R³
REHABILITATE*REINTEGRATE*RESHAPE
Luca Vacchini
R$^3$

REHABILITATE * REINTEGRATE * RESHAPE

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# 4320050

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INTRODUCTION
My graduation journey in Complex Projects started in September 2014 and began with group researches on the west side of the city of Chicago. This focused on the programmatic, physical and infrastructural condition of this area. Almost at the completion of the research books the whole studio went on a study trip to Chicago, to examine on site the actual situation.

Back in Delft, enriched with this experience, we finished the books and the studio split in four groups and each one had to elaborate a strategic proposal of intervention for the west side. My group mates and I elaborated the Rhizome project, which directly tackled the real proposed project of a new infrastructural line in the west side. We saw this as a chance to give a stronger identity for this whole area of the city.

This work lasted from November until December and after each member of the group had to pick an area of the Rhizome and develop an individual masterplan. From the group work I was interested to tackle the degraded peripheral condition that affects certain areas of Chicago in order to find the tools that can be applied in order to create a safer and more functioning situation. The interesting part of this research was that the tools that I found can be used also for other cities living a similar situation.

This masterplan part lasted until mid February when the concentration focused on the design of a building that needed to work with the situation previously tackled in the masterplan, in order to have a linear and coherent story. The building I chose to design deals with the seeds that generate the main problems in the area of the masterplan. It offers programs that are meant to rehabilitate and reintegrate people that have troubles with the main cause of criminality in the area, drugs. It also aims to reshape the cultural scene of the neighborhood, offering the conditions for new social interactions.
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R^3 = Rehabilitate*Reintegrate*Reshape
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THE RHIZOME

The Mid-City Neighborhood

in collaboration with:
Akshey Krishna Venkatesh
Ilham Lakhal
INTRODUCTION
LOCATION, STUDIO THEME AND WORK STRUCTURE

The location of this year’s studio is the Mid-west or in specific the windy city of Chicago in the state of Illinois. Unlike previous years the studio decided to choose a site which is far away from the bustling city scape and the loop. The theme of this particular studio working on the lime line is transit oriented design or design which orients and develops on the lines of transport facilities. A one week intense trip to Chicago was undertaken by the students where we explored the site in detail and conclusions were arrived upon.
RESEARCH
The research structure was divided into three sections namely the programmatic analysis, Infrastructural analysis and The analysis of the physical environment. The structure helps us divide the topic in equal as well as important parts so that the understanding of the subject is deep. Programmatic analysis helps us understand how the different programs are divided over the 18 neighborhoods and what the unique yet not-so-famous programs present in the lime line. The infrastructural analysis identifies the important nodes and transit methods which clearly marks out the surplus and the deficit of any mode if there exists one. The physical environment earmarks the physical aspects of this part of the city to complete the understanding process.
A ONCE PROPOSED SOLUTION

The 1909 Burnham’s Chicago Plan and his Industrial Development Plan followed a radial infrastructural scheme overlayed by three circular lines. However during the XX century only the radial aspect of this interconnected city was developed. This system would have been the key for the city mobility strength. It would have served as either freight traffic and citizens’ commuting. The majority of the development was completed in the east side, while the west side suffered by this lack and its development was compromised. The never built corridors and junctions left the periphery without a strategy.
The very development of Chicago followed the basic scheme of the Corridor City, the urban entity shaped by radial axis connecting the boundaries with the city centre and the city centre with the rest of the region, the service and the industrial districts around. A scheme that constitutes the elemental cell of a greater puzzle of networks and connections, rendering the urban environment as a globally connected hub. But the basic strategy is not completely fulfilled and now the only ensured strong system is the radial one leading to the Loop. North-South and East-West connections have never been developed with such a relevance resulting in movements that requires to get to the Loop before departing from it to get to destination. This results in congestions and not only, as consequence, in time loss but also in terms of money for incomes not gained. This costs around 5$ per year.
PRIMARY AXIS
STRONG PUBLIC INFRASTRUCTURE

ELEVATED ('L')
TRAIN NETWORK

THE RHIZOME
OTHER ROADS
WEAK PUBLIC INFRASTRUCTURE

CTA STREET
BUS NETWORK

WEST SIDE
THE LIME LINE PROJECT

“A vision to connect West Side and make it easier to get to jobs”, solving the actual “transit desert” with an operation called Transit Future.

The scheme, originated in the offices of the Center for Neighborhood Technology, a Chicagoan no-profit organisation specialised in infrastructure, is aimed to implement the existent transit network with the “missing links” taking advantage of what is already there, “A logic, due act for the citizens of Chicago”.

The Lime Line is part of the strategy to make West Side a better place more connected with the whole Chicago. Its creation will be the missing link that will provide West Side with a North-South connection that will cross the majority of the CTA lines. This way from to move upwards or downwards there will not be the need to reach the Loop first to get there. The vision foresee its placement either on Cicero Avenue as a Bus Rapid Transit or on a parallel freight rail as a CTA line.
CICERO AVENUE

LENGTH: 63.5 KM
STATUS: CONGESTED
WIDTH: 15 METERS
NEIGHBOR CROSSED: 14+1 (CICERO)

BELT RAILWAY

LENGTH: 45 KM
STATUS: UNDER USED
WIDTH: 10 METERS
NEIGHBOR CROSSED: 14
ZONES

- rapid decline
- Afro-American unemployment
- vacancy
- crime

- modest decline
- Hispanics
- rich
- educated

- modest decline
- Hispanics
- middle class

- modest progress
- Hispanics
- middle class
- conservative
IS THE LIME LINE A RANDOM SECTION THROUGH THE CITY?

It is a random section, it could be moved east and westwards some miles and one still would encounter the same characteristics, problems, ethnicities, socio economic groups etc.

It is no random section because it can not be moved north and southwards. If it was moved north, more richer neighborhoods would enter the picture. If it was moved south, more poor and problematic neighborhoods would be included.
RESIDENTIAL GRID

Chicago’s grid system is characterised by having eight city block per mile, each of them with an average of a hundred address numbers. Residential blocks, caught in a strict grid, dominate the landscape of the west. Rows and rows of single family homes interrupted by industrial corridors.
BLOCK CONFIGURATION

By zooming out, one can clearly perceive the defined grid in which the horizontal and vertical commercial streets define the configuration of the urban fabric. Through analysing the block and its dimensions, we have come to the conclusion that residential blocks are almost always locked in a commercial border that separates a cluster of residential blocks from the other. Assuming that those commercial borders sustain the residents of those blocks.
FUTURE LIME LINE
THE BROKEN BACKBONE

The shared origin of the western suburbs is industrial production. Their history begins with a railway line and an industrial settlement. This is the incubator for suburban settlement that soon attracts ten thousands of residents. Although industry is gone, this shared history can still be seen in the area. It remains an area of mainly working class residents. The average resident is low educated, has a modest income and lives in a single family house.
RESIDENTIAL FACING INDUSTRIAL

The gaps in the strict residential grid - broken by dominating industrial corridors, results in ambiguous areas in which residential blocks are facing industrial buildings. Many of the industrial workers started living around the industrial corridors in order to be close to their work. Eversince the decline in industrial activity and offshoring, generations have been living in an area divided and confronted by warehouses and the occasional factory.
OPPORTUNITIES
A. CONNECTIVITY
abandoned railways mainly freight railways

CTA
minor railways
major railways
only freight railways
PUBLIC CONNECTIONS - L SCALE

The Lime Line will cross almost all the major railway connections going westwards, both CTA, Metra and Amtrack. This way there will be a great improvement in connection north to south and vice-versa. Today to move south-north one has to reach the Loop, where all lines head to, and switch to another line to reach destination. This huge loss of time will be consistently reduced with the new line that will act like a “cutting-fingers” scheme.
PUBLIC CONNECTIONS - M SCALE

At a Mid-City scale we notice that the Lime Line will be strongly connected to its immediate surroundings by bus lines that follow the rigid grid scheme. It crosses CTA’s Orange, Pink, Blue and Green lines. Private transportation by bike is not strongly supported since it is fragmented not easing its usage. A major north-south road connection defined by Cicero Avenue runs parallel to it. Other Illinois Routes, like Cicero, cross it orthogonally twice. Finally it is connected to three Interstate Highways leading toward the Loop.
B. LAND USE
PROGRAM DISTRIBUTION

The division of program along the lime line are found in clusters. Clusters having their own identity. The strip of twenty odd kilometers houses constant housing segments in equal intervals with active barriers in the form of infrastructure or a river. The river or the sanitary canal as it is called is flanked by industries and vacant lots which were previously industrial areas and now torn down due to the failing manufacturing industries in Chicago. Industries appear in a good pace as we move from south to north in the lime line/ Cicero. Commercial activities abutt the main cicero avenue through the whole stretch. The strip can be earmarked as a mix of residences and industries supported by commercial activities.
The Rhizome

- Black = abandoned spaces
- Blue = commercial
- Red = Industrial

- vacant houses
- vacant plots

No data
VACANCIES

Vacancies are a common phenomenon in an american city. The void created by the suburban areas and the commercial business district or in other words called the city center has further led to un-livable conditions in these areas. Fested by crime and low quality of living, people are moving out. Hence there are a great number of vacancies created by this phenomenon. Vacancies not only in plots but also completely constructed houses which are not more than 20 years old. This phenomenon is also due to the branding of a certain neighborhoods as un-safe and other futile things. Vacancies can be found in great number along the lime line and around the industries. This can be seen as a boon and a bane with respect to the urban fabric.
COMBINING EXISTING PROGRAMS AND VACANCIES

An opportunity is created by looking at the existing program around and to the vacancies in plots and buildings that surround the future Lime Line. With a probable attraction, triggered by its construction and by the building of its stops, a spreading development of program can use the terrains vague to grow. This future trend might be also boosted by the low cost of this abandoned land and buildings, making it worthy.
C. PHYSICAL BORDERS
The shared origin of the western suburbs is industrial production. Their history begins with a railway line and an industrial settlement. This is the incubator for suburban settlement that soon attracts ten thousands of residents. Although industry is gone, this shared history can still be seen in the area. It remains an area of mainly working class residents. The average resident is low educated, has a modest income and lives in a single family house.
PHYSICAL ANALYSIS

1. Residential buildings in the north, industrial in the south
2. Medium scale commercial zone
3. Large and medium scale industrial zone
4. Railroad tracks without crossing

1. Residential buildings on both sides
2. Medium scale commercial zone
3. Large scale industrial zone
4. Railroad tracks without crossing
INDUSTRIAL BORDERS

Many of the infrastructural elements act as borders within the fabric of the city. Especially so in the west where many industrial corridors are clustered and infrastructure is key to servicing these. However, many industries nowadays are not used as they did in the times of industrial manufacturing. The borders have become tools of separation of ethnicities. The borders are built up of many more factors than only an infrastructural element. The generic border consists of an infrastructural element (road, cta line, metra line,), industrial and commercial buildings. The problem however, is that these borders completely separate neighbourhoods from each other, disabling connections between the two.
THE RHIZOME
Mid-City is located in the middle of two well defined areas of Chicago: downtown and the suburbs. They both have a clear identity, the first dominated by its business district and skyscrapers, the second it is a lower density defined by its organic green neighborhoods of single-family houses. The inbetween area is dominated by single family houses following the grid and dominated by vacancies either in buildings and in plots. So a question rises:

What is the identity of Mid-City area?
The west side of Chicago consists of many neighborhoods that individually have their own distinct identity. We see an opportunity in enhancing these identities by introducing the lime line. The lime line will create a vertical connection between the neighborhoods, enhancing the mobility between them. Rather than moving either to the loop or suburbs for whatever reason (working/leisure), we want to give people the opportunity to explore each others neighbourhoods and visit developments along this line that triggers interaction between the neighborhood.
THE CITY IN THE CITY

Through the implementation of the lime line, we will create accessibility to an area that is not very much explored by people that do not live there. The core reason for that is that the area is dense with residential blocks that dominate the landscape rather than developments that could attract people from outside. By providing access to this area, and subsequently developing the hubs - we will be able to create a city within the city; different from the loop and the suburbs but at least equally as attractive.
Working with Chicago's Changing Population

- 67.4% jobs located in Chicago's suburbs
- Better schools in the suburbs
As soon as we acknowledge that Chicago is losing a significant part of its population to the suburbs, the sooner we can accommodate for these changes. Many families are moving to the suburbs because of a better quality of life due to the environment and facilities. The schools are better, crime is much lower and facilities on average are higher than in the west. The great opportunity here is that these kids are from many different ethnic backgrounds. They are raised in the suburbs but will most likely not stay in the suburbs once they are adolescents. So, the question then arises; where do these highly educated mixed young adults move to? This is where midcity can step in and offer a place where this new generation can live, work and play. This new generation can be the generation that can gentrify the west side of Chicago in a way that has never been done before. Rather than whites moving in and driving the original residents out - new generation gentrification will live alongside the original residents.
SUBURBS & URBAN CORE; SWITCH OF ATTRACTION

THEN

ECONOMIC ACTIVITY

LIFESTYLE

NOW

LIFESTYLE

ECONOMIC ACTIVITY

URBAN CORE

SUBURBS

SUBURBS

URBAN CORE
SWITCH OF ATTRACTION

Supporting the argument made earlier about the move of population to the suburbs, it becomes clear that the way in which we perceive the suburbs is changing. With more and more jobs growing in the suburbs, more people start either moving to the suburbs, or commuting from all over the city to the suburbs. This dramatically changes the way in which we perceive and live the metropolitain area. Where the urban core was considered the hub of economic activity and opportunity and suburbs was the place for lifestyle - nowadays the urban core revolves around lifestyle and economic activity has moved to the suburbs. This might strongly influence our midecity as a place that mediates between the two.
The Rhizome

Main Opportunity

Connectivity

New generation of entrepreneurs

Increase in activity

Increase value, more housing initiatives

Area becomes attractive

Housing the new generation
PHASING

The way in which we envision our midcity to work, related to a timeframe, is based on a few core principles that act as subsequential events. Our key starting point is making our midcity accessible. The strategic implementation of the lime line will make the area become more penetrable and will trigger curiosity from outside. As argued before, the hypothesis of the new generation moving into our area, will also influence the activities in our midcity. The new generation will have to be housed which will trigger developments. Now that there are reforms happening in the area, the midcity will become more and more attractive. This will attract more developments and increase activity. This will lead to an increase of value, which on its turn will attract investors.
STARTING INVESTMENTS

The area can be really appealing for new young investors that want to open their own activity. This young generation will likely to be the one of the so called “Millennials”, people born from 1980 and 2000. Studies reveal that the social conditions in which they grew up will led them to be more interested in opening their own business, becoming entrepreneurs. Since they might not be so wealthy, they might not afford the high prices for building lands in the city center. This is way an opportunity raises in these lands, where vacancies and empty lots are much cheaper than other sites in the city to open their start-ups.
STRATEGY
THE RHIZOME

THE LOOP

X 20
HOW TO APPROACH THE LINE

The dimension of the intervention is more than twenty-one kilometers and it is about twenty times the span of the Loop. This requires a peculiar strategy to deal with it. This is why we started reflecting on the main connections the Lime Line will have with the current transport infrastructures. Furthermore we had to take into account the fact that this line will cross fourteen Chicago’s neighborhoods and so the approach to the area needs to take into account their diverse characteristics.
nodes as anchor points
NODE'S SELECTION

The nodes were selected based on the important intersections between the Lime Line and any east-west transit mode. It could be a road or a railway line. To add to this each nodes identity was studied and this played a huge role in the picking process. A list of seven nodes have been selected with their unique identity in need of change or strengthening.
THE RHIZOME

nodes as anchor points
SPREADING INFLUENCE

Whenever there is a new development in an area there are support services which arise. For example a hotel to support a convention center, a clinic to support a hospital, a mall to support a township. These are few of the many examples that exist. These don’t pop up randomly, this phenomenon is called influence of a structure or a proposal. The proposal usually creates an influence that is oriented towards something. We can never see a hospital in an entertainment hub, neither do we see a school in an industrial neighborhood. Hence oriented influence is what we propose to achieve with our project. However influences mix as the nodes we have chosen are quite close to each other. This creates an interesting pattern only resulting in more synergy.
A. STRATEGIC TOOLS
The approach to the design has two strategic tools that are employed. We called them the Spine and the Synergy. The first is the element that links all the nodes and works directly with the Lime Line. The second is a way of dealing with the existing buildings’ fabric. It refers to the plan’s pattern of the nodes that lets creating peculiar conditions in relation with the current fabric.
The sinergy between the two elements brings opportunities that are more than the sum of each. A new way to perceive and live the space that the discontinuity creates leads to a less arbitrary way to add future interventions.
The plans for the nodes are conceived to let them acting as elements going “against the city grid” in order to give a chance to a synergy to be created. This is reached by the meeting of two different urban patterns, where the space in between gives a clear definition for new urban dynamics to emerge and to give an identifiable character for the actual situations and the future ones. The Synergy between the two elements brings about a new way to perceive and use the space that the discontinuity creates.
CHAMPS ELYSEES, PARIS
THE SPINE

The spine is meant to be a long strip running all the way along the new CTA line, with the main function to be the strong and “vital connection” of the all development. This element, that connects the first node to the last one, is to be considered as a continuous infrastructural element giving services, organization and identity to all the area. We called it “infrastructural element” because it’s not only a public space platform but it’s also a major infrastructural line comprehending energy, water, waste management, ecological green buffer and of course movement and providing all this to the whole area.
A VISION FOR THE SPINE
B. PROGRAMMING THE NODES
TRANSPORT ORIENTED DEVELOPMENT

A transit-oriented development is a mixed-use residential and commercial area designed to maximize access to public transport and often incorporates features to encourage transit ridership. Its features are:
- TOD neighborhood typically has a center with a transit station or stop
- relatively high-density development surrounds it, progressively fades to a lower density
- radius of 400 to 800 meters, appropriate scale for pedestrians (10 mins walking)
- encourage public transport use and differentiate the development from urban sprawl
- mixed-use development that will use transit at all times of day
- excellent pedestrian facilities
- reduced amounts of parking for personal vehicles

A recent example of TOD in Chicago can be found around the creation of Morgan Station (Green Line), Oakton Street Station (Yellow Line) and Cermak Road Station (Green Line)
PROGRAMMING THE VACANCIES

Already stated in the opportunity the presence of vacancies, in plots and housing, in strict contact with an existing urban pattern can be the chance to reconfigure them, adding new program. They can be the tool to be used to mend the existing condition. It is a chance because does not need of demolitions, it is just empty space that can let us work with an acupuncture process within the actual state of the things.
OPEN SPACES COHESION

Lots of open spaces surround the vacancies. If they gather, the space to be used for the new intervention becomes wider. This way these open spaces are more structured and less casual in the neighborhood.
COMPACTING INDUSTRIES

In the current situation the industries do not have a clear and studied disposition in the Mid-City area. The idea is to cluster them next to the southern canal. This way the efficiency is higher since there is less loss in energy usage, traffic congestion in urban roads is diminished and residential neighborhoods are freed of industrial borders.
COMMERCIAL, OFFICES, PUBLIC AREAS’ DISPOSITION

The presence of big voids in correspondence of the nodes allows giving them a structured program. Since they are on intersections with infrastructures connecting to the city and the suburbs commercial activities, offices, entertainment and public programs can find location here. They are easily accessible and this grant consistent flows of people to reach them.
The housing fabric in several areas of Mid-City is really rare. This is because lots of properties are empty. The housing layer of the intervention deals with this. It works filling the existing voids to make better neighborhoods with a higher density. In few cases, when it is needed new housing program is found in clusters.
C. REDEFINING IDENTITY
1. **EMPHASIZING**
   THE CBD HUB

2. **CONTRASTING**
   THE HOME HUB

3. **RECONFIGURING**
   THE RECYCLE HUB

4. **CONTRASTING**
   THE SAFE HUB

5. **CONTRASTING**
   THE ENTERTAINMENT HUB

6. **EMPHASIZING**
   THE INDUSTRIAL HUB

7. **EMPHASIZING**
   THE TRANSIT HUB
PROGRAMMING THE NODES

Each node has a specific identity. These identities are either helping the place or playing a huge role in the decline of the area. This was meticulously identified and a proposal of either strengthening or reversing the functions in order to create synergy and thereby leading to development. Three methods have been observed in this project namely , emphasizing , reconfiguring and contrasting. Emphasizing deals with improvement of the existing facilities or adding new facilities which help in strengthening the identity. Reconfiguring uses the same buildings/ functions and it is reconfigured into a different fabric to sit on the existing on. Contrasting deals with overturning the function in a place so that it creates pure chaos and there by creating synergy.
EXISTING PROGRAM

PROPOSED PROGRAM

NODE 1 - "THE CENTRAL BUSINESS DISTRICT HUB"
The area next to six corners is characterized by several commercial activities. The largest amount of people living there is below their forties and work as employees in business companies. The future node enhances the commercial character of the area for development of fair expositions and markets, also considering the strong infrastructural link to the airport. This connection, also toward the city, and the tendency of the workers living here triggers the development of a business district too.
NODE 2 - “ALTERNATIVE HOUSING SCHEME”

THE RHIZOME
NEW HOUSING SCHEME

The node deals with the requirement of new housing projects for the area. The principle of synergy here works configuring a new urban scheme for its dwellings. The presence of housing is correlated with satellite activities that work for and thanks to the presence of this residential area. Satellite activities comprehend commercial ones and office building but also places of gathering and entertainment. The Spine here will widen its section in order to be used as public space by the dwellers. This broader section also allows to put parking programs beneath it.
EXISTING PROGRAM

PROPOSED PROGRAM

NODE 5 - “THE RECYCLE HUB”
RECYCLE HUB

Node three is based on the approach of reconfiguration. By reusing the existing elements in a different way, we aim to establish an intervention that could revive the area and introduce a different atmosphere. Through looking at the intervention in phases, we are able to anticipate a gradual change in the area. The two main existing programmatic elements present before intervening, were industries and residential blocks- many of which abandoned. The industries once occupied a massive area devoid of any other programme, going against the grid in a dominant manner. Residents occupying the perimeter of the industrial area, making attempts at filling the blocks (within the grid) with houses, resulted in a terrain vague. Our approach is to break the harsh boundary between the former industries and the residential “terrain vague” area. We introduced a new housing type that is organized in a more organic manner to open up to public spaces and create a less dense fabric allowing programs to interact.
NODE 4 - “THE SAFE HUB”
This node is located in one of the two areas of the city with the highest rate of crimes. This is due to the fact that these neighborhoods are characterized by high percentages of unemployment, drug abuse and low salaries. The purpose of this node is to reconfigure the area in a way that its elements will sow the seeds of a change. A mixture of programs works for this purpose ensuring a constant flow of people to the area. The urban configuration tackles the issue of peripheral areas managing to propose an environment that makes these places to be perceived as centralities.
THE RHIZOME

raised public access to commercial/public buildings
node 3 - "the entertainment hub"

node 4 - "the safe hub"
Entertainment is metaphorically the backbone of the city of Chicago. Cubs, Bears, Hawks and the Bulls have flocked the identity of Chicago for many years. Entertainment however is spread over the whole city making it uncomfortable for the users to find a one stop solution to all their entertainment needs. Entertainment has been a great catalyst for development in and around its existence. Entertainment is and will be a great catalyst along the lime line for development strategies. environment brings in investments, which further creates a safety scene in the existing crime ridden area.
INDUSTRIAL HUB

Many manufacturing Industries exist along the lime line without a pattern. However, most of these industries are on the verge of shutting down or have already been shut down for many reasons. The proposal aims at clubbing together the industries on the south side of the lime line around the sanitary canal. The sanitary Canal could act as a source of energy production, waste disposal and transport of manufactured goods. Green Patches have been introduced around the industry buildings as public spaces in order to clean the air-pollution partially.
NODE 7 - “THE TRANSIT HUB”
TRANSIT HUB

Midway is the second airport of Chicago flying local interstate flights. However it is secluded and away from the city and equidistant from the loop as the o’hare airport. Ohare and Midway lie almost in the same longitude and can be connected by the lime line. There is humongous scope for a transit oriented development in this area and there gives rise to a great need for a transit hub in this location. Different modes of transport such as the bus, train, taxi service can be combined into this hub so as to give the user great flexibility on choosing his mode of transport.
THE RHIZOME
THE SAFE HUB

Sewing Up a Degraded Mid-City District
ANALYSIS
THE SAFE HUB

AUSTIN

CICERO

NORTH LAWNDALE
WEST GARFIELD PARK

freight lines

Eisenhower Expressway

CTA Blue Line

THE SAFE HUB
LOCATION

The Safe Hub is located exactly in the middle of the Rhizome project. It comprehends three Chicago’s neighborhoods, Austin, West Garfield Park, North Lawndale and an external municipality, Cicero. It is characterized by a high criminality rate, one of the worse in town, devaluation of properties, low incomes and a high percentage of unemployment. This leads to a really low level of public safety among these neighborhoods and to be an unattractive area for new investments.

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<th>AREA</th>
<th>YEARLY CRIME PER PERSON</th>
<th>HOUSEHOLD SALARY ($)</th>
<th>HOUSING PRICE ($)</th>
<th>UNEMPLOYMENT RATE (%)</th>
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THE SAFE HUB
CRIME IN CHICAGO

The three neighborhoods of Chicago where the intervention is sited are part of one of the two areas in town with the highest crime rate (left). Data say that the highest percentage is drug related (below). In an article published by the National Drug Intelligence Center was said: “Violent crime associated with retail drug distribution by street gangs is one of the primary public safety concerns facing law enforcement officials [...]. In 2006 nearly 50 percent of the homicides and a large percentage of other violent crimes and property crimes committed in Chicago were attributed to street gangs that are involved in drug trafficking.”

Professor Rosendaum, an expert in crime hot spots said: “And these kids also need other things to engage them in the community. There needs to be other activities that go on that keep them from congregating.”
UNEMPLOYMENT IN CHICAGO

Unemployment and a stagnant economic mobility are two of the key factors that incentive the violent crime rate in Chicago. That is the reason why maps showing the density of crimes almost overlap the ones about unemployment rate. The area of the Safe Hub has areas with an employment rate that varies from 15% to more than 27%.
MANIFESTO
5 POINTS

To tackle the issue of peripheral areas and to reactivate them in order to create new centers of attraction that will deal with the actual situation of this unsafe neighborhood an elaboration of five themes. These will act as ingredients to use as tools to the design of an appropriate masterplan and of a building that will catalyze them.

01. MIXTURE OF FUNCTIONS
02. PUBLIC ACTIVATORS
03. SOCIAL MIXTURE
04. DEFINITION OF SPACES
05. HIERARCHICAL ROAD SCHEME
01. Mixture of Functions

Central areas of towns are places of social meeting. The key factor that makes these place worth to be lived is the mixture of programs in order to attract a differentiated range of users. Historical town centers act like this since one can find inside commercial activities, entertainment facilities, activities for his free time, public buildings such as theatres, museums and libraries but also places of work. The list of amenities is broad; the interesting factor is that this concentration of programs creates a central identity that triggers the area to be attractive for the whole city. It becomes a place magnetizes mixed programs to settle in it generating this way a loop for its development. Differently, peripheral areas are places that lack of this differentiation in program. Places dominated by a housing program and spaces that appear to be more car-oriented. Losing their attractiveness they become dormitory areas lived just by its inhabitants.
NIGHT LIFE

Mixture of functions means also livability also during night-time. Mono-program areas like business hubs are places with strong attraction of activities during the day, but they become desolated when its offices turn the lights off. On the other hand mixed-program areas, with pubs, restaurants and public building that attract people also during night-time, are determined by a continuous flow of users.
THE SAFE HUB
02. PUBLIC ACTIVATORS

In order to activate a big area of a city it is necessary to work on two different scales of buildings that will act as vehicle of public attraction. Due to the size of the whole area this hierarchy of size addresses to different users. The bigger scale is meant to have a broad influence to catalyze public interest, not only the one of the surrounding area but also to the whole city itself. They are for example theatres, museums and universities. The small scale ones are linked to their immediate neighborhoods making them places of a more local attractiveness and use. To this category belong for instance schools, community gardens and sport fields.
THE SAFE HUB

large scale activators
small scale activators
KOP VAN ZUID & KATENDRECHT

Kop van Zuid and Katendrecht are two areas in Rotterdam, NL, that during the second half of the twentieth century fell into degrade. The first was once a busy port area while the latter accommodated a huge Chinese community, low-rent workers’ housing, sailors’ bars and railway embankments. To recover the area from this situation in the early ‘90s new urban configurations for the two areas were designed. In Kop van Zuid large scale attractors like theatres, Hotel New York, a museum, the Cruise Terminal and a waterfront panoramic public space are sited. The Katendrecht area was developed into a high-quality residential neighborhood with a lot of small scale activators, such as a school and sport fields, and two big scales ones: the renovated vessel landmark the SS Rotterdam and the Kaappark. Once degraded and unsafe areas of Rotterdam, now they have a high safety score in the Rotterdam’s neighborhoods safety index.
03. SOCIAL MIXTURE

Peripheral areas are not only the ones where low-income people live; they are also the place where only wealthy people live. This might seem a more subtle aspect in the tackle, however it is of great importance. Periphery find fertile ground where there is no diversity among the people who inhabit them. It is where communities ghettoize themselves and create clusters of income, race and religion. It is by interaction and knowledge exchange that all these communities can find a possibility to grow and accept diversity, not seeing the different from you as “the others”. Integration is the key to break these boundaries and open different parties to a promiscuous dialogue.
04. Physical Definition of Spaces

Central places of meeting and gathering are the most of the case places defined by clear boundaries created by a conscious built environment. The perception given by this definition is the one of a “warm” place to stay. Clear delimitation of spaces makes them more at a human scale level, where clearly seeing and controlling what it is around us generates in us the perception of being at ease in it. Peripheral areas the most of the times do not have this feeling in us. The open spaces are often not designed one, in most of the case they are empty lots or just parking areas. Being often car-use “dominated”, roads act as boundaries between one side and another of these places, not allowing the birth of interaction and strong flows between them. Even if commercial activities might be nearby, these do not become place of aggregation, lacking of a clear structure.
THE SAFE HUB
05. HIERARCHICAL ROAD SCHEME

The grid road scheme, even if it is perfect for the orientation of a visitor of the area, creates no hierarchy among its roads. It is perfect for cars but not for pedestrians and bicycles that often have to stop at his crossroads. This actual scheme is really practical for motorized vehicles but does not deal with the quality of the livability of its roads. This is why a new scheme is proposed and deals with different levels of publicness of roads and consequently with their average usage. Using a big ring of public roads that comprehends more block inside the efficiency of car traffic is enhanced, being less crossing with other roads. The bigger block that is create within this ring is characterized by one way streets that serve all the buildings and getting in the end to the big ring. This way these roads are used only by people who actually need to drive them, for example the ones who live there. Being the traffic consistently reduced public activities at the level of the immediate neighborhood can rise. Children can play there being more secure and dwellers can meet in these more intimate spaces next to their houses. In the end departing from them a series of car-free paths spread inside the block connecting all its building and can be used either as pedestrian paths and cycle lanes. Eventually this road configuration, being more lived by the block’s dweller, becoming a public space itself, makes these places safer and more easily controllable by the residents.
AGAINST THE GRID

If in degraded and unsafe areas the grid road scheme is still used to design a new neighborhood, that pursues to be safer, the final outcome may not trigger a change. This is way the living conditions on the streets that surround the area are more eased to penetrate inside the new neighborhood affecting it, compromising its aim. If, on the other hand, a new road scheme is applied, that goes against that principle, becoming a more public and lived space, it generates a strong contrast with the surrounding situation, making it less influenced by it. This way the outside situation is more likely to stop at its “boundaries”.
MASTERPLAN
THE SAFE HUB
CONDITION OF THINGS

The node is characterized by a consistent low density of dwellings due to the presence of vast terrains vague and industries that found this place, next to the freight rail, as a convenient place to settle. Main infrastructures sited in the area are: the Eisenhower Expressway, the CTA Blue Line and two freight lines crossing each other.
CURRENT PROGRAM DISTRIBUTION

Industrial activities are the highest percentage of program around the node. However, lots of these buildings are nowadays vacant and in a degraded state. Terrains vague and big parking lots seem to be complementary to the vast industrial program. There is no mixture of functions at all, since these areas are surrounded for more than the 90% by residential buildings.
Preliminary Subdivision

As a first step the big area is divided into smaller neighborhoods that combine multiple standard city plots. This way the grid principle is broken and it can be the initial phase for the actualization of the fifth point of the manifesto. This design allows east-west traffic flow beneath or above the Lime Line, being the plots that cross it orthogonal to it.
THE SAFE HUB
The Lime Line will cross three main infrastructural lines. The CTA Blue Line at the top, an east-west freight line and a major street. In order to facilitate the creation of car-free areas the freight line has to be removed from where it is, since it is a strong boundary. This line can be put underground and use its rails for a new tram line that connects the east and west extremes of the area.
Several dwellings in the north part were saved, in order to respect the actual condition of things. About the industries, to follow the strategy to move them in the “Industrial Hub”, they were all removed except for five big buildings. They are pieces of industrial archeology that if refurbished can become attractors for the area.
SEEDS AND CATALYSTS

Two different scales of public buildings and services are located in the area. They deal with different users and trigger different responses in terms of public usage. The first are the so called “Catalysts”, they deal with users not only of the area but their usage is directed to the whole city of Chicago. They are activators of big flows of people and their presence enhances the creation around them of satellite programs. The smaller scale is defined by the “Seeds”, small public attractors that work at the level of the neighborhood and create the conditions for congregation among the dwellers of the neighborhood. They boost program differentiation and answer to point one and two of the manifesto.
CLUSTERS OF FUNCTIONS

There are places that have a predisposition to trigger certain kinds of programs. In the area these places can be found along the CTA Lime Line, when it crosses Roosevelt Road, the CTA Blue Line and at its stations. Here the program can be both commercial and offices, being so strongly connected with the rest of the city. Furthermore there are three strips of commercial/entertainment programs. One is along the major road, Roosevelt Road, which has to be conceived as L.A.’s Sunset Strip where the road becomes a public space itself due to commercial activities on it. Similarly another public/entertainment strip can be found parallel to this one, along the new tram line. The last one is along the long and narrow public park that cuts the all area in the middle. Commercial activities and entertainment ones becomes stronger due to two main Catalysts at its edges. This way this long public strip can be lived at anytime of the day.
A COMBINATION OF PROGRAMS

The first point of the manifesto states that to create centrality and then safety is needed a mixture of programs, in order to trigger activities that can make the spaces lived in a broader time range. Around main public areas a major concentration of commercial activities, offices, public and entertainment buildings is located. The Catalysts and the Seeds are public and entertainment buildings. The thing that is stressed is the fact that public functions are needed to activate people flows and to guarantee the perception of these spaces as centers. Two major commercial streets are designed in the middle of the hub. One is along the tram line that takes the place of the freight train line that is deviated underground, in order not to create a physical boundary. Indeed, the neighborhoods are conceived to be car free areas in their middle, where public functions are located. A linear, narrow park crosses the entire area connecting main catalysts. The narrow characteristic is conceived not to create spaces too wide to be felt as unsafe to be in. The Spine, where CTA stations are sited or important crossing with commercial streets are generated, widens its section to become a raised public space, around which commercial and office programs are developed.

- industries
- commercial
- offices
- residential
- hotels
- entertainment
- public buildings
- open spaces
- parking lots
STREETS’ HIERARCHY

The new road system creates a hierarchical order that enhances the use of the street as a public space where the traffic flow is low. This is why major road rings embrace the neighborhoods, containing multiple city blocks. This way the circulation is more fluid, since less crossroads make movements faster. Inside the neighborhood one way streets serve all the buildings. This is the fifth point of the manifesto that declares that these roads are safer since more likely to be lived publicly by the close dwellers. From these streets car-free paths allow the permeability of people’s flow inside the neighborhood, reaching the public functions in its core.
NOLLI MAP

Major opens spaces of aggregation and social activity are located next to the catalysts and the seeds. The density of the residential neighborhoods and the relationship between solids and voids is comparable to the one of the existing neighborhoods. This way the new neighborhood with its scale integrates better with the old built environment.
MERGING WITH THE CONTEXT
PHASING

Due to the consistent dimension of the area, the project needs to be divided into phases. It has to be stated that the development will not follow the scales of the buildings of the project, starting with Catalysts and so on. To work it has to be developed in clusters of programs, with all the functional elements inside, at different scales, which make a single cluster to live on its own. The first step of development will be in the central plots that have already Catalysts determined by existing abandoned industries and that are next to the new CTA stops. This way the first part will be faster and will trigger a faster development to start. Then the development will spread to the adjacent plots following the same rules. Finally the last neighborhoods will complete the development, sawing up the Safe Hub with the surrounding environment.
ZOOMED IN

In this zoomed drawing it is visible how the neighborhood works. The residential buildings vary in typology in order to address the broadest range of users and answer the third point of the manifesto. The streets follow the fifth point, ranging from large roads to one-way ones until the paths running through the buildings. Along the large and the one-way ones bicycle lanes run parallel. Every building faces a strip of three meters of green at least on one side. Green areas are also used in large public spaces in order to deal with the absorption of rain water.
$R^3$

Rehabilitate

Reintegrate

Reshape
RESEARCH
TACKLING THE PROBLEM FROM ITS ROOTS

The fifty per cent of the crimes in the city of Chicago are drug related. The safety of the area I am working in needs to be tackled from its roots. That is the reason of my choice to design a drug rehabilitation center. This way I offer the community the chance to release itself from the condition it is into. A brighter future for the ones that are dealing with the issue is offered taking them away from a vicious circle that soaks the streets of vast areas of Chicago.
THE REHABILITATION NEEDS

Starting from existing examples of building with this program, the main points that came out are:

- inviting spaces
- comfort
- inspiration
- contact with nature

In the meanwhile these building do not show a clear typology from their plans. Sometimes they can be easily confused with other building typologies, hotels are the main example. They have rooms, a canteen (restaurant), places for physical activities, to conclude nothing substantially different from the mentioned typology.
VISIT TO “COMUNITÀ SAN PIETRO”

To get deeper into the research I planned a visit to a drug rehabilitation community in Italy, near Pavia. Talking with psychologists and patients I gathered first hand information not achievable on the web.

The rehabilitation process is composed by different steps that are not always one after the other, but they mainly work in parallel. These are:

- first interview psychologist/patient
- abstinence phase
- detoxication
- therapy
- reintegration

The point they stressed more on was that the patients need to have all their days occupied, not to be distracted by their problems. “Inactivity is the worst enemy.” This is why they asked for multiple spaces for work in order also to facilitate their reintegration in the society. The more spaces for work you have, the more tailored programs you can have for the patients you host. The activities they do inside are supposed to be group works (textile workshops, carpentry workshops, assembly lines, greenhouse works), in order not to keep them alone.

If a community, apart from the psychological therapy, allows patients to do these jobs inside it is called ergotherapeutic. If it does not it is just therapeutic.

There is also another important point that distinguishes rehabilitation facilities. Whether they deal just with psychological problems or also with psychiatric problems they are called single or double therapy.

The last point they focused on is dealing with the withdrawal symptoms. Patients in these situations may need to be relaxed and taken apart from the others, not to generate problems. This is why spaces for private counselling, where a tutor can bring the patient to speak and to calm him down, can be useful.
STATEMENT

From the research the peculiarity of the existing structures for rehabilitation emerged. It appears that the trend is to locate drug rehabilitation centers usually in rural areas, away from urban distractions. It results that these buildings are not in close contact with the communities and the environments these people are from. I believe that these structures can become central point for degraded urban areas proposing an alternative to the present situation, picturing a way for a change. These structures need to deal with all the process of rehabilitation in society but also with the problems that trigger the addiction, tackling the issue from its roots.

The question that I rise is:

“How to create a urban drug rehabilitation center typology that dealing with the problem becomes also a reference point in closer contact with the context that generates the problem?”
CONCEPT
PROGRAMS

A building that deals with all the process of rehabilitation in society requires the combination of multiple programs.

a) the rehabilitation center itself that comprehends all the structures needed for the treatment of the patients.

b) a sober living housing that represents the inbetween condition from the life in the rehab and the complete reintegration in the society. It is a place still connected to the rehab for ceratin activities but that also lets the patient, now called “outpatient”, to go back to his work and to have a more independent life.

c) since the rehabilitation center is based on the working activities of the patients inside, I believe that the best way to incentivate this is to actually create the condition to sell what they produce. This way they can directly see that what they do is not worthless. This is the reason why a public space that works also as a market for certain days of the week is an added value.

d) dealing with the issues that generate the addiction to drugs is the way to tackle the problem from the roots. A community center proposes a different aggregation place for activities that usually take place in the streets, hence in strict contact with all the temptations that lie there.

e) since the building needs to be the reference point for the community, it has to be easily reachable with public transport, hence next to train or metro stations.
COMBINING THE PROGRAMS

Once the programs are established, the first step is how to combine them spatially. The idea has been to layer them in order to minimize the footprint of the building, being in an urban environment.

But which principle to stack them?

The programs are characterized by different concepts of relation to the exterior environment. This has been the leading line to organize them. So starting from the bottom, we find the more public programs like the market/public space and the community center. As the height of the floors rises, this publicness fades into more introverted and private spaces, reaching in the end the rehabilitation center.
LIFTED UP

My aim was to create a building permeable at the ground floor in order to allow the flow of the public life underneath it. I did not want the building to act like a “rock” in the public space obstructing it. This is the reason why I decided to lift it up.
LIGHTLY TOUCHING THE GROUND

With the volume of the building lifted up the following issue was how to bear it. The intention was always not to show its heaviness. First (a) the use of pillars seemed still not fulfilling this purpose due to the rigidity of these elements. The following move was to use vaults (b). This appeared to work more since their curvy and sinuous shapes seem to be loaded by a lighter weight. Eventually, even structurally they are historically proved to be excellent supports. Then the successive step was to provide enough sunlight to the ground floor. The first try was to carve the upper volume (c). This move went against the structural principle of the vaults, being some of them bearing no floor. The following decision was to let more light penetrating into the building by stretching some vaults (d). This way the vaults are combined to a light study. However in terms of composition the same span of the vaults seemed limitative for the programs that could have been hosted. Stretching the vaults also in the other direction provided different spaces in height and span (e), ready to be programmed for different purposes.
PROGRAMMING THE VAULTS

Different spans and different heights of the vaults were the occasion to host different programs. The attractive height of the higher vault enhanced by its narrowness was meant to host public events like concerts or public meetings as well as a market. The larger one was determined by the CTA line running and stopping in it. The large and low in the middle other than covering the entrance to the building, hosts a retail store and emergency stairs. The two vaults at the edges are the ones where the most part of the emergency exit is located.
PLANS
DIFERENTIATION

In order to underline and emphasize the peculiarity of each program, all the floors have been treated with different design concepts, that are shown in the logos on the left page. The differentiation among all the floors become a sort of “mantra” that will be found not only in the plans’ designs but also in the materials, in the structure and in the climate concept.
00. THE VAULTED MARKET
a.  

b.  

c.  

$\mathbb{R}^3$
SQUARE’S CONCEPT

The reflection on how to place the building into the public space started positioning it in the very center of it (a). However what appeared was a monolithic element, where just two kind of spaces were created, being the parallel facades almost the same. Positioning it more northward (b), closer to the upper edge, generated three spaces: a big one in the south, two smaller on the two orthogonal sides and a narrow one in the north side. However, in the end, just by shifting the building a bit on the right (c) four different spaces were created, reaching the maximum amount of differentiation.
SQUARE’S GEOMETRIC CONCEPT

Looking at the intersection of the two infrastructural lines, passing through the plaza, a geometric principle to control the spaces of the public environment was used. The two lines created two different squares in the bigger squares of the building’s footprint. Those two were used to determine the offset of the edges of the plaza from the building itself. Continuing this principle also further than the south-western corner a green lung was designed, adding value and diversity to the public space.
PIXELED DESIGN

The span building to building of the public space around the building varies from 21.5 to 53 meters. Being its dimensions so important it has been relevant to design this public space also in terms of its livability. This is the reason why, according to a diagram showing the average shadows casted by the building and by the surrounding, it has been possible to design the square following the amount of light that touches the ground. Starting from the diagram the shadows have been outlined following a pixel grid, represented by concrete tiles. In the end a last layer has been created with a rader grid that will indicate where trees will have to be placed.
FROM DIAGRAM TO THE PIXELED DESIGN

The casted shadow that most of the times intersect each other create different intensities. These have been translated into nine different materials that fade from darker to lighter according if the amount of light is larger or lower. Darker materials reflect less light, that is why they are located where more light hits the ground. Vice-versa this applies to the lighter materials. Where the sun is stronger the materials are linked to the use of trees too. As the light gets darker the tiles are paired with high bushes, that allow some light to penetrate through.
SEE THROUGH

The parallel facades of the building go in pair in the way they are designd. Starting from this, the treatment of the sight permeability is different in the two different designs. The linear dimension of the vaulted side is emphasized by the fact that you can see directly from side to side. The other facades, not to contrast with this principle, allows the seeing through just diagonally.
1. entrance  2. CTA station  3. store
01. CAFÈ AND PLATFORM
1. cafè  2. platform
02. THE FACTORY OF URBAN CULTURE
CONCEPT

Urban art is lived and experienced in the streets. We find different kinds: hip-hop dance and music, skateboarding, basketball and graffiti painting for instance. The setting of these activities, the street, is the place more affected by degrade and by the issues that involve crime and drug abuse. Even if it is a place of creativity and expression it has this downside. This is the reason why, to prevent the outbreak of vicious outcomes, the idea was to create an enclosed and safe setting for them. This community center is the opportunity to cluster activities that usually have different settings. This way the interaction between them can become a sinergy to stimulate the creation of a new urban culture.
MATERIALITY

Being called “the Factory of Urban Culture” the immediate idea was to create a factory-like setting in order to enhance the idea. This is the reason why the choice of the material fell on concrete floors, concrete paneled walls and a visible steel structure, with trusses and H profile pillars.
1. café  2. dance rooms  3. skatepark
03. SOBER LIVING HOUSING
apartments + common rooms + communal activities
A “TETRIS” OF FUNCTIONS

The plans shown in the logo is the combination of multiple functions all linked together by the program of this floor. Other than the apartments where the outpatients live, we can find common spaces, both indoor and outdoor, like community gardens.
MATERIALITY

In this floor I wanted to recreate the materiality of the housing in Chicago. In the city the majority of the dwellings are cladded with bricks or wood planks. Between the two I preferred to use the first since it gives a more urban look. Then the floor is covered with asphalt to remind the streets of the urban context. Finally the community garden materializes the backyard gardens.
1. common rooms  
2. community garden
04. REHAB
working frame + psychological work
FRAMING

The plan works with an exterior ring of working activities that acts like a frame, separating the inner meditative spaces, meant for self concentration, from the outside world. The rigid frame bounds interior shapes positioned without a rigid distribution. This allows you to choose your own path to move through the floor. It is a sort of metaphor of the rehabilitation process, individually tailored for each patient.
MATERIALITY

This is the floor of rehabilitation and of mental and body purification. Purification is often represented as a bright white light. This is the reason why I decided to use a combination of matte and glossy white for the walls, the furniture and the floor and the use of transparent and frosted glass for other partition elements.
1. common areas  2. canteen  3. library  4. pool and sauna  5. carpentry  6. dressmaker  
05. INTROVERTED GARDEN
distribution frame + patients’ rooms
FRAMED DISTORTION

The plan faces the outside with a distribution frame on the edge. This is the element that ties together the inner patients’ room, that with their not orthogonal position create a various differentiation of the inner open spaces, like often happens in rural built environments.
INTRODUCTION

Traditional rehabilitation centers are located in no-urban environments to take the patient away from the urban distractions. The rural settings where these centers are located allow the buildings to be surrounded by nature. The patients’ rooms are open to these scenarios. Being my building in a urban setting the idea was to introvert the green. This is why we can find a perimetral distribution that frames an inner “rural” environment toward which the rooms are oriented.
MATERIALITY

Rural settings relate to rural buildings. This led me to the decision to use rustic materials for this last floor. I chose wood planks and irregular stones as cladding for the interior walls.
1. single therapy 2. double therapy
CORRIDORS AS PATHS TO EXPERIENCE THE BUILDING

To connect the various programs, in the plans it is visible the presence of long corridors. The question is: “Which kind of quality do these corridors have?” They are never long and narrow routes with artificial illumination. Indeed they act like paths to experience the building framing the activities they border.
SECTION
SEE THROUGH THE LAYERS’ DIFFERENCE

The differentiation among the floors is sometimes visible through cuts located throughout the building. This happens for example where the patios on the top of the larger vaults allow too perceive that all the floors answer different needs of perception. Another point of contact between different layers is the area above the big basketball court, visible also from the common areas of the Sober Living Housing floor, which is also lighted thanks to the light passing through the transparent floor of the swimming pool of the floor above.
STAIRWAYS' CONNECTIONS

Two special staircases connect different layers of the building. A long metal staircase, reminding to a truss, being in the “Factory of Urban Culture”, connects this floor to the Sober Living Housing. The reason for this is that the two layers are strictly connected, since the Sober Living Housing is a re-introducion in society and the contact with the outside world is fundamental.

Starting from the Sober Living Housing floor a more introverted winding staircase links all the levels connected with the rehabilitation process. This way from the Sober Living Housing we can reach the Rehab and eventually the Introverted Garden, where the patients’ rooms are located.
EXPERIENCING THE DIVERSITY

Taking the elevator in this building is not a mere movement from a point A to a point B. It is an experience of the different settings this building offers with its floors. This is possible thanks to glass elevators that uncover in few seconds this layering not perceivable from the outside.
LIGHT STUDY

The issue of light in a building deep like this is not irrelevant. The principle that I used is a diagram that says that the span of the light penetration is two times the height of the hole in the wall from which light enters the building. According to this I concentrated the activities inside taking into account the amount of light that hits the interior spaces. For instance darker areas are where technical spaces are located. Always using this principle all the functions are related to the amount of light needed.
ELEVATIONS
rehabilitation center
sober living housing
community center
cta station
market/public space
WRAPPED

Being so different once you experience it, the building from the outside does not have to reveal what is happening inside, leaving the surprise for once you step into it. For this reason the outside cladding is everywhere the same material, wrapping like a cloth the whole structure.
OPENINGS

The disposition of the openings in the facades have been determined following what happens behind. More precisely the openings are located where the more public functions are sited. This way the public functions have a closer eye contact with the surrounding environment.
4° introverted garden

3° rehab (workshops/offices)

3° rehab (greenhouse)

2° sober living housing (interior common spaces)

2° sober living housing (exterior common spaces)

1° factory of urban culture
HEIGHT OF THE OPENINGS

Each function requires different openings. Starting from the first level, the “Factory” requires high ceilings for the interior activities, hence for the light that has to reach the courts.

The second level has a full height opening where the balconies are located, while in the interior common spaces the openings are smaller since I wanted them to remind the dimension of the openings of residential buildings.

In the rehab the openings are different according to the workshops located behind. The openings are full height where the greenhouse is located, while they become smaller where the offices, the carpentry and textile workshops are, in order to let the people inside focus more on their activities.

The last floor is characterized by windows that wrap also the ceiling where the common areas are. This way the long perimetral corridors are not affected by a monotony that might result when they are treated all the same.
CLIMATE CONCEPT
SUMMER

In the climate concept I wanted to integrate the vaults. This worked, since I used them as main sources for drafts. I figured out that the main wind directions in the “Windy City” are north-south and vice-versa. I used these main drafts for the larger vaults. This way the interior spaces can have naturally fresh air. The incoming air is then sucked by internal shafts that led to the garden at the top floor, granting a cross-ventilation. The only floor that does not use the shafts is the one of the rehab, that might receive some exhausted air from the lower floors. This is why here the air is sucked up by the inner patios. For the spaces close to the facades I used the cross-ventilation, this time granted by a leeward side created by the inner patios. The patients’ rooms at the last floor use a normal cross-ventilation principle. Other than that the building uses an heat pump related to an aquifier for a ceiling cooling system. As shown in the diagram the differentiation among the floors is expressed also in the climate concept for each one of them.
winter

A
B
C
D

aquifier

R^3
During winter-time the double skin facade creates a warm buffer for the interior spaces. It also allows the incoming air, that enters from an inlet at its bottom, to warm up before being used as fresh air for the interior spaces. However before being used it still has to be warmed up, since the winters there are really rigid. For this reason a mechanical ventilation is used and combines also the warmed exhausted air to exchange its heat with the fresh one. For the spaces in the inner part of the building the patios are used as greenhouses. Being, during winter, closed with glass they warm up the interior air that this way exchanges its heat with the fresh incoming one, always combined with the exchange with the exhausted one. The heat pump used during the summer now inverts and warms up the water necessary for the floor heating system. Also during the winter no floor is like any other in terms of climate principle.
STRUCTURAL CONCEPT
STRUCTURAL PECULIARITY

The peculiarity of each floors is also translated in a structural peculiarity for each one of them. Starting from the ground floor we find the curved beams that create the structure for the vaults. Level 1 uses a grid of pillars with the exception for the facades where it is replaced by a full height truss that bears the pillars above. Level 2 is a grid of pillar with the exception of four reinforcements on the four angles for the horizontal forces, that work together with the cores of the elevators and of the emergency stairs. Level 3 is a grid of thin pillars that bears a concrete structural slab meant to receive the loads of the free disposition of pillars of Level 4.
Rehab

Sober Living Housing

the Factory of Urban Culture
THE MUNICIPAL DEVICE

Strolling through the streets of Chicago if you pay attention you might see a recurring ornament on the facades of buildings, on the railings of bridges and so on. The so-called “Municipal Device” is actually a Y and represents the three branches of the river as they come together at Wolf Point. Hence I decided to use this ornament in my building. The Y shape can be found in the elevation of the pillars of the Factory of Urban Culture, in the horizontal section of the twisted columns of the Sober Living Housing and in the elevation of the columns of the last floor.
BUILDING TECHNOLOGY
FACADE COMPOSITION

The outer skin of the building is a double skin facade. The inner layer is composed by the modules of the windows (1), then the distance of sixty centimeters is granted by two H beams held together by a smaller horizontal one (2). The outer layer is composed by panels made by vertical stripes, opaque and transparent (3). The opaque material is made out of aluminum. Where bigger openings are required window modules are located (4).
EXPERIENCE
hey, from this point all the separate walls create a perspective tunnel!

Nice! Next time I’ll be here I’ll chill a bit there! But my meeting is waiting.

hey, it’s here where that band played live few days ago!

Is that a pool over there? What a nice light comes through it!

Great view! I can even see downtown from up here!

Hi Jason! Are you done with your tricks today? Shall we go to the loop?

Yep! The “L” is down here, under the vault!

The 5:15 is already here!

Hey, from this point all the separate walls create a perspective tunnel!
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Hi Jason! Are you done with your tricks today? Shall we go to the loop?

YEP! THE "L" IS DOWN HERE, UNDER THE VAULT!

The 5:15 is already here!
- the mirror corner -
- the vaulted facade -
- experiencing corridors -
- the waving arena -
- rehab -
- the introverted garden -