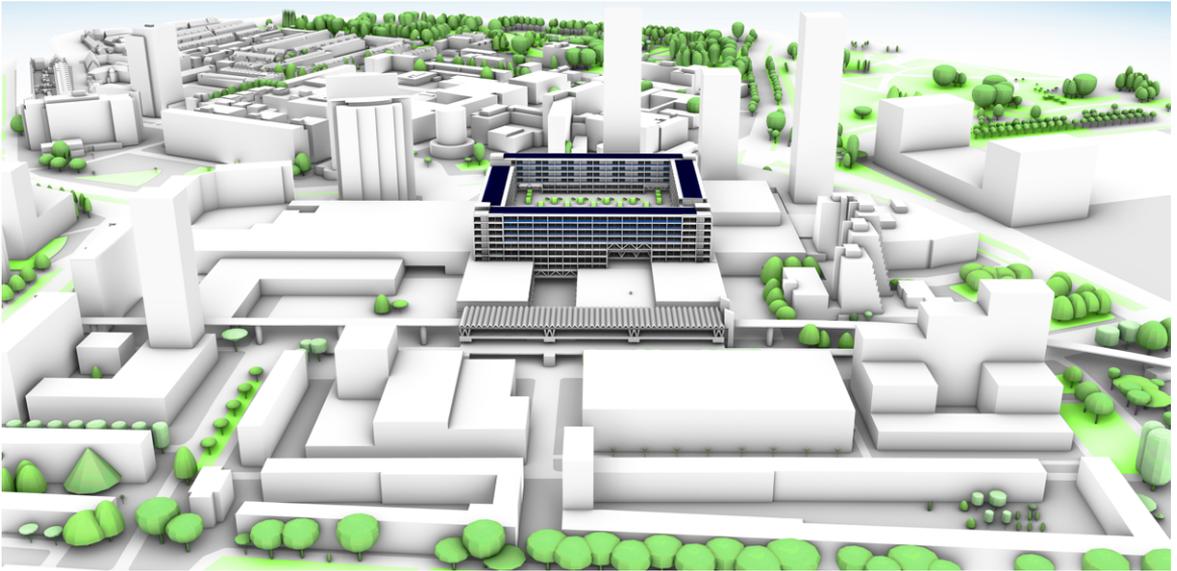


## migration of living and working space of creative class

# ZUIDPLEIN 2030

Bowen Lei

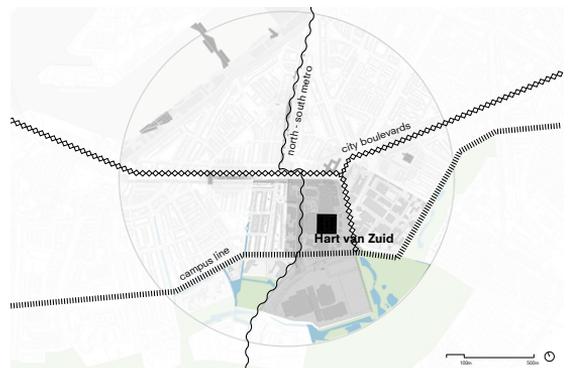


Rotterdam Zuid was a suburban neighbourhood of Rotterdam. Ahoy and a metro station along with one of the largest shopping centres of the Netherlands were migrated to the heart of this region in the 70s, giving its striking mega structural and mechanical identity. This region has been updated as a new node within the polycentric Rotterdam since 2013. New services are being added to Hart van Zuid and have created a new leisure and cultural axis in Rotterdam South for a large range of people. The new amenities include a new theatre, a new library, a new swimming pool, a global-chain hotel, a cinema, and extensions to Ahoy. Based on the existing development and my personal interest, my project is an additional implementation targeting at the live-work space for creative class.

Under the group strategy, my project is located at a strategic location, where local and regional axis interweave with each other. It will become the beacon of the entire region and have potentials to promote the exchanges and communications between regional visitors, local residents and new creative residents.



site location



group strategy

# Introduction

## 1. user/program ambitions:

Accommodating creative class is chosen as my research topic to discuss the new program schemes. My question is how to accommodate creative class in future urban development. I find out that migration of the living and working space of creative class is a common phenomenon in generating a new district or cultivating a new land. The challenge in our case is to provide space for future micro-scale creative producers to be able to settle themselves down, develop and co-create a new city center on the existing urban fabric.

In definition, they are micro-scale entrepreneurs in the frontier of culture and technology innovations whose work turns on the creation of new forms with intense knowledge-based industry, including programmers, writers, musicians, designers and researchers. They all share the same demands for exterior social space and sharing services for corporations. Logistic services and exchange services provide them with opportunities for commerce. Due to the uncertain state of how they work and live, they require very flexible and adaptable space for temporary periods to stay and potential expansions in future. This is significantly reflecting on the varying heights and width of the space where they live, and work. However, different professions still have distinct preferences regarding the public/private degree of spatial separation in their working space and living space. In the status quo of Rotterdam, survey shows that there is a significantly increasing number of jobs at small agencies of which there're less than 10 employees in creative and ICT sectors. To accommodate the users ambitions are as follows:

**1. maximized public accessibility :** choices to be open to all public. choices to be isolated from the public.

**2. flexible accommodations :** provide hotel and home office program to all the creative class to stay for any period of time, in any kind of scale of space.

## 2. site ambitions:

The site is characterized by complex mobilities from different directions and different floor levels. ( see figure 0.1).

The ground floor is being mostly occupied by car parking and cuts up the social / economic connections between the education / transport / leisure sectors. The close facades of the existing shopping center adds to the security risks and reduces night economy potentials. (see figure 0.2.1, 0.2.2) The site ambitions are as follows :

**1. open-air public space :** new open public space is required for west-east public connections

**2. 24-hour vitality :** maximize night economy potentials and secure 24-hour safety



figure 0.1 existing regional mobility

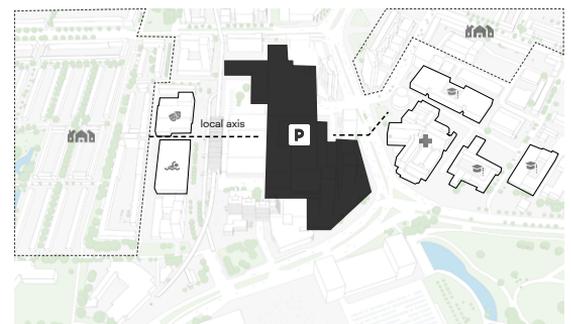


figure 0.2.1 mobility problem



figure 0.2.2 night problem

# 1. CONCEPT

The massing concepts are targeted at the user ambitions and site ambitions as follows:

**1.1 open the heart :** the intervention location is chosen at the central part of the shopping center where different type of people encounter each other and different mobility intertwines.

**1.2 new west-east tunnel :** a new tunnel is recreated for pedestrians to connect the public facilities. The tunnel is also activated by the new transparent facade of the shopping center and the facades of the existing buildings at both ends.

**1.3 new central circulation :** a new open circulation is recreated from the center of the tunnel to maximize the open-air public space.

**1.4 all-direction accessibility :** the services cores are positioned in four pole positions to maximize the accessibility of different existing mobility.

**1.5 24-hour running stage :** the massing takes advantage of the homogeneous quality of loop form to interact with the urban and natural contexts. It utilizes sunlight and wind to create varying micro-climate environments and enhances the visual interactions towards varying urban activities, maximize the public accessibility from within the tunnel. As a result, a stage-like platform is created for the users to have maximized options to interpretate the space and light the sky from day till night.

## 2. IMPLEMENTATION

### 2.1 NEW WEST-EAST TUNNEL

The site is characterized by 3 dimensional intersected mobility axis. Regional visitors and local visitors seldom have interactions. The new west-east tunnel is positioned in a strategic way to satisfy different travel demands and strengthen the social interactions.

#### 2.1.1 local

Local visitors are people who live within a 15 minutes circle in the south. They come to this place on foot or by bike.

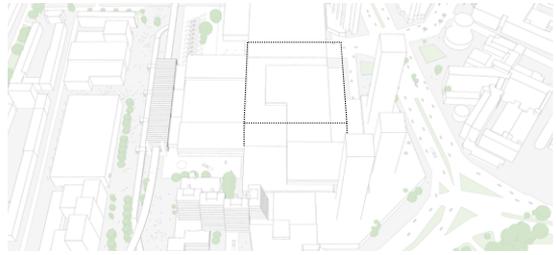


figure 1.1 open the heart

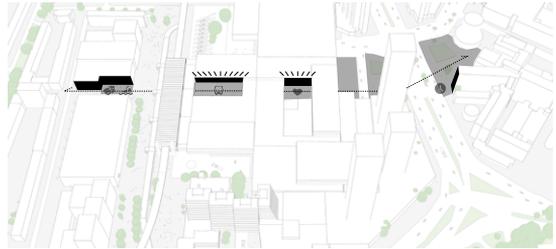


figure 1.2 new west-east tunnel

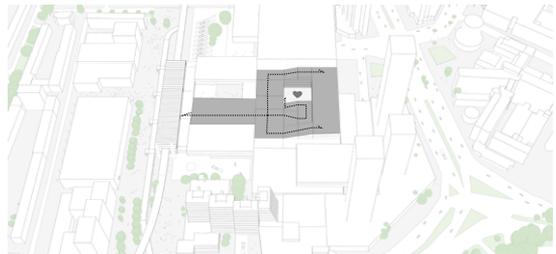


figure 1.3 new central circulation

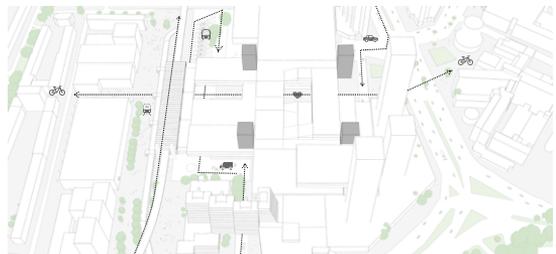


figure 1.4 all-direction accessibility

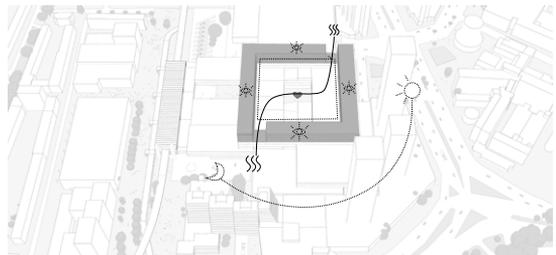


figure 1.5 24-hour running stage

The new tunnel creates a 200m x 200m pedestrian friendly circulation. High-quality public services secures local people to hang around during their spare time. (see figure 2.1)

Even when they hurry towards the metro station and bus station during the workdays or back from work, the tunnel also provides travel convenience. (see figure 2.1)

### 2.1.2 regional

The regional visitors are those who live outside the 15 minutes circle. They include visitors who come to this place for leisure and business by car or public transport, travellers who transit between bus and metro to travel between the southern Rotterdam and northern Rotterdam, families who live far from this place but come for shopping by car. The tunnel functions as an important transitional area between different local services and regional transport services in different situations. The new services are added in this tunnel to maximize the economic potentials. (see figure 2.1)

## 2.2 NEW CENTRAL CIRCULATION

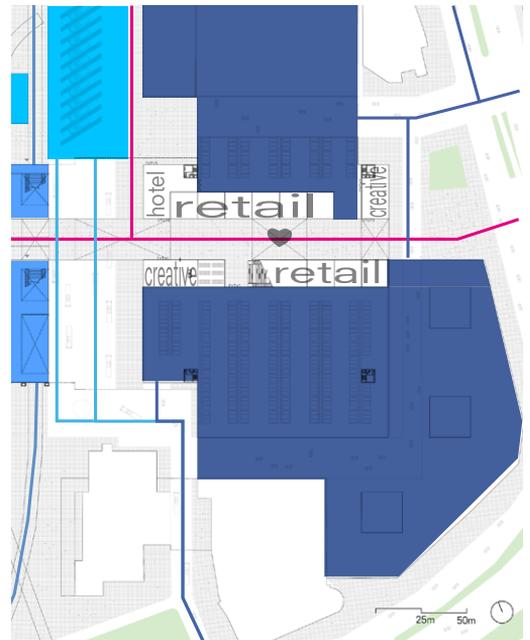
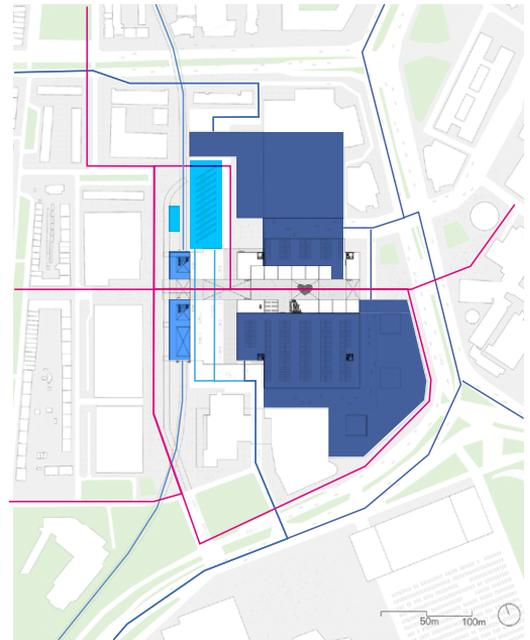
### 2.2.1 within the shopping center

A new central circulation is recreated within the shopping center along with new open-air entrances from the tunnel and from the metro station. They connects the existing retail program with ahoy to maximize the retail economic potentials. (see figure 2.2.1.1, 2.2.1.2)

### 2.2.2 creative loop

A new creative loop is added upon existing circulations, and the new creative program is mixed with the existing mobility service and retail service. The urban contexts are redefined as gradual public / private cubic floors in a 3 dimensional manner. ( see figure 2.2.2.1)

Key services such as the heart square, cafe, gallery and lab are anchored in different levels to maximize the vertical accessibility and activate different outdoor and indoor sharing service for local visitors, regional visitors and creative residents during the day and night. ( see figure 2.2.2.2)



- intervention
- bike
- bike parking
- bus
- bus station
- metro
- metro station
- car
- car parking

figure 2.1 ground floor circulation

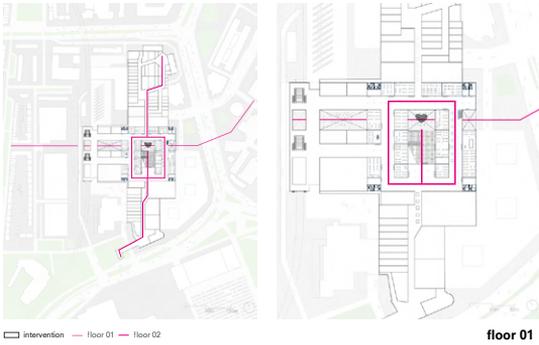


figure 2.2.1.1 floor 01 shopping center circulation

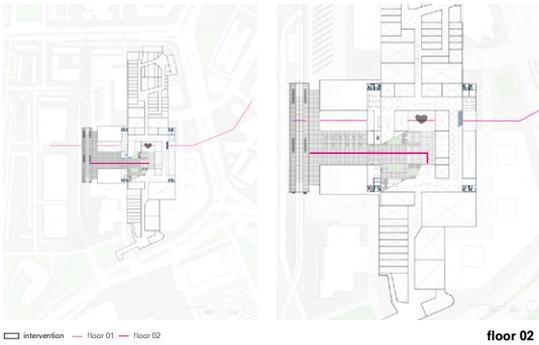


figure 2.2.1.2 floor 02 shopping center <-> metro station

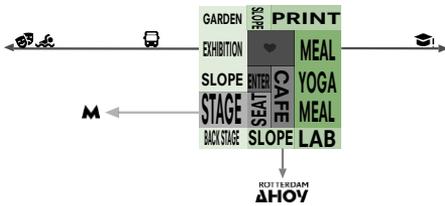


figure 2.2.2.1 scheme

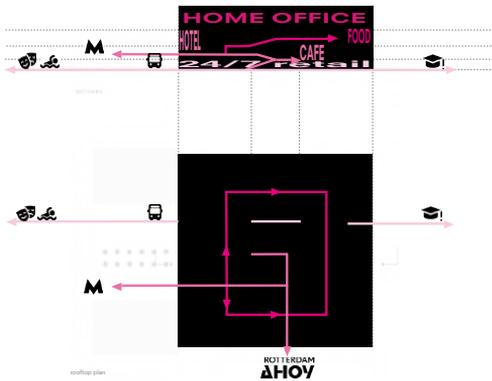


figure 2.2.2.2. night public accessibility

### 3. DEVELOPMENT

#### 3.1 STRUCTURE:

In general, the structure concept is to create a 3D timber and steel hybrid structure spatial frame so that home office can extend both vertically and horizontally. The whole structure is standing on the existing concrete columns on the ground floor. The construction idea is based on divisions of the main structure and substructures and they are clearly joint or detached from each other.

The main structure is a 7.5m x 7.5m 3D frame steel frame. The dimension is defined by the existing concrete column grids which date back to the original design in the 1970s. The frames are made by CFT supporting columns with steel beams skewed onto it. The supporting C beam on the facade further support timber beams on which stands the first layer of envelopes.

In the corner, one of the facades stands on the timber floors and corner column is strengthened by two L beams. (see figure 3.1.1) The core includes elevator for goods. It's big enough for the home office timber floors. For the home office, 300mm cavity are prefabricated in the timber and steel beams so that there're space for installations. (see figure 3.1.2)

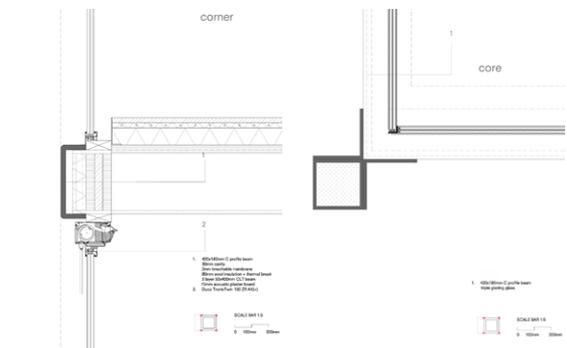
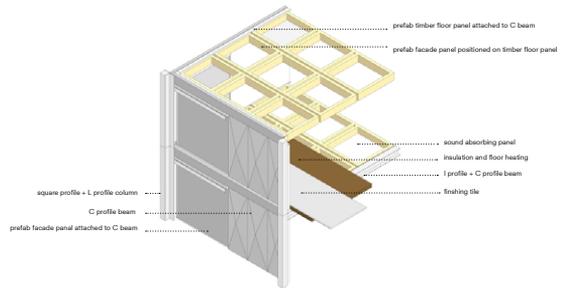


figure 3.1.1. corner element and detail

### 3.2 CLIMATE:

By combining active and passive methods, the climate concept utilizes the geothermal heat, rainwater, solar energy, the sunlight and natural ventilation.

#### 3.2.1 heating and cooling

Heat pump, exchanger in combination with mechanic ventilation system and heat recovery are adopted. For the services floors, floor heating provides heat in the winter and cooling in summer. For the home office, radiant ceiling heating provide heat in the winter and cooling in summer. The ceiling can be dismantled easily

#### 3.2.2 reuse water

The open-air space is a vertical loop and it collects rain water by its very nature. Rainwater will be stored under the heart plain and redistributed to the cores.

#### 3.2.3 electricity

The electricity is generated by solar panels and PV panels placed on the roof and the baluster of the home office corridor. PV panels of gradient transparency are installed on different floors to give it an optimized balance of efficiency and identity. ( see figure 3.2.3 )

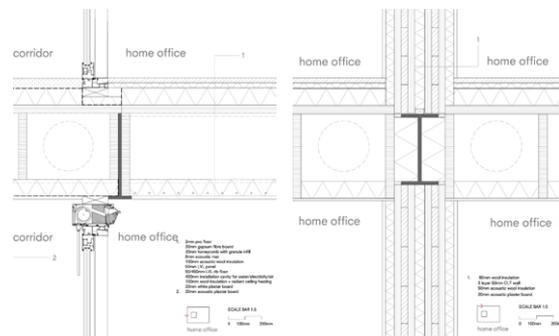
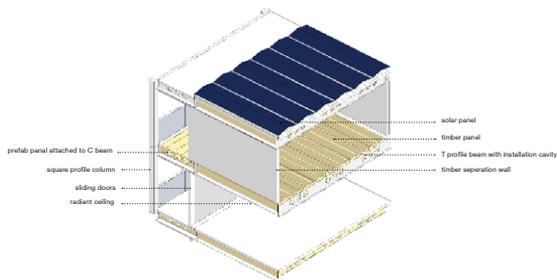


figure 3.1.2. corner element and detail

### 3.3 MATERIALIZATION:

The architectural and spatial concept is to create vertical freedom in a 3D structure to enhance the vertical accessibility and spatial flexibility.

To do this, the 3-dimensional materilization order, the material performance and daylight are key factors to diffuse the vertical seperation of publicity / privacy. In lower part, raw and large scale finishing are applied to maintain the noisy and unfinished urban quality to accommodate more kinds of people and activities. In higher part, intimate and small scale of materials are applied to the floors and ceilings to create a sense of quietness and privacy. ( see figure 3.3.1). The facade adapts to different demands of privacy and publicity in different floors and orientations. The facade visualizes the original grid to give the complex a generic sense which indicates the possibility of changing activites and functions inside it. ( see figure 3.3.2 )

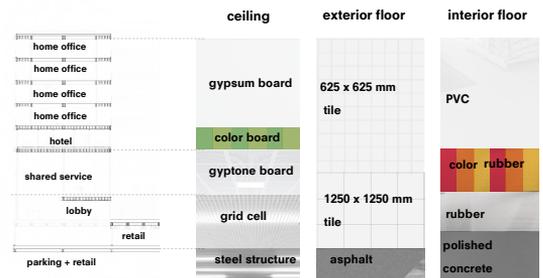


figure 3.3.1. floor and ceilings

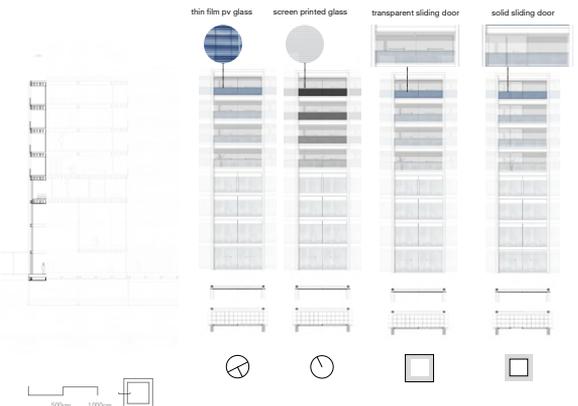


figure 3.3.2. facade

# Reflections

## 1. research - design relationship :

Research have been conducted throughout the whole design process, from the larger social-political contexts to the smallest scale of the detail of a partition wall.

Thanks to the development of the Internet, we have the chances to absorb much more information in a shorter time than previous generations. When the information we can find is becoming more and more complex, the most important ability for a researcher and designer is switching to the ability of questioning, sorting, comparing, peer reviewing, filtering and decision making. The decision is made based on the information we have at hand.

## 2. studio topic and graduation topic relationship :

The studio topic is hotel new york, a place where people take the Holland-America lines left to a new unknown world. It is a symbol of migrations. The core idea behind the studio is about the exchange and implementation of new ideas. It is the way creativity origins.

My own graduation topic is migration of living and working space of creative class. When migrates settle themselves down, make a new living, create new forms based on his or her knowledge and exchange, a new city starts into being.

## 3. research method :

The first research method I choose is to understand the demands of the target group from a social perspective by reading the existing researches and analysing existing cases. The second-hand reports and news collected from the group work help me understand the social demands of our site.

The second method I choose is to understand the economic conditions from the economic perspective. In the larger context, it's not difficult to find out that there's a new potential digital shift. In the smaller context, I research the existing programs of our site and compare the existing conditions to other comparable cases so that there's possibility to predict the limits of economic potentials.

The third method I choose is to understand the futural trends in a technician's view. To understand the latest development and adopt the latest technology is a tool to help solve problems in a more sustainable and sufficient way.

## 4. the wider social, professional and scientific context :

The world is experiencing the fourth revolution shifted towards electricity and AI. And we're also seeing rising social inequalities and conflicts. The pandemic is an acceleration of this process.

In the upheals of digital economy, visual-reality media allows creative class to work remotely and even work from home. They are also supported by online delivery , 3D printing for local-global productions.

## 5. ethical issues :

Under this new trend, we're also seeing the digital infrastructure invades the private domain, and expose personal lives under the digital public sphere. Apparently , it provides new choices for people to make livings but we're also in danger of running into the world of the matrix - people live a lonely life but work with high-techs in a low-cost home.

If we accept this new reality, we can recreate densified cities for younger generations to live, work and physical connected. To densify the high rise cities, new narrative 4D structure will functions as an urban stage, to provide maximized pyblic accessibility for massive residents to have massive sharing activities.