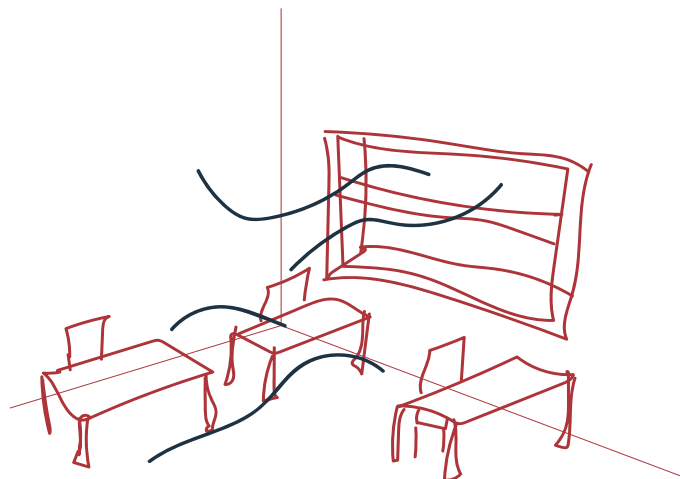
**20 creating shade**



**21 Collège Protestant Français draft**



**22 comfortable inside climate**



## **Program statement conclusion**

### **What should the main goals be for the design of a new public school in a suburb of Beirut to become a big public asset?**

As can be concluded from the previous research, there are three main design goals that would ensure that a new public school in a suburb of Beirut would be an asset to the whole area. First of all, this public school should function as a 'second home' for its students but also other adults and children in need of education and play. This goal will be reached by placing the building in close proximity to other functions that will be used by population of school-age. In the area of Ramlet al Baida beach suburb this would mean placing the new public school near the Jhan school complex. In the architecture of this public school, it would mean to include functions like a public library, prayer rooms and several kitchens to be able to work with different diets. The next goal would be to make this public school a 'safe space to play'. Since there are little to none playgrounds in this area, having a big playground by this new public school would be a great asset for the entire area as well as having sport facilities. At last, this new public school should have a 'comfortable inside climate' since children learn better in a good inside environment. This would mean for the climate in Beirut that the building should be cool all year round. This goal will be reached by integrating passive architectural techniques, as seen in case studies around Beirut in this new public school.

## Figures

### **01 Research methods diagram**

van Vliet, Lisa. 2021. Research methods diagram. Delft : Author

### **02 Ramlet al Baidan beach suburb location**

van Vliet, Lisa. 2021. Ramlet al Baidan beach suburb location. Map. Delft : Author

### **03 1943**

Sijbrandt, Rik. 2020. Beirut 1943. Map. Delft

### **04 1970**

Sijbrandt, Rik. 2020. Beirut 1970. Map. Delft

### **05 2021**

Sijbrandt, Rik. 2020. Beirut 2021. Map. Delft

### **06 Districts**

van Vliet, Lisa. 2021. Districts. Map. Delft : Author

### **07 High income**

van Vliet, Lisa. 2021. High income. Map. Delft : Author

### **08 Refugee + Low income**

van Vliet, Lisa. 2021. Refugee+low income. Map. Delft : Author

### **09 Commerical area**

van Vliet, Lisa. 2021. commercial area. Map. Delft : Author

### **10 Segregation**

van Vliet, Lisa. 2021. segregation. Map. Delft : Author

### **11 College Saint-Elie Btina**

van Vliet, Lisa. 2021. College Saint-Elie Btina. photograph. Beirut : Author

### **12 El Kabri elem school**

van Vliet, Lisa. 2021. El Kabri elem school. photograph. Beirut : Author

### **13 Second home**

van Vliet, Lisa. 2021. second home. icon. Delft : Author

### **14 Schools of Jnah school complex**

van Vliet, Lisa. 2021. Schools of Jnah school complex. Map. Delft : Author

### **15 Playgrounds**

van Vliet, Lisa. 2021. Playgrounds. Map. Delft : Author

### **16 Public park**

van Vliet, Lisa. 2021. Public park. photograph. Beirut : Author

### **17 Stone cutting factory**

van Vliet, Lisa. 2021. Stone cutting factory. photograph. Beirut : Author

### **18 Safe space to play**

van Vliet, Lisa. 2021. safe space to play. icon. Delft : Author

### **19 climate**

van Vliet, Lisa. 2021. climate. Map. Delft : Author

### **20 creating shade**

van Vliet, Lisa. 2021. creating shade. photograph. Beirut : Author

### **21 Collège Protestant Français draft**

van Vliet, Lisa. 2021. Collège Protestant Français draft. photograph. Beirut : Author

### **22 comfortable inside climate**

van Vliet, Lisa. 2021. comfortable inside climate. icon. Delft : Author

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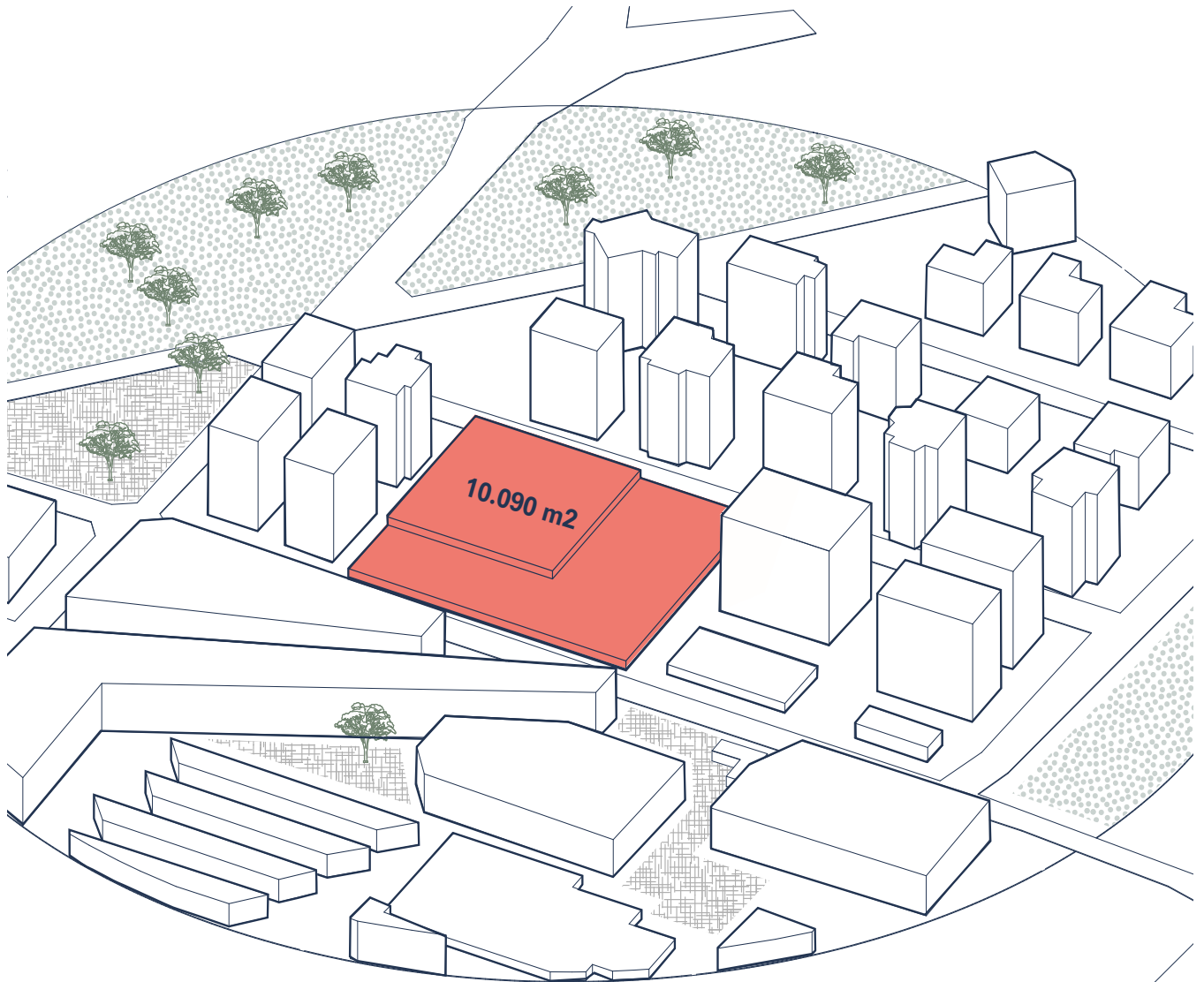
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# P 1.5

## RESEARCH SITE AND PROGRAM





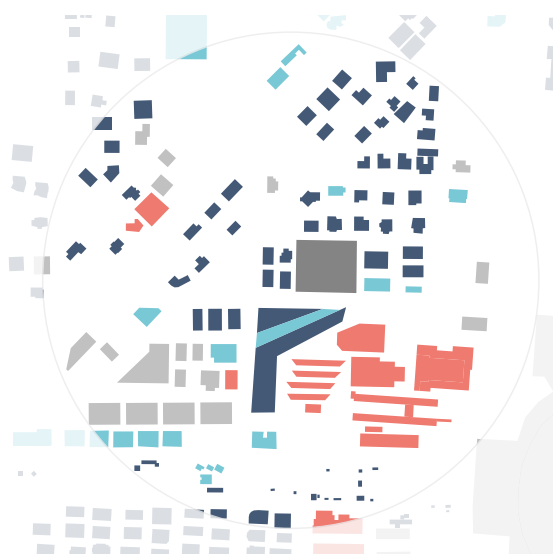
## 24 Site with flat program

### Site

The chosen site is chosen primarily because it is right across from the Jnah school complex. (Figure 25) Which is a all ready exciting area where multiple types of mostly private schools are located right next to each other. Moreover all of the schools have little outside space. (Figure 27) But right now the students of these schools have minimal to no connection with each other. With the new master plan for the suburb of Ramlet Al Beida these schools will be connected by pedestrian path ways to each other and to the new public park of Ramlet Al Beida suburb. The new public school will be part of this new design of Jnah school complex housing most of the public functions such as a library and a pool.

Besides this connection to the Jnah school complex the site also is big enough to house all of the new program and is well accessible by car from highway 51. (Figure 26)

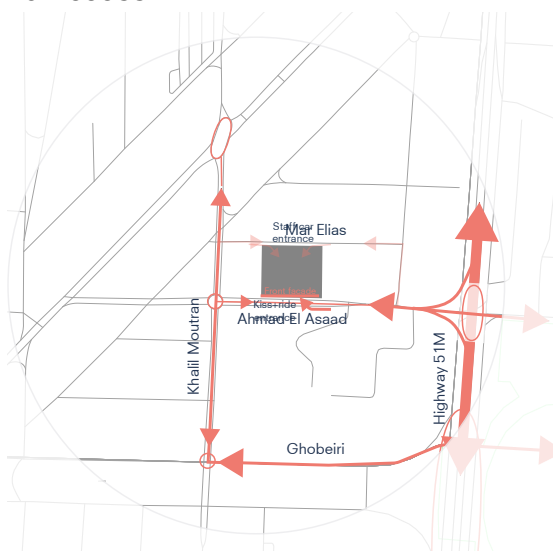
## 25 Functions



### KEY

- Education
- Dwelling
- Commercial
- Other

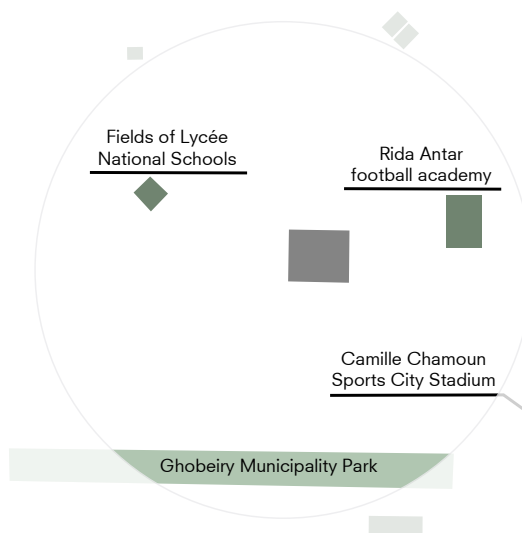
## 26 Access



### KEY

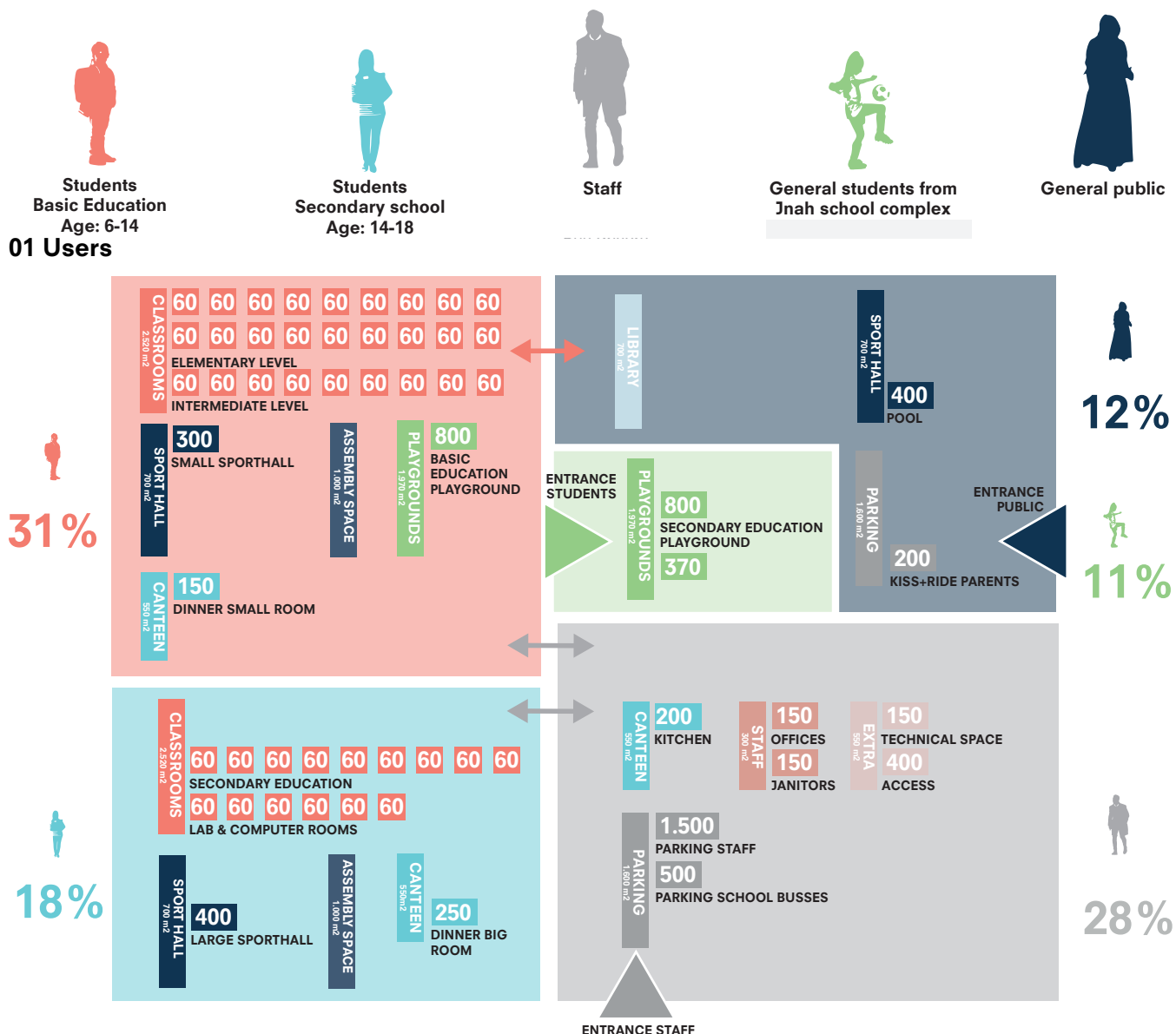
- Site
- Access

## 27 Green



### KEY

- Private sport field
- Public park

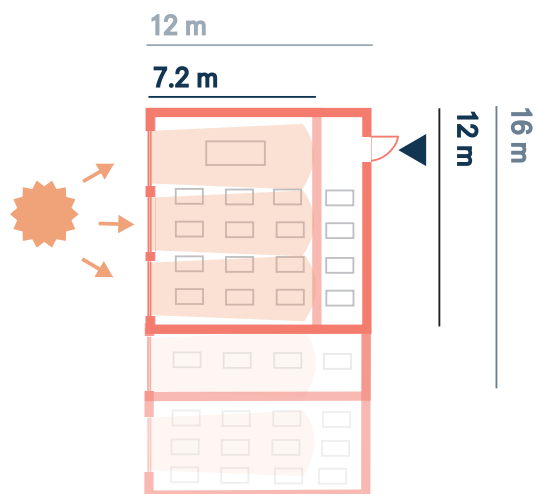


## 28 Users and program Program

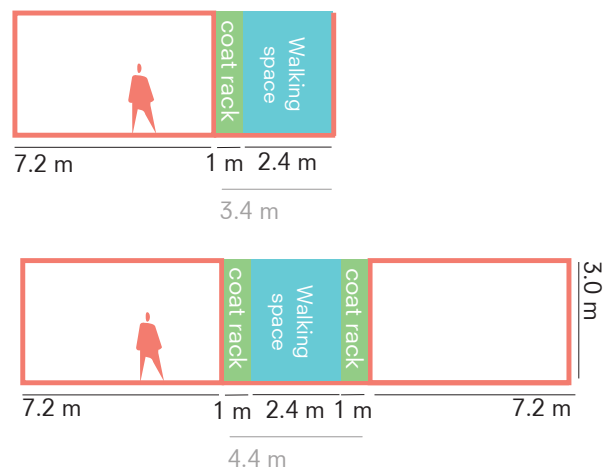
Like mentioned before there will be four main users of the new public school. These users determine the size and type of the final program. These users are students and staff of the school, other students from Jnah school complex, general public. To be able to make sure the public school is perceived as a second home it would be important to differentiating different programs in their accessibility to provide privacy for the right user groups. Because of this the first group of users aka the students will be again divided into the students at basic education level and those at secondary education level. This is because of the age difference in these students. (Figure 28)

A case study into different types of classrooms and hallways provided the input in how these functions could be adapted to different types of students. (Figure 29,30,31,32,33,34)

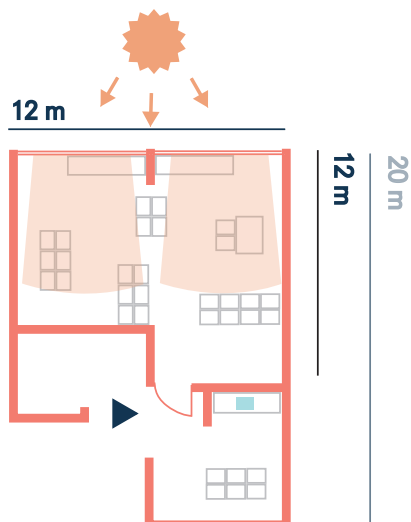
### 29 Basic Classroom



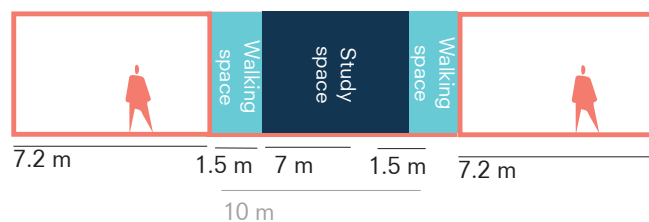
### 32 Basic Hallway



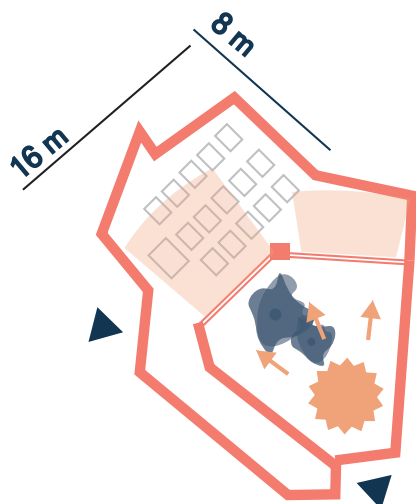
### 30 Delftse Montessorischool



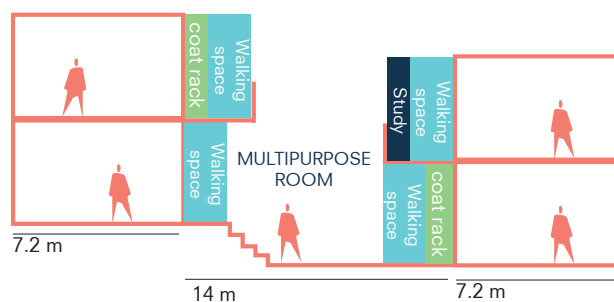
### 33 Leutschenbach School

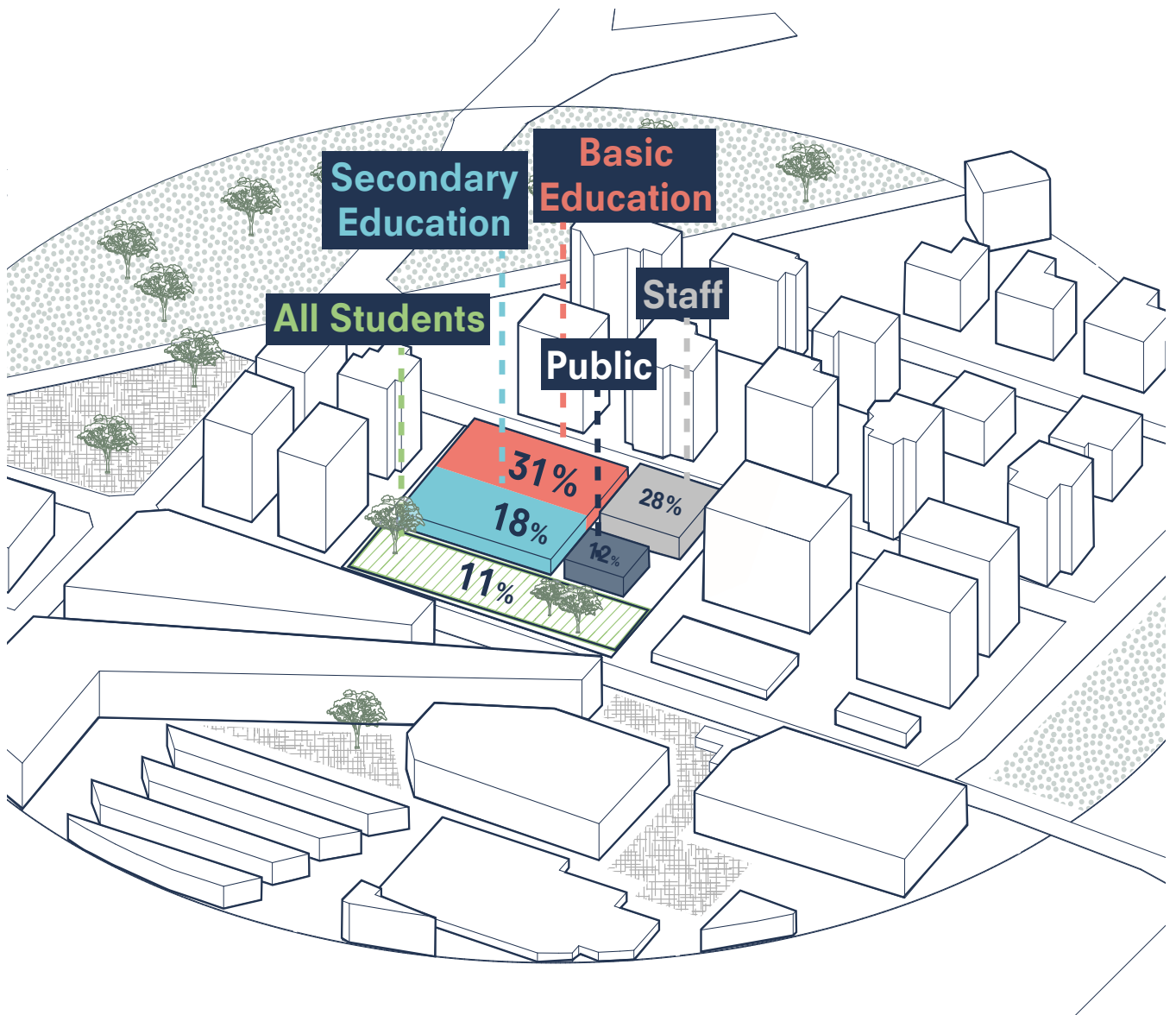


### 31 Geschwister-Scholl



### 34 Apollo school





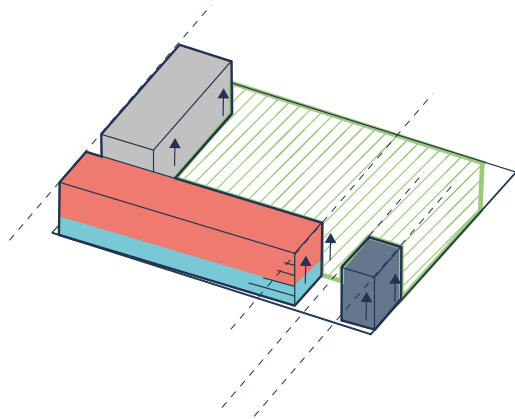
### 35 Site with program Volume of the public school

Total program:	Minimum height	<b>FAR</b>
10.090 m <sup>2</sup>	6,4 m	
Total build:	Maximum height:	
6.020 m <sup>2</sup>	40 m	

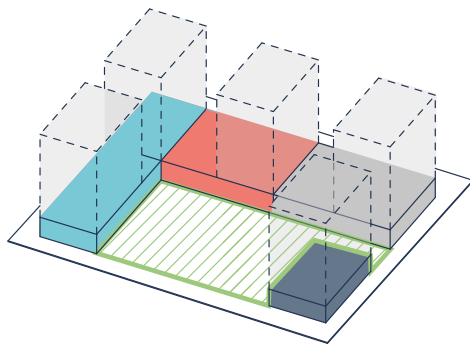
**82%**

With the final volumes of the program decided on the next step into volume studies can start. (Figure 35) The three main starting points would be to two typologies seen in the direct surrounding of the site, which are slab typology (Figure 36) and tower typology buildings (Figure 37) as well as a flat typology which is the same as a lot of case studies for schools. (Figure 38)

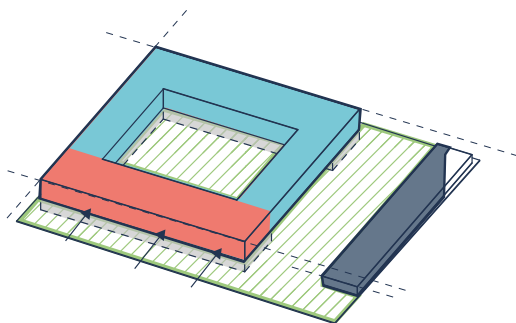
### 36 Slab volume



### 37 Tower volume



### 38 Flat volume



# P 2.0

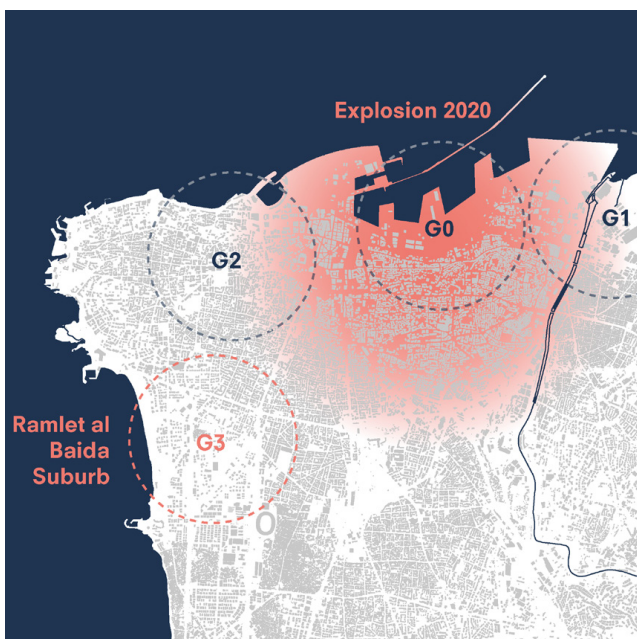
## DESIGN BRIEF



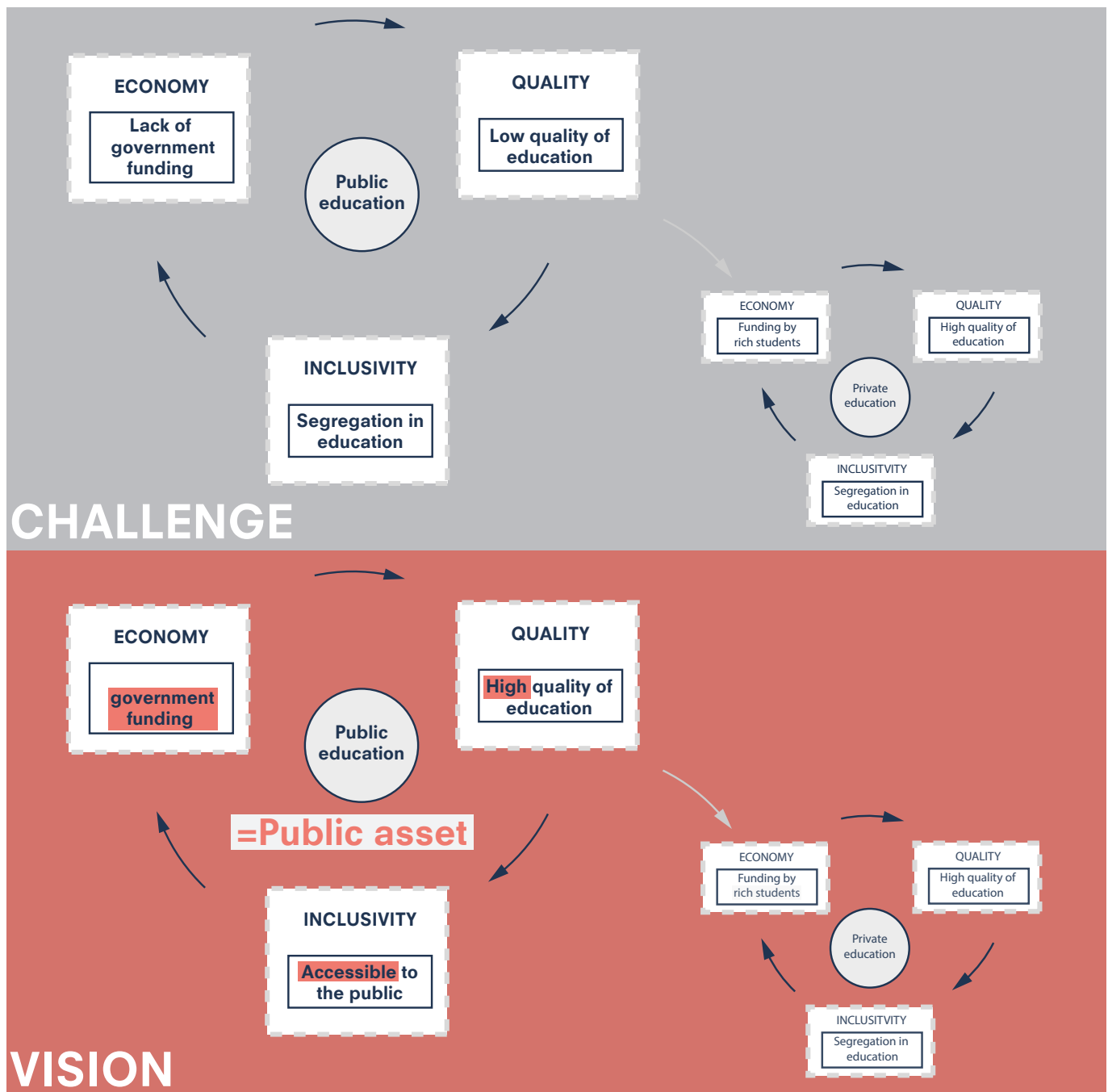
## Introduction

“The education system in Lebanon is at risk of collapse, with devastating consequences for children...” (Human Rights Watch, 2021)<sup>1</sup> The Lebanese government has been unable to provide basic education to at least 700.000 children.<sup>1</sup> This is about one third of all children that should have access to education. On a surface level, this problem seems to be caused by the way the Lebanese government has been dealing with recent issues such as the port explosion, covid-19 and the countries debt causing hyperinflation. When looking deeper in the education system of Lebanon, it becomes clear that there is a systematic lack of funding from the government for public schools. A review of the education in Lebanon from 2017 writes that 70% of all enrolled students go to private schools. This is a big financial burden on families.<sup>1</sup> This review also describes how only 2,45% of GDP is spent by the government on public education. In contrast, the average spending on education by European countries is 4,0% of the GDP.<sup>2</sup> The research that will be conducted will evaluate the possibilities public school architecture could have in the suburbs of Beirut if provided with the right amount of funding. Also, in what way it could benefit the public as a whole. The research question of this paper is :

**How to design a new public school in a way that it becomes a public asset?**



**01 Ramlet al Baida Suburb**



## VISION

02 Vision



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## Colofon

**08/02/2022**

**COMPLEX PROJECTS**

**Beirut studio**

**AR3CP100**

**students**

Lisa van Vliet

**chair**

Kees Kaan

**CP coordinator**

Manuela Triggianese

**lab coordinator**

Hrvoje Smidihen

**group tutors**

Hrvoje Smidihen

Eline Blom

## Research

To be able to determine how different functions that are going to be part of the Jnah public school should take shape a reference study was done looking at different typologies for schools on different scales. The functions that were looked at are classrooms, hallways, sport functions, libraries and playgrounds.

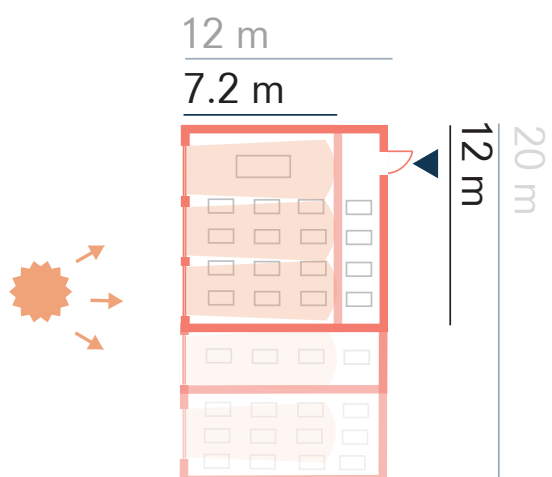
For the classrooms two typologies were most relevant, the basic classroom and Delftse Montessorischool classroom. The first one is relevant because this is a very functional placement for a classroom also within a whole school complex and it is the type that right now is most prominent in classrooms in Beirut. The second case study shows how play and team work can be encouraged by the design of a classroom. Which would fit with the ambitions of this project.

Furthermore for the hallway the most relevant is the case study of the Apollo school for similar reasons as to why the Delftse Montessorischool classroom is relevant.

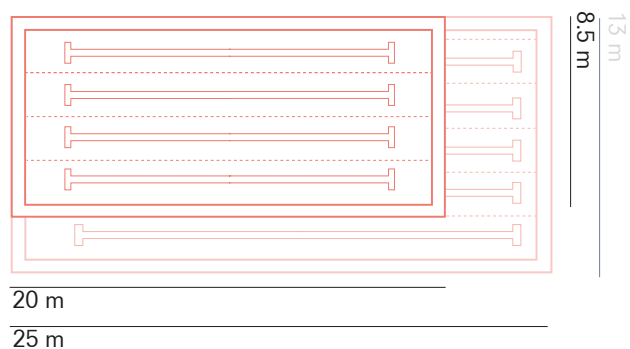
Sport functions have specific dimensions related to how the sports should be played, and the most relevant case study is a swimming pool of College Francais Protestant because it is interesting to see how this expensive function is designed.

Finally for the playgrounds most interesting to implement would be the park style playground since this would be also most interesting for all ages to use and also promote biodiversity.

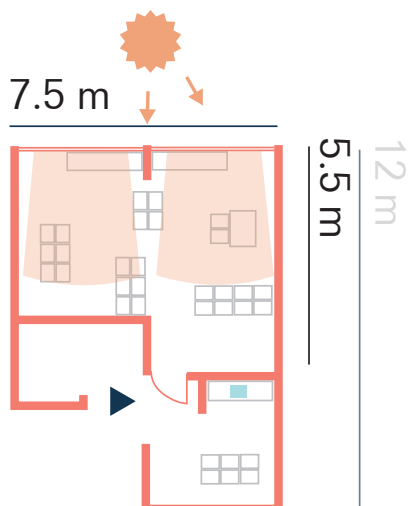
**04 Basic Classroom**



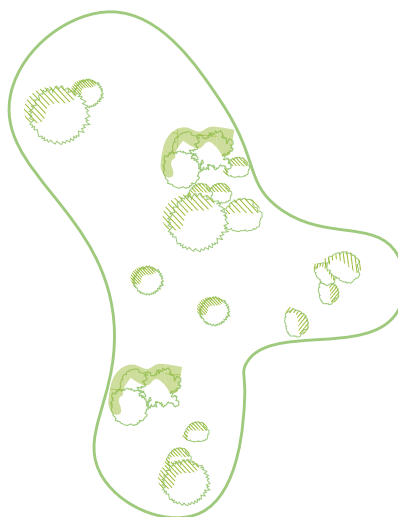
**05 Community swimming pool**



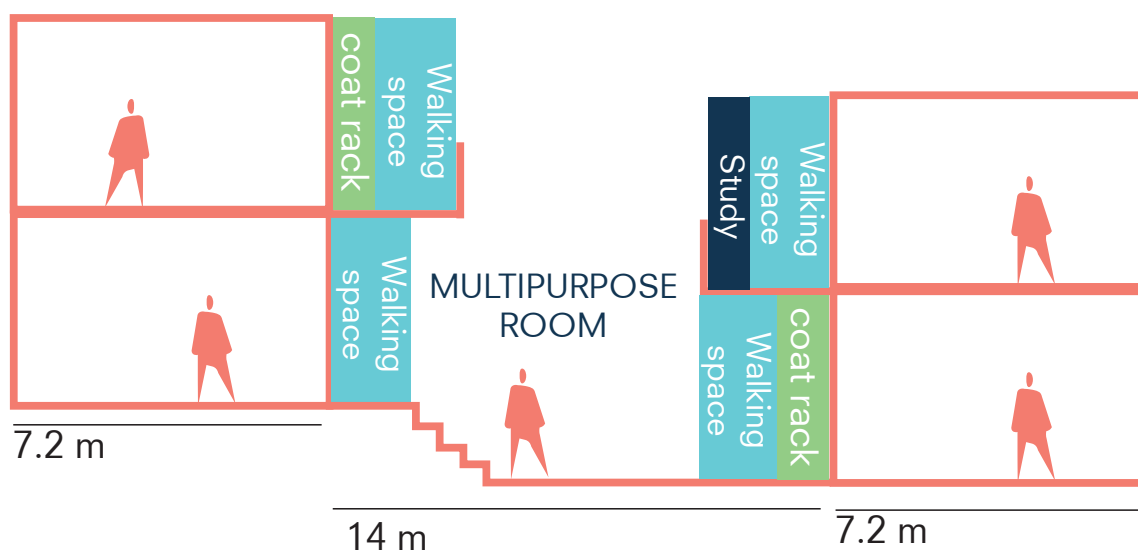
**06 Delftse Montessorischool**



**07 Park style playground**



**08 Apollo school**



## Design brief

### AMBITIONS

The main ambitions of this project are as following ; safe space to play, campus area, second home and comfortable climate.

The first two ambitions are focusing on how the building should react to its surrounding.

So first of it would be of great benefit for Beirut if there were more public spaces because of the current lack that there is now. A public school would be the perfect location to design more public space where children can play.

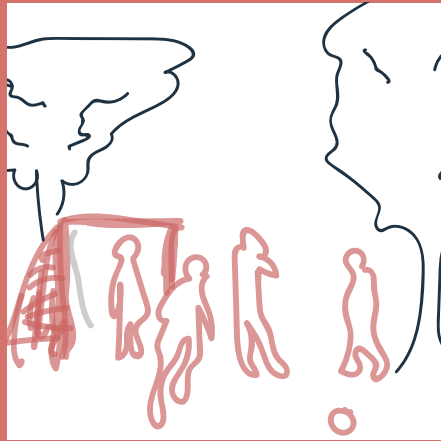
The second ambition aims for a campus area where multiple schools are connected to the new public school and in this way attracting students to the public facilities that the public school will have. Both of these ambitions are directly related to making sure the new public building becomes a great public asset by making it well connected to the general public.

The last two ambitions are more related to how the school itself could be designed in such a way that it would be attractive for students from different social economic backgrounds and religious groups to study there.

First of all the school should be a second home for different kinds of students facilitating to different needs for example having additional prayer rooms and several kitchens.

Lastly the buildings should be well adapted to the local climate and there for have a comfortable climate inside as well as outside. This ambitions would be reached by implementing passive techniques to reduce the summer heat.

The stakeholders of the new public school would be Lebanese government focusing on municipality of Beirut and the users of the building. These users are students and staff of the school, other students from Jnah school complex, general public.



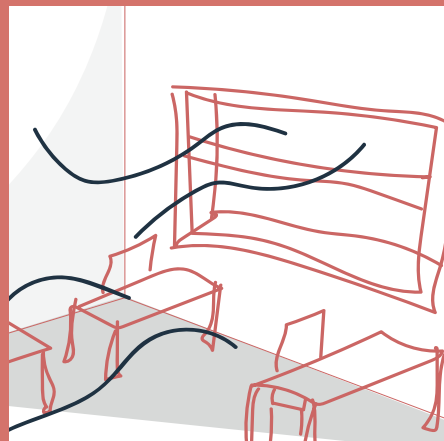
**Safe space to play**



**Campus area**

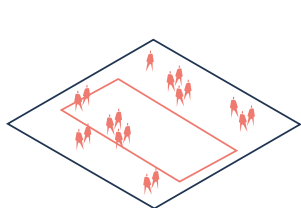


**Second home**

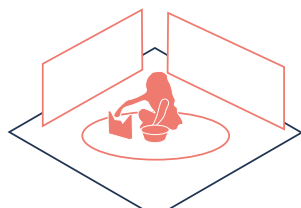


**Comfortable climate**

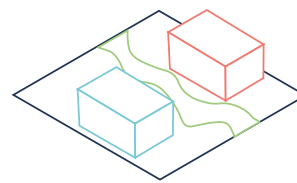
## 09 Goals



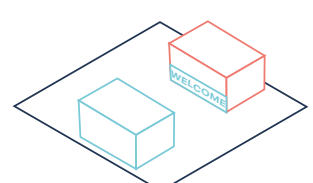
**Main big playground**



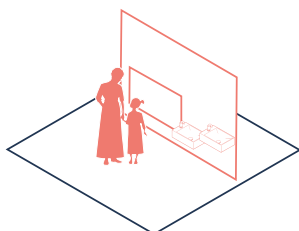
**Intimate play spaces**



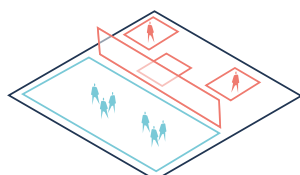
**Pedestrian safe route**



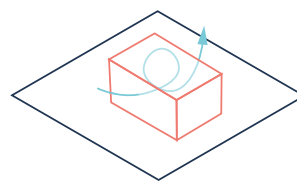
**Public functions**



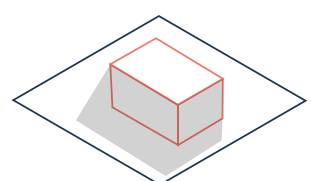
**Children scale**



**Separation to have specific adaptations**



**Air flow**

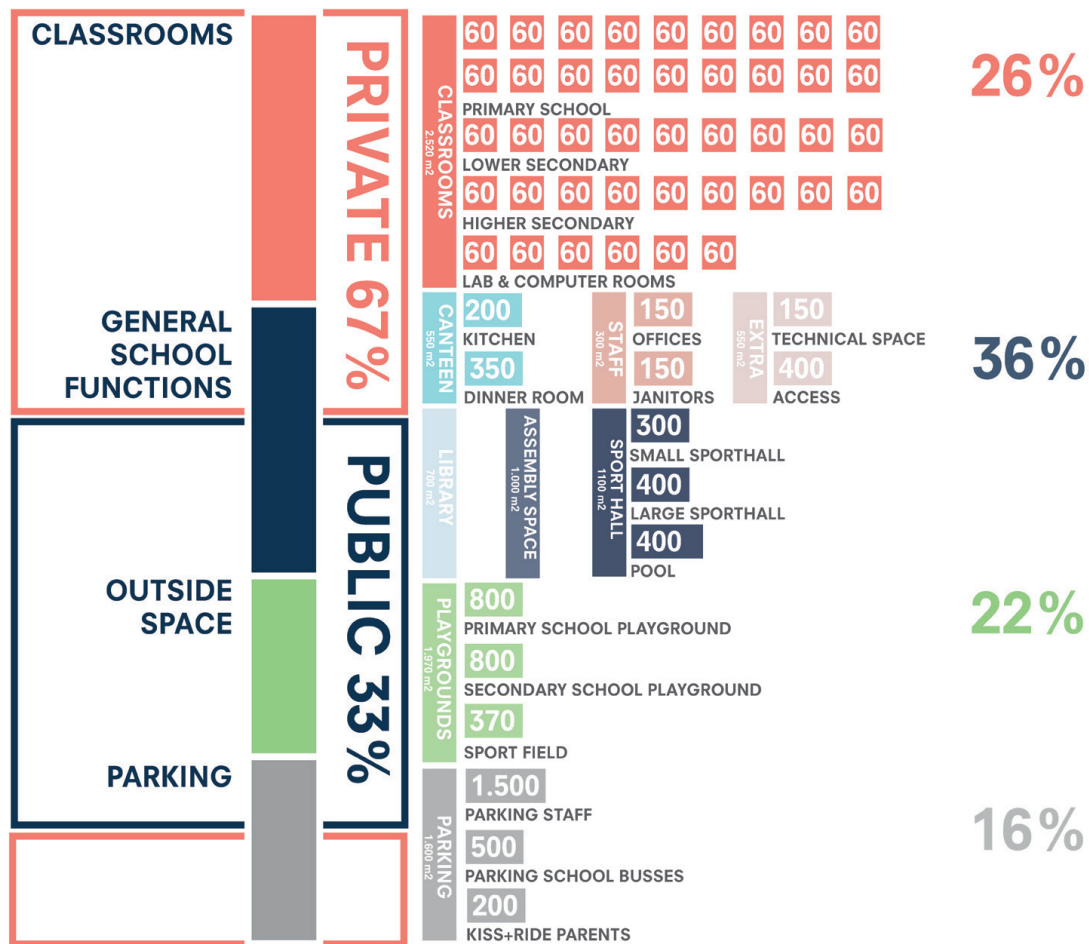


**Shadow & Material**

## 10 Architectural ambitions

## **Program**

Like mentioned before there will be four main users of the new public school. These users determine the size and type of the final program. These users are students and staff of the school, other students from Jnah school complex, general public. To be able to make sure the public school is perceived as a second home it would be important to differentiating different programs in their accessibility to provide privacy for the right user groups. Because of this the first group of users aka the students will be again divided into the students at basic education level and those at secondary education level. This is because of the age difference in these students. (Figure 10)



## 11 Program



### Students Basic Education Age: 6-14

Elementary level  
grade 1-6  
cycle 2&3  
50% of student body  
Intermediate level  
grade 7-9  
cycle 4  
25% of student body



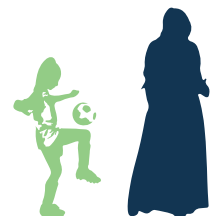
### Students Secondary school Age: 14-18

grade 10-12  
cycle 5  
25% of student body



### Staff

Teachers  
Bus drivers  
Janitor



### Students from Jnah school complex & General public

Not allowed to leave  
their school premises  
1,700 basic  
education students 35%  
Allowed to leave school  
premises  
3,200 secondary  
education students 65%

INTIMATE  
CLASSROOMS  
PLAY & STUDY  
SMALL SCALE

ORGANIZED  
CLASSROOMS  
BIG HALLWAYS  
FOR LARGE  
GROUPS  
LARGE SPORT  
AREAS

FUNCTIONAL  
PARKING  
DIRECT AND FAST  
ROUTING  
CLUSTERT OFFICE  
SPACE

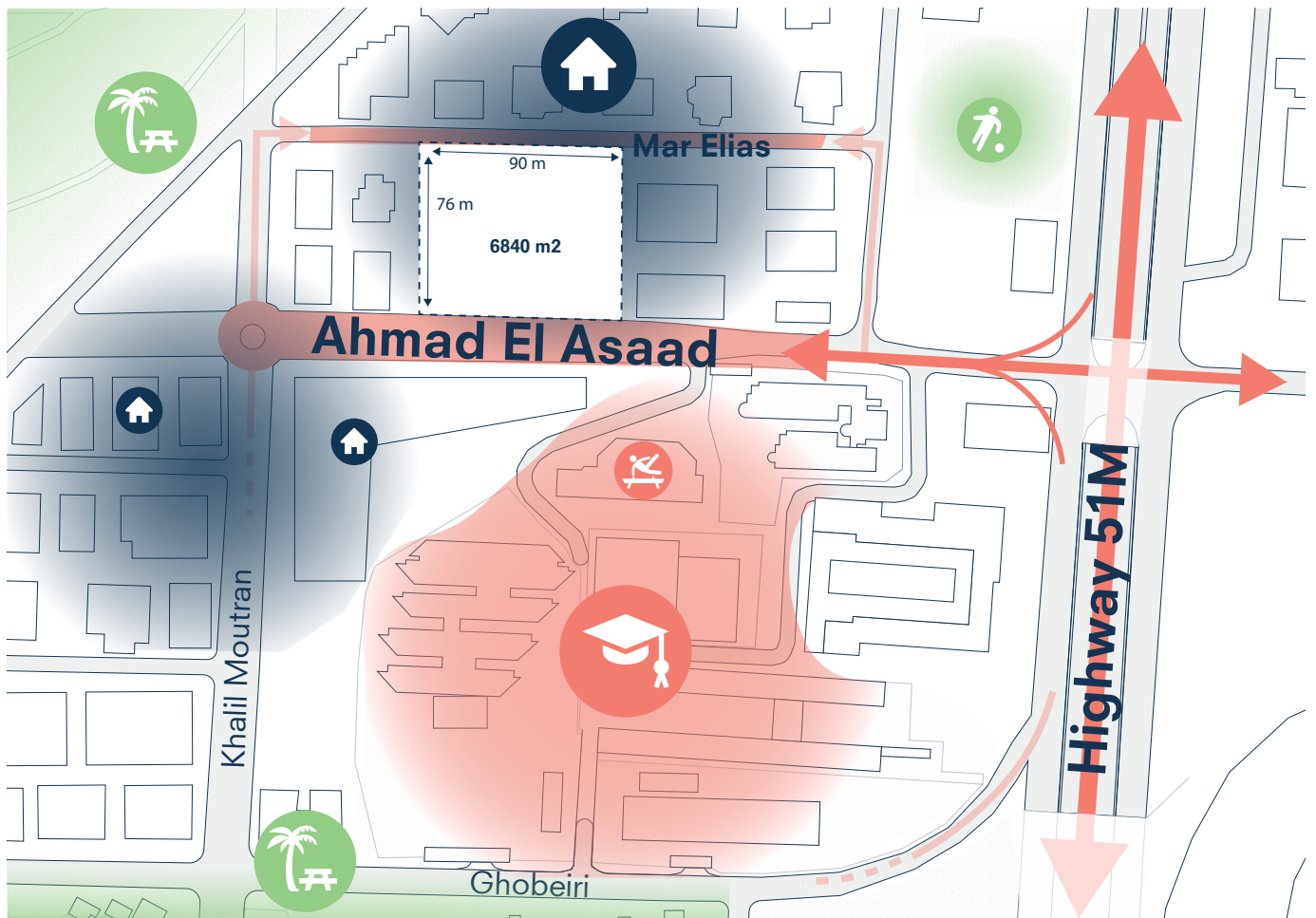
INVITING  
PLAYGROUNDS  
EASILY  
ACCESSIBLE BY  
CAR  
CLEAR ENTRANCE

## 12 Users

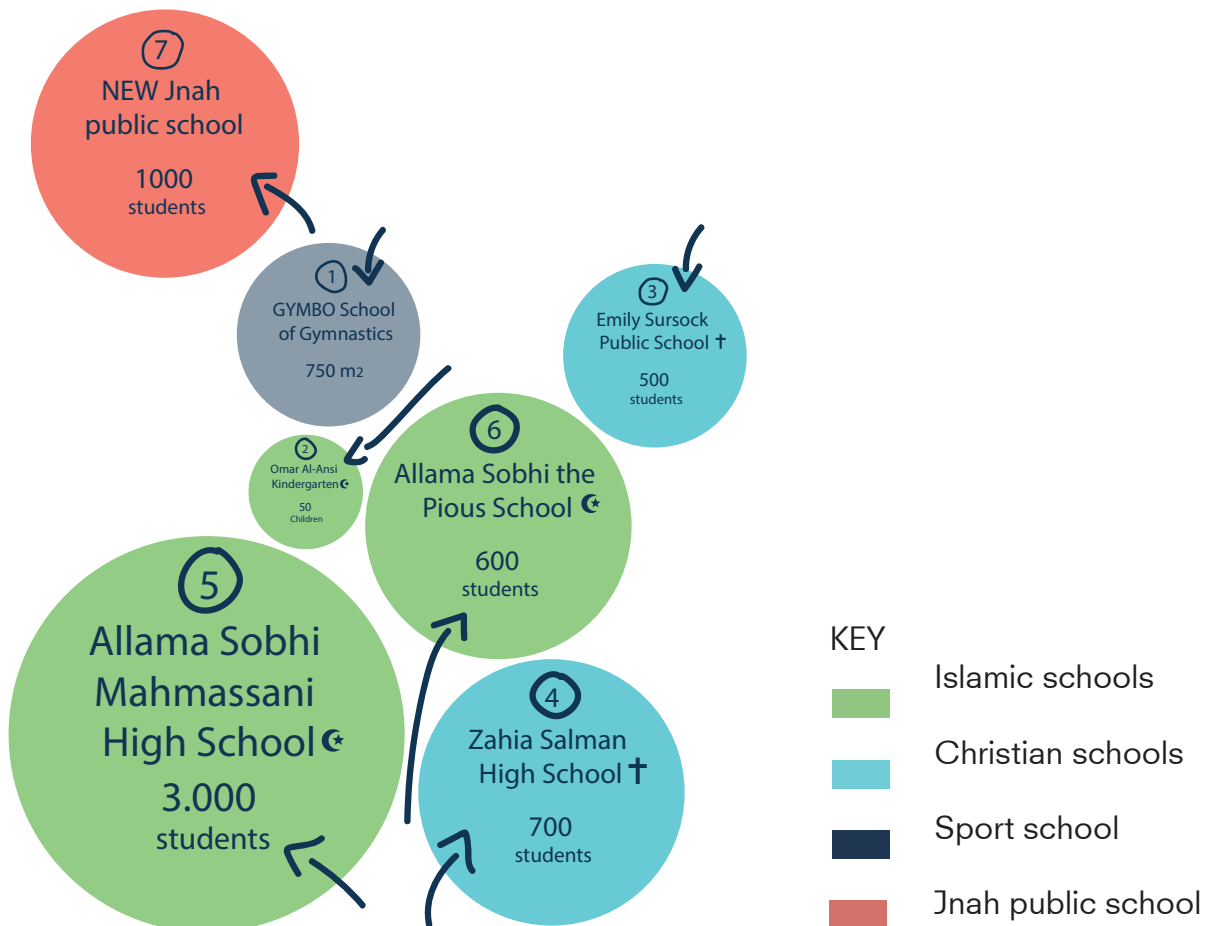
## Site

The chosen site is chosen primarily because it is right across from the Jnah school complex. Which is a all ready school area where multiple types of mostly private schools are located right next to each other. Moreover all of the schools have little outside space. But right now the students of these schools have minimal to no connection with each other. With the new master plan for the suburb of Ramlet Al Beida these schools will be connected by pedestrian path ways to each other and to the new public park of Ramlet Al Beida suburb. The new public school will be part of this new design of Jnah school complex housing most of the public functions such as a library and a pool.

Besides this connection to the Jnah school complex the site also is big enough to house all of the new program and is well accessible by car from highway 51.



13 Site



14 Jnah school complex

## **Architectural ambitions**

The goals and ambitions for this project take shape in the volumes studies. The main goals for the volume is for it to overall be horizontal, approachable and casual. With the functioned positioned as concluded from the relationship diagram. For now the volume would be a mix of a courtyard and spread out typology. With the classrooms in small clusters to create some privacy.

The building will be made out of materials that will provide a comfortable climate inside. So thick walls and lots of shading. They should also represent a warmth an inviting atmosphere. There should be some difference in appearance throughout the building using different materials so it would be clear what parts of the building are public and which are private.

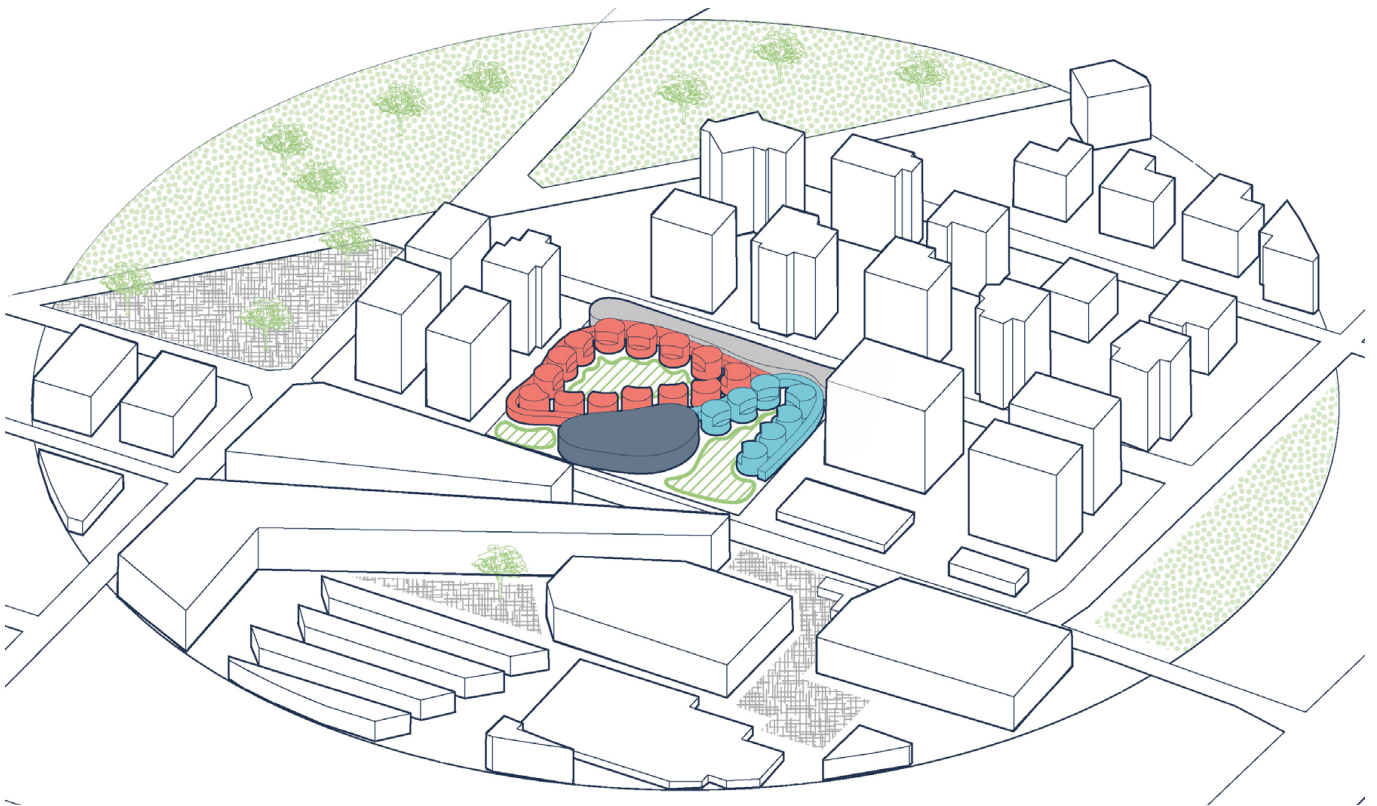
**Basic  
Education**

**Secondary  
Education**

**Staff**

**Playground**

**Public**



15 Volume



16 Ambition collage

## Figures

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van Vliet, Lisa. 2021. Ramlet al Baida : Author

### **02 Vision**

van Vliet, Lisa. 2021. Vision : Author

### **03 Goals collage**

van Vliet, Lisa. 2021. Goals collage : Author

### **04 Basic Classroom**

van Vliet, Lisa. 2021. Basic Classroom

Delft : Author

### **05 Community swimming pool**

van Vliet, Lisa. 2021. Community swimming pool : Author

### **06 Delftse Montessorischool**

van Vliet, Lisa. 2021. Delftse Montessorischool

Delft : Author

### **07 Park style playground**

van Vliet, Lisa. 2021. Park style playground : Author

### **08 Apollo school**

van Vliet, Lisa. 2021. Apollo school Delft : Author

### **09 Goals**

van Vliet, Lisa. 2021. Goals : Author

### **10 Architectural ambitions**

van Vliet, Lisa. 2021. Architectural ambitions : Author

### **11 Program**

van Vliet, Lisa. 2021. Program : Author

### **12 Users**

van Vliet, Lisa. 2021. Users : Author

### **13 Site**

van Vliet, Lisa. 2021. Apollo school Delft : Author

### **14 Jnah school complex**

van Vliet, Lisa. 2021. Jnah school complex : Author

### **15 Volume**

van Vliet, Lisa. 2021. Volume : Author

### **16 Ambition collage**

van Vliet, Lisa. 2021. Ambition collage : Author

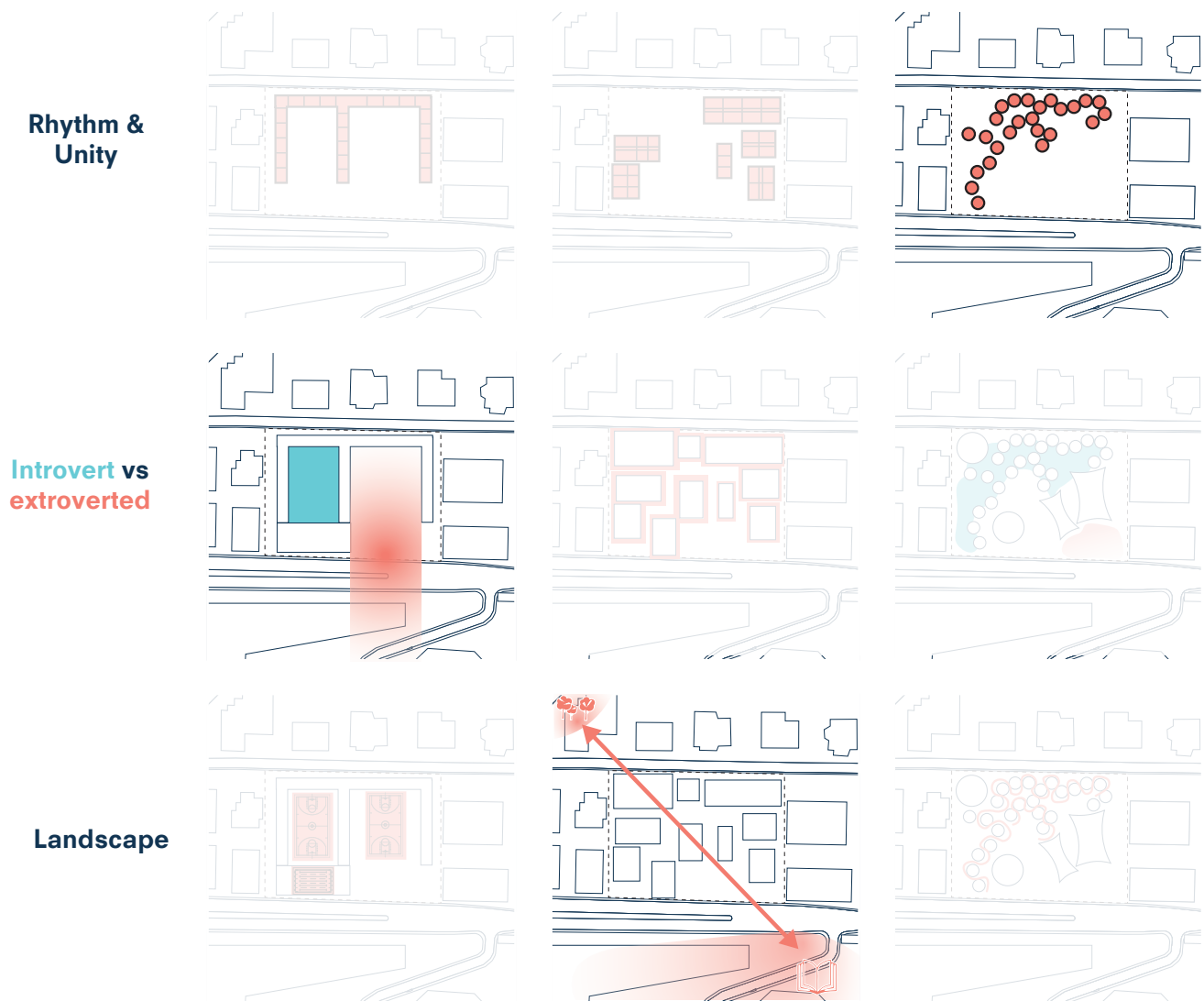
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1.  
Human Rights Watch. (2021, October 11). Lebanon: Planning Lapses Endanger School Year. Retrieved 1 November 2021, from <https://www.hrw.org/news/2021/10/11/lebanon-planning-lapses-endanger-school-year>
2.  
Logo Ministerie van Onderwijs, Cultuur en Wetenschap. (2021, September 16). Uitgaven aan onderwijs als percentage van het BBP. Onderwijs Internationaal | OCW in cijfers. Retrieved 2 November 2021, from <https://www.ocwincijfers.nl/sectoren/onderwijs-internationaal/education-at-a-glance/uitgaven/uitgaven-aan-onderwijs-als-percentage-van-het-bbp>

# P 3.0

## CONCEPT





### 39 Concept Concept

The concept of the Jnah public school is defined by its approach to three different architectural aspects that fit the goals for this project.

The first aspect that decides how the building should take shape looks at the rhythm and unity of the project. This aspect is for a school design mostly influenced by the clustering/separation of the classrooms. To be able to design a school that feels like a second home for its students, the approach to this aspect was for each classroom to be its own entity. With smaller functions that are needed for a classroom like a wardrobe, extra study/play space, toilets and outside space always close by. In this way the school design even becomes more similar to housing designs.

#### 40 Child size & playfull



#### 41 Building traditions in wood

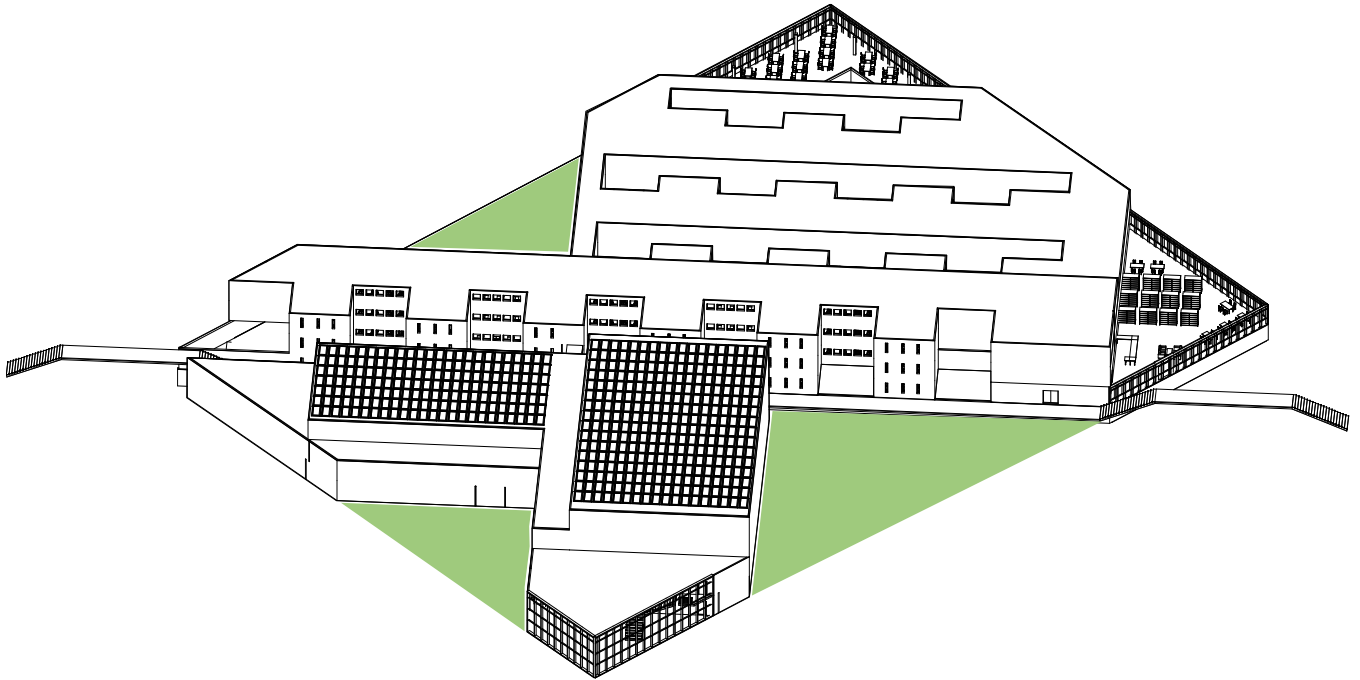


#### 42 Thin patio's



For the second aspect it was interesting to see which parts of the building should be introverted and which should be extroverted. With a very extroverted school building one might accomplish a school which is working as much as a campus as possible. But even though this was one of the aims, doing this might place especially young students safety at risk. So to be able to accomplish both this school will have both a very clear introverted and extroverted playground areas.

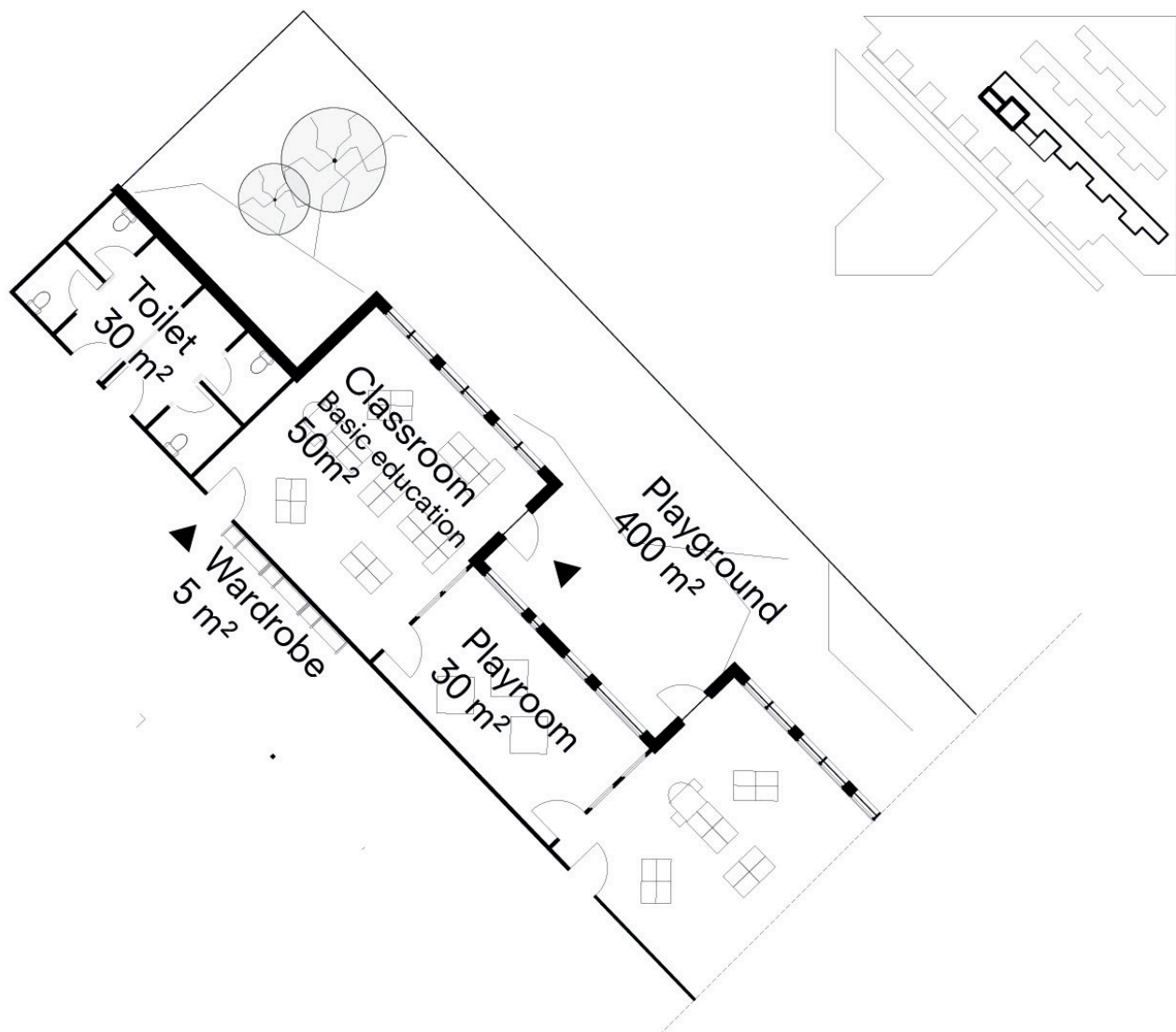
Lastly a decision was made how the landscape of the design would function. Instead of having big square playground spaces that would not accomplish a comfortable climate in the summer it was chosen to keep these spaces relatively smaller which would create more shadows and private outside spaces. Besides this the landscape design should also accomplish a new campus route that would connect the Jnah school complex to the new air park that is included in the masterplan. This route will go all the way true out the plot of the Jnah public school so that the public using this route would be inclined to use the public facilities that are part of the Jnah public school like the sports building and library.



### 43 Axo Design

The final design consist of two volumes separated by the new campus street that goes diagonally over the plot. On the west side of the new street there is the volume which is partly 12,8 m in height. This building is completely publicly accessible and because it is so separated form the rest of the public school it could easily have different open and closing hours. The other volume to the east of the new campus street is where the rest of the program is located. The biggest parts of this program being, the parking that is underground, the classrooms that are on three different levels with the thin patio's along them, the canteen and the library. The only function that is completely publicly accessible is the library which is located along the south side of the plot. This library

has a similar design as the entrance area of the sport that is along the south side, both are materialized in a lot of glass to make it even more clear that these are accessible to the public. Besides using this material both functions as well as the canteen have the triangle shape that is also seen in the public playgrounds that are on the north, south and east side of the plot.



#### 44 Classrooms

One of the most important aspects of the design of the Jnah public school are the classrooms. The decision that was made during the concept stage to design every single classroom as a stand alone unit shapes itself in these small scale bubbles that include a wardrobe along the hallway, a lot of smaller toilet blocks, and small shared playrooms. Then there are two different types of classrooms for two different types of students. One type is more rectangular in shape and is facing the public campus street. This is designed with secondary education students in mind of ages 14-18 that will have more lectures and private studying. The second type of classroom is designed with the basic education students in mind ages 6-14. These classrooms are

square to accommodate more group work and connected to thin outside patios. This patio will be more quiet and safer than the big playgrounds that are publicly accessible and in that way give a peaceful environment to study near to. Besides being a comfortable outside space to be connected to a classroom these long thin patio's also provide a lot of shading, making it more comfortable during summer. These shadows will be especially prevalent on the north façade of these patios and this is precisely where all of the windows of the classrooms are placed.

# P 4.0

## REFLECTION



### **aspect 1 the relationship between research and design**

The research for this project consist of three separate parts. The preliminary research was looking into the current state of the education system in Lebanon. What is good about it and where are the opportunities for growth. This research let directly to four main goals for a new school in Beirut as well as the research question ;

How to design a new public school in a way that it becomes a public asset?

Following this preliminary research there was a reference research conducted into the design and architecture of schools in Lebanon and Europe. Most important was in what ways these designs connect schools to the public and reach the set goals that are wanted for the new school. Finally as the last part of the research there was directly looked at the site and the users of this new school. How would this building be able to implement the design aspects seen in the reference research on this site with these specific users in mind? All of the answers from the three research phases where used in the final design.

### **aspect 2 the relationship between your graduation topic and studio topic**

The topic of the graduation studio of complex project is catastrophe. Lebanon has been dealing with challenges such as a huge influx of war refugees and a corrupt government for a long time already. But the port explosion of 2020 in Beirut was a catalysator for even more economical and political instability. Besides 163 schools in Beirut physically

being damaged by the blast most of the damage to the education system happened in the aftermath of this catastrophe. The explosion combined with the covid pandemic caused there to be very little opportunities for children to go to school. In 2021 only 2/3 of the school-age population where enrolled in any school and even these children got very little education. The graduation topic looks to make education more accessible for all income groups as well as lucrative since it brings so much to the general public.

### **aspect 3 research method and approach chosen by the student in relation to the graduation studio**

Three types of research methods where used during this graduation project. Ethnographical research done both in Lebanon itself during a site visit but also digitally by reading and watching videos about the country and it's culture. This ethnographical research was necessary specifically for this graduation studio since Lebanon has a very different culture compared to the Netherlands and to be able to design something in Beirut that fits it is important to understand the differences. A small part of the research was praxeological research consisting of both planned and unplanned interviews with locals and professionals in the field of architecture. This type of research also had as main aim to understand the culture and education system of Beirut better. Finally typological research was done looking at different types of case studies. This type of research was done manly to be able to understand what kind of design aspects of a school can reach certain design goals.

### **aspect 4 relationship between the graduation project and the wider social, professional and scientific relevance**

This project looks at what general goals a new public school in Beirut would benefit to aim at which design aspects fit to certain goals. Both the goals itself as well as the design aspects could be replicated in a new school design somewhere else where the

public school system is lacking as much as in Lebanon.

Besides the general goals the specific grid of class rooms with small patios inspired by European school architecture from the 1960's could be implemented in more school designs with a similar climate as Beirut. The rest of the design such as the diagonal pathway and open corners are too much based on this specific site in Beirut making it not interesting to replicate. It does show how for this grid structure with classrooms to work as a whole school it should be adapted to its direct surroundings.

### **aspect 5 ethical issues and dilemmas you may have encountered during graduation**

During the graduation project I realized that even though I might try and design something that respects and partly also adheres to the building culture of Beirut with my background as a reasonably well of white person from the Netherlands I will never be able to do this completely. With a lot of the case studies from this project being located in Europe there is still a sense as is those types of designs being superior which is a colonizer way of looking at it. To be able to bring a more nuanced view in this project more people and mostly locals should be able to have their say over the project. This type of issue would be less prevalent if the graduation studio was located in the north of Europe and there would be almost none existing if it was located in the Netherlands.