

# CONTEXTUAL NARRATIVES

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COLUMBIA GSAPP  
MSAUD 2020

“ Stories and narratives in Urban Design can inform and condition the design of places in multiple ways. Urban designers can curate the narrative landscape of a place to nurture a virtuous cycle of interactions between stories of place, built form, and the emergent form of a settlement. This creates formats for the inclusion of multiple actors and a diverse set of independent stories rather than master narratives.

“**Contextual Narratives**” is a collection of design dialogues and interpretation during the Urban design program at Columbia GSAPP. ”

# PROJECTS

DESIGN STUDIO  
MAPPING & TYPOLOGIES  
RESEARCH

## 01 DESIGN STUDIO

RE-DEFINING  
CAPITAL | **Spring 2020**  
Leveraging potential of Social  
and Ecological Capital

COLLABORATIVE  
RETAIL | **Fall 2019**  
Re-thinking retail scape in  
the Hudson Valley

“TRANSIT”ION | **Fall 2019**  
Enhancing Transit System  
in Hudson Valley

RENEWING THE  
BROWNFIELD | **Summer 2019**  
Re“scaping” Brownfield  
areas

## 02 MAPPING & TYPOLOGIES

STARBUCKS  
EFFECT | **Fall 2019**  
GIS analysis of relation of Starbucks  
location and gentrification

SEOUL  
PALIMPSEST | **Spring 2020**  
Comparing Normative  
Urban models with Seoul

## 03 RESEARCH

“GENTRI”FIND | **Fall 2020**  
Tools and policies to  
mitigate gentrification

DESIGN  
OPTIMIZATION | **Spring 2020**  
Ladybug environmental  
analysis

FLEXCITY | **Spring 2020**  
Application to foster cities  
resiliency during crisis



# 01

## RE-DEFINING CAPITAL

LEVERAGING THE POTENTIAL OF SOCIAL AND ECOLOGICAL CAPITAL

Location : Addis Ababa, Ethiopia  
 Course : Urban Design Studio  
 Role : Research and Design  
 (Einat Lubliner, Hatem Alkhatlan, Pratibha Singh)  
 Duration : 14 weeks, Spring 2020

Addis Ababa is undergoing massive development driven by foreign investments, which extracts capital from the city rather than benefit the locals. This development causes displacement and disrupts social networks. In addition, the city's natural assets like the Akaki river lacks connectivity to the city fabric and also suffers from ecological degradation which will worsen with the Beautifying Sheger project's proposal to channelize the river by concreting its banks. Today's development is mono-functional and most of the capital is invested in real estate. These imported ideologies of development fail to address the current challenges of Addis Ababa. We see the potential of reversing this type of urbanism driven solely by real estate interests to a multi-functional capital system. Hence we propose inclusive development where financial capital is only a means towards enhancing social and ecological capital.



QR code for video



### Challenges | City center

Is there a better alternative to the changes planned?  
 2020 .....> 2050+

#### ►01 Massive Development

\$

Uncontrolled Foreign Investment  
 Real Estate Developers

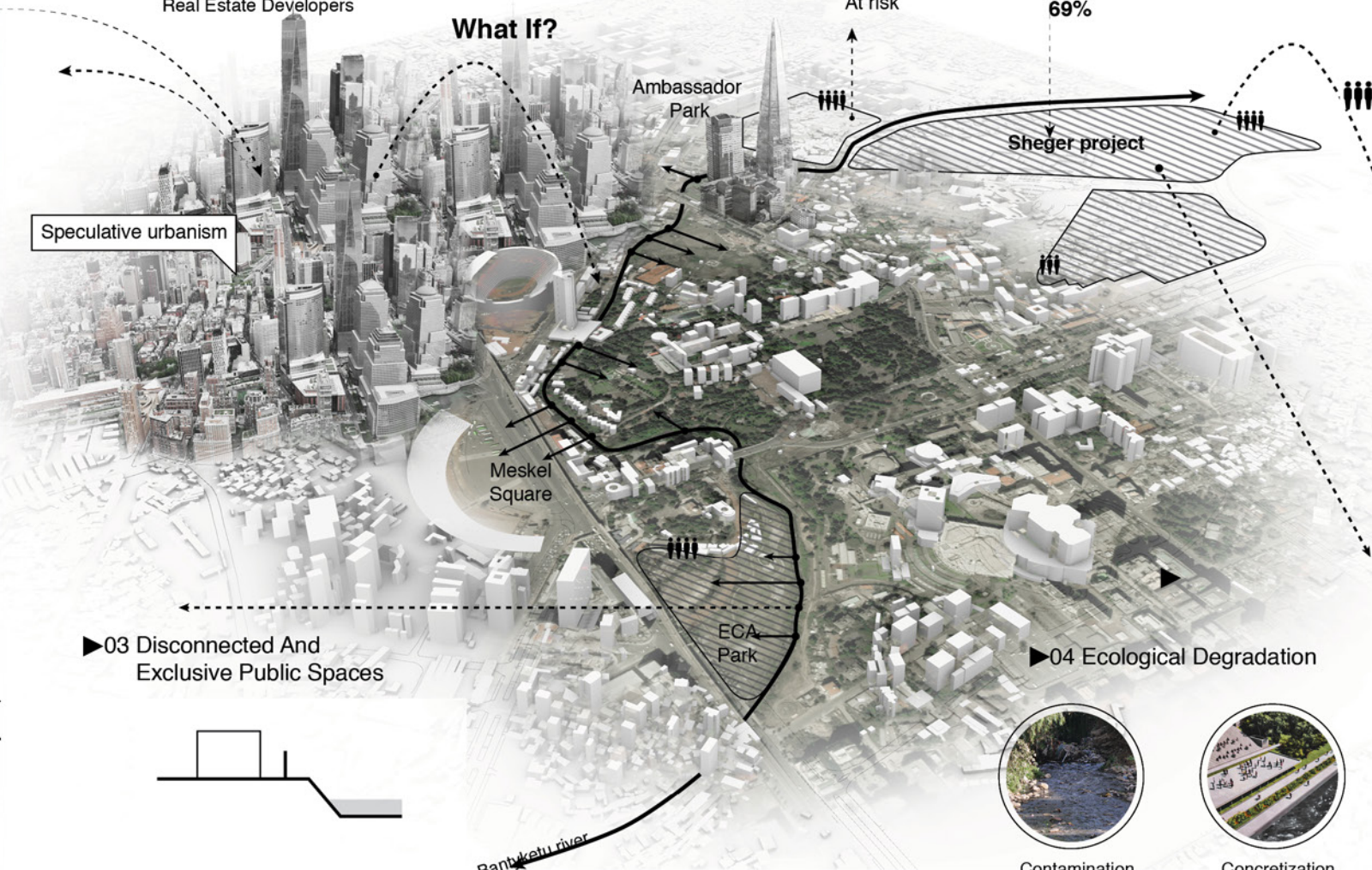
#### ►02 Displacement

Breakdown of Social Networks  
 Local Informal Economy

20K Households  
 At risk

69%

What If?



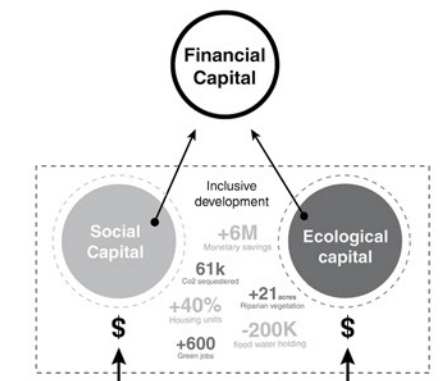
#### ►03 Disconnected And Exclusive Public Spaces

#### ►04 Ecological Degradation

### Trigger of change for sustainable development

Today's development is **monofunctional** and most of the capital is being invested in condominiums, real estate, infrastructure for the rich, and privatized spaces.

We see the potential of reversing this type of urbanism driven solely by real estate interests to a **multifunctional capital system**. Hence we propose inclusive development where financial capital is only a means towards enhancing social, and ecological capital





# Examining Specific Sites and Transects

Scales of interventions

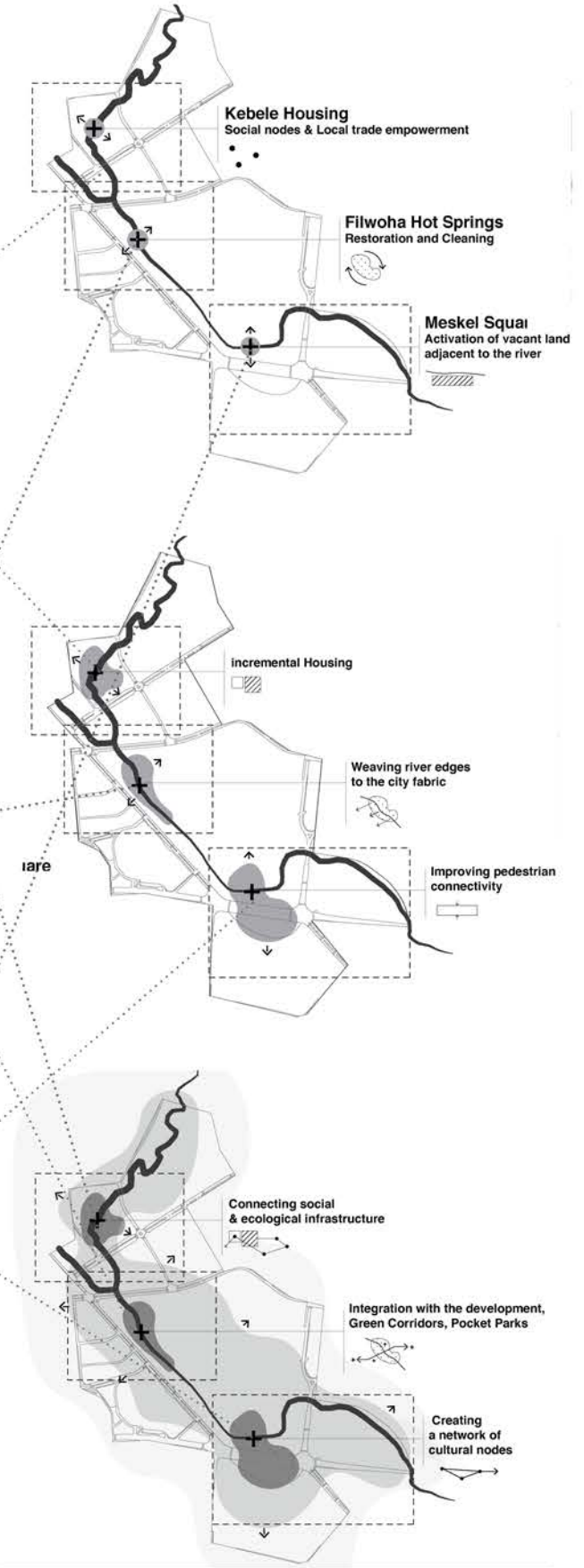
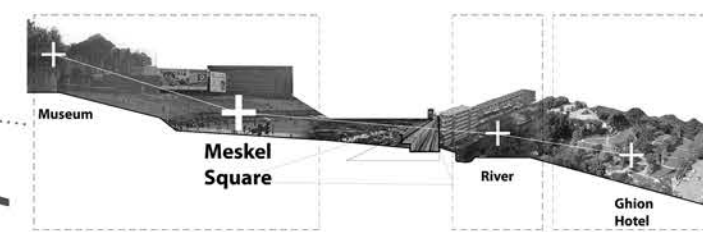
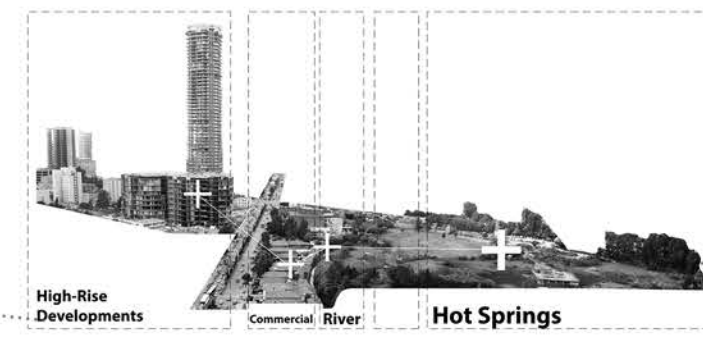
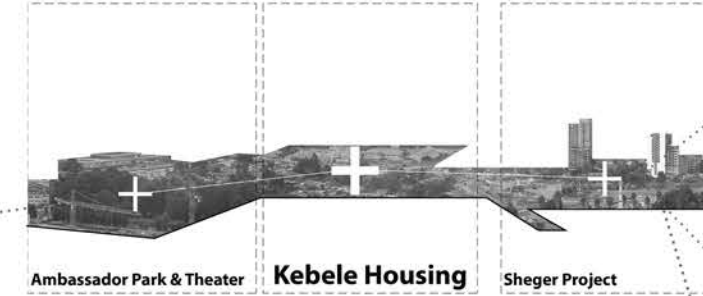
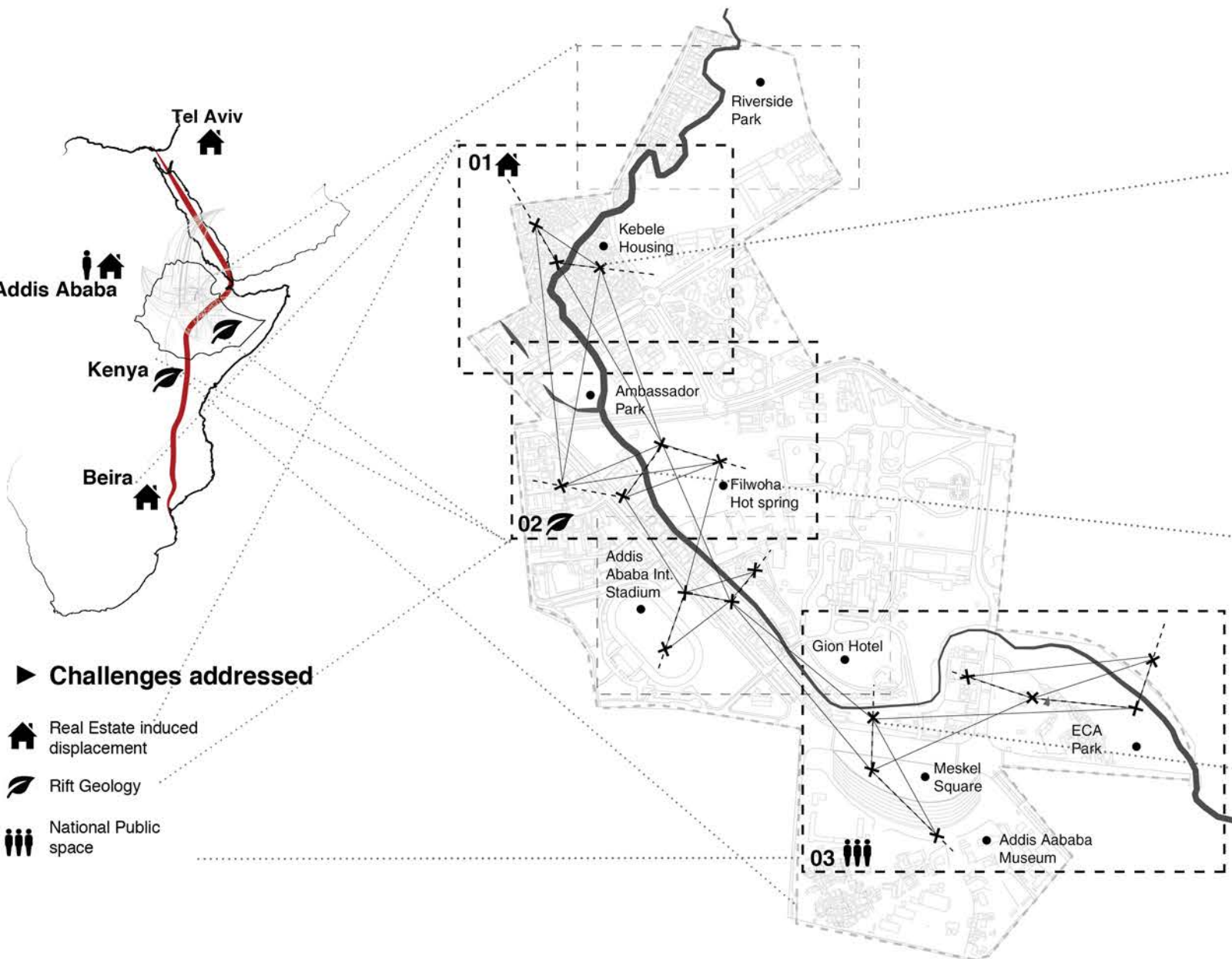
## ► Phasing of development

### City Center

## ► Rift Valley

## ► Addis Ababa City Center

## ► Site transects City Center



## ► Challenges addressed

- Real Estate induced displacement
- Rift Geology
- National Public space

Trigger	Growth		Network				
River Accessibility. Cleaning the River. Stewardship/custodianship.	Activating vacant lots adjacent to the river.	Integrating existing public spaces to the river.	Housing improvement & densification	Markets & social infrastructure. Infrastructure (STP, geothermal energy).	Creating Green Corridors that reach out into the city.	Improving transportation connectivity to the river.	Self-supporting networks.

Maintenance and constant growth



# Kebele Housing

Improving housing and living standards through social and ecological networks

The incremental housing transformation will start from the current public space in the center of the Kebele housing typology, and will evolve vertically, saving 50% of the coverage area for future densification.

The section demonstrates operationalization of the ecological and social capital through storm water collection and reuse, decentralized STPs and retention ponds that will mitigate flood. People from the community could work in the Edir organization in building and maintenance to gain rent subsidies and benefits.



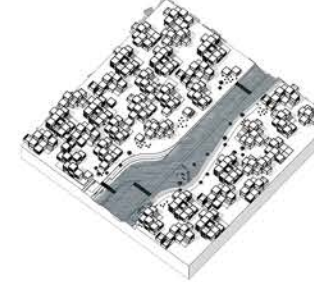
Existing Kebele housing



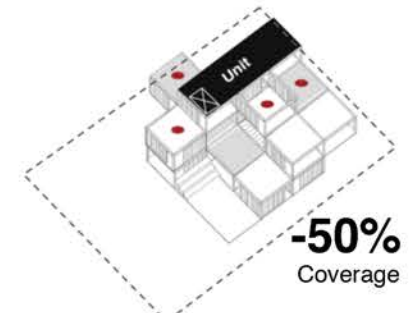
Introducing social nodes and environmental triggers



Incremental housing - Increasing density by 50%

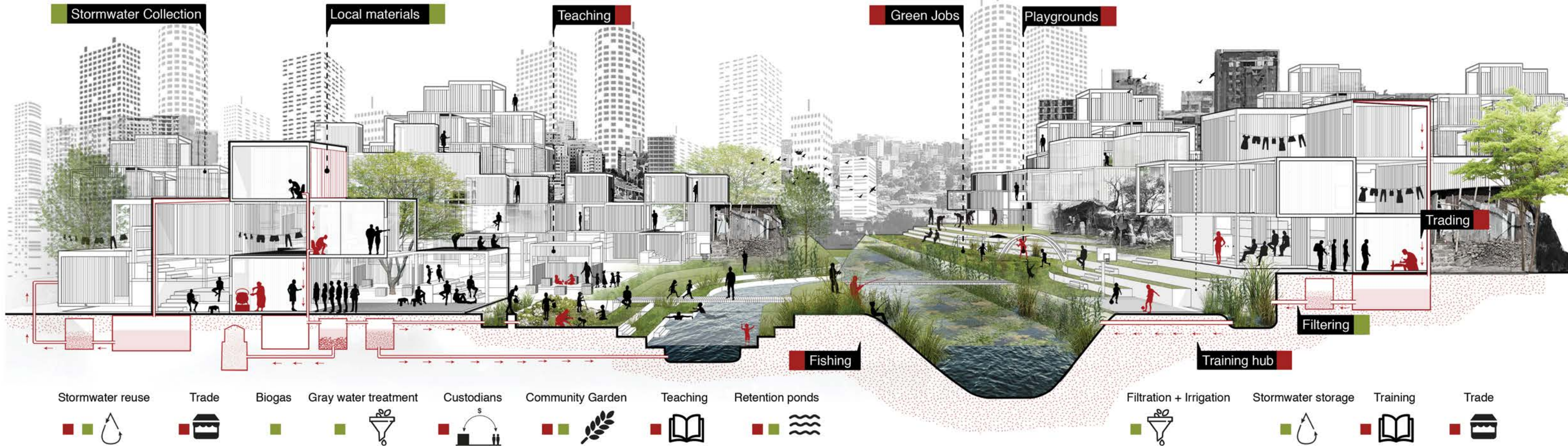


Self built housing with public and recreational space



Staggered Vertical densification reduces coverage by 50%

- Social Capital
- Ecological Capital

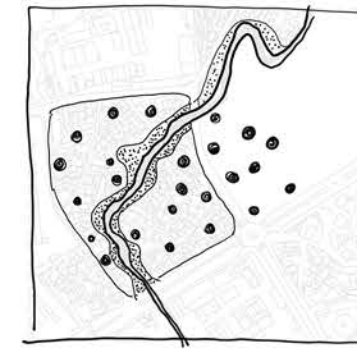




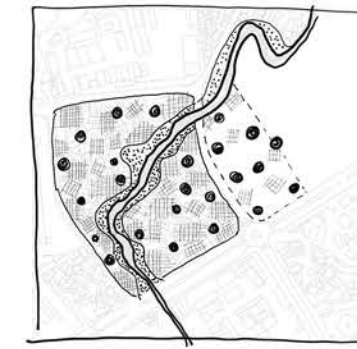
## Kebele Housing

Improving housing and living standards through social and ecological networks

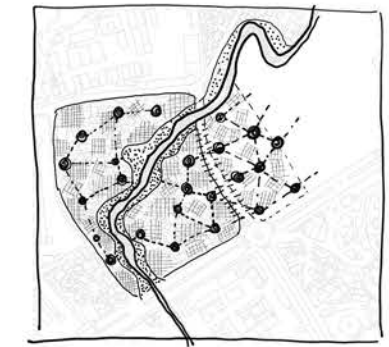
The new development in the city center puts pressure on the Kebele residents to be displaced. The design of the trigger points will help to empower the residents with **social infrastructure** inside the urban fabric of the Kebele to support their needs of financial empowerment, education, training center, health and recreation. The community organization will mediate incremental housing which will be funded as part of the private investments that come into the city center.



**Trigger:** Social nodes & local trade empowerment



**Growth:** Incremental housing Provided by the Edir



**Network:** connecting social and ecological infrastructure



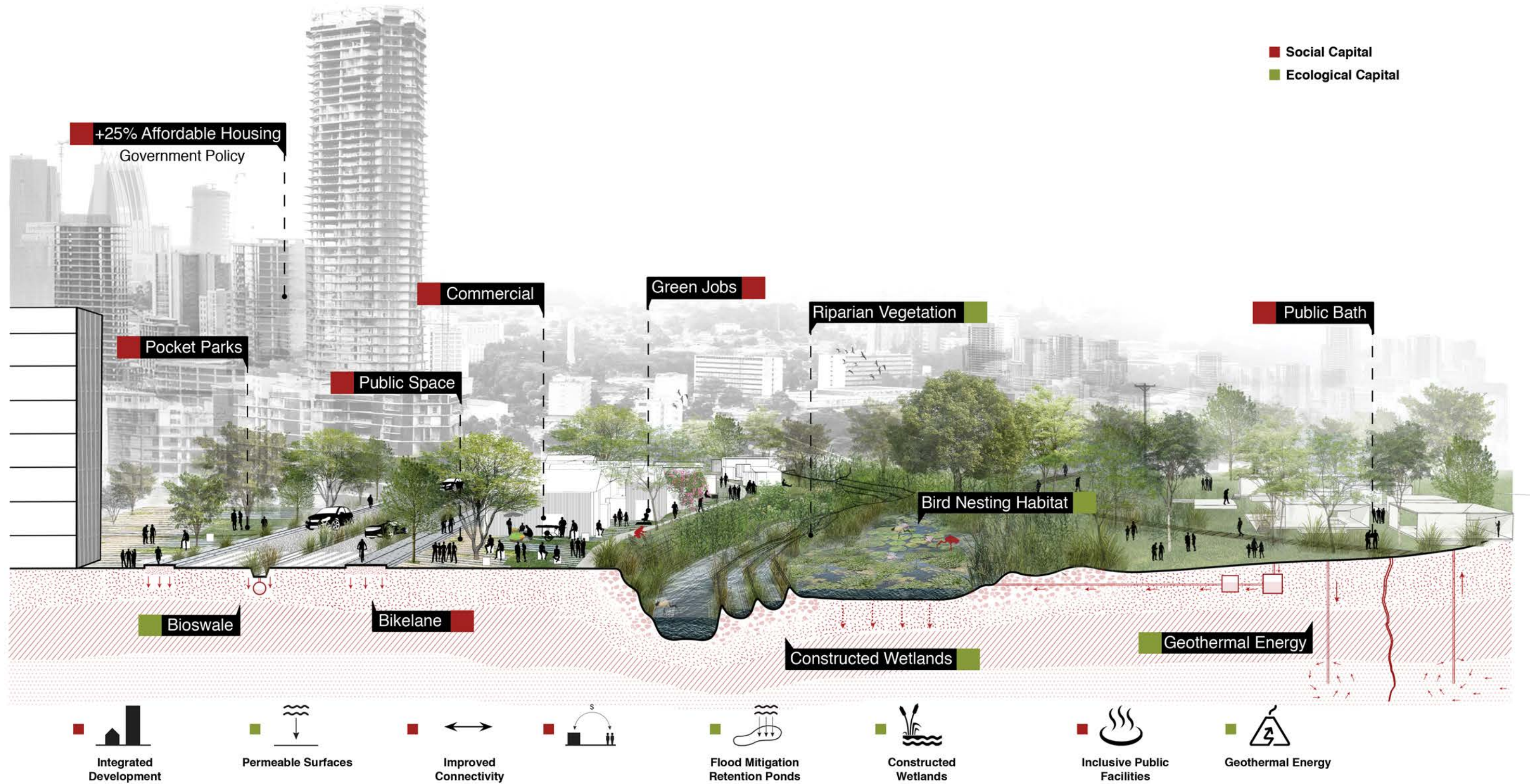


# Filwoha Hot Springs

Integrating Ecological capital with city center development

In order to enable **inclusive public spaces**, green pockets parks will be intertwined between the new development and the existing fabric as a public duty to be built by the developers. Additional 25% affordable housing will be added to the city center.

Bike lanes and continuous trails will **improve connectivity** from the CBD to this green lung, enabling accessibility to the hot spring area which embodies the historical origin of the city.



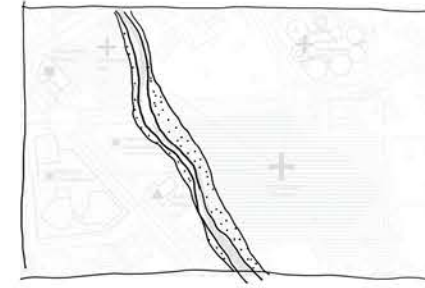


# Filwoha Hot springs

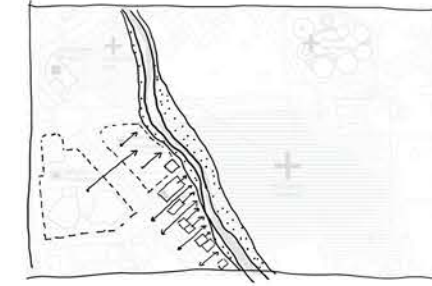
Integrating Ecological capital with city center development

The Filwoha hot springs that formed the basis of the establishment of Addis Ababa, now form the ecological center of the city. The trigger project will consist of a series constructed wetlands and restored riparian vegetation which will clean the River, retain flood water and allow biodiversity to thrive. This ecological infrastructure will grow to include the commercial areas, thereby empowering local custodians to maintain the river. Inclusive recreational spaces and walking trails will improve accessibility, and the bath will create a public space.

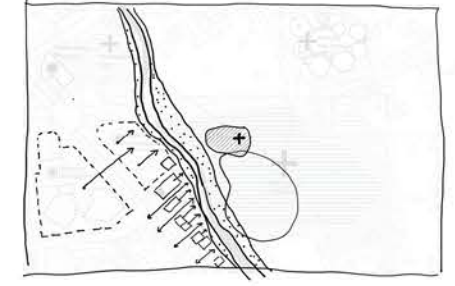
- Social Capital
- Ecological Capital



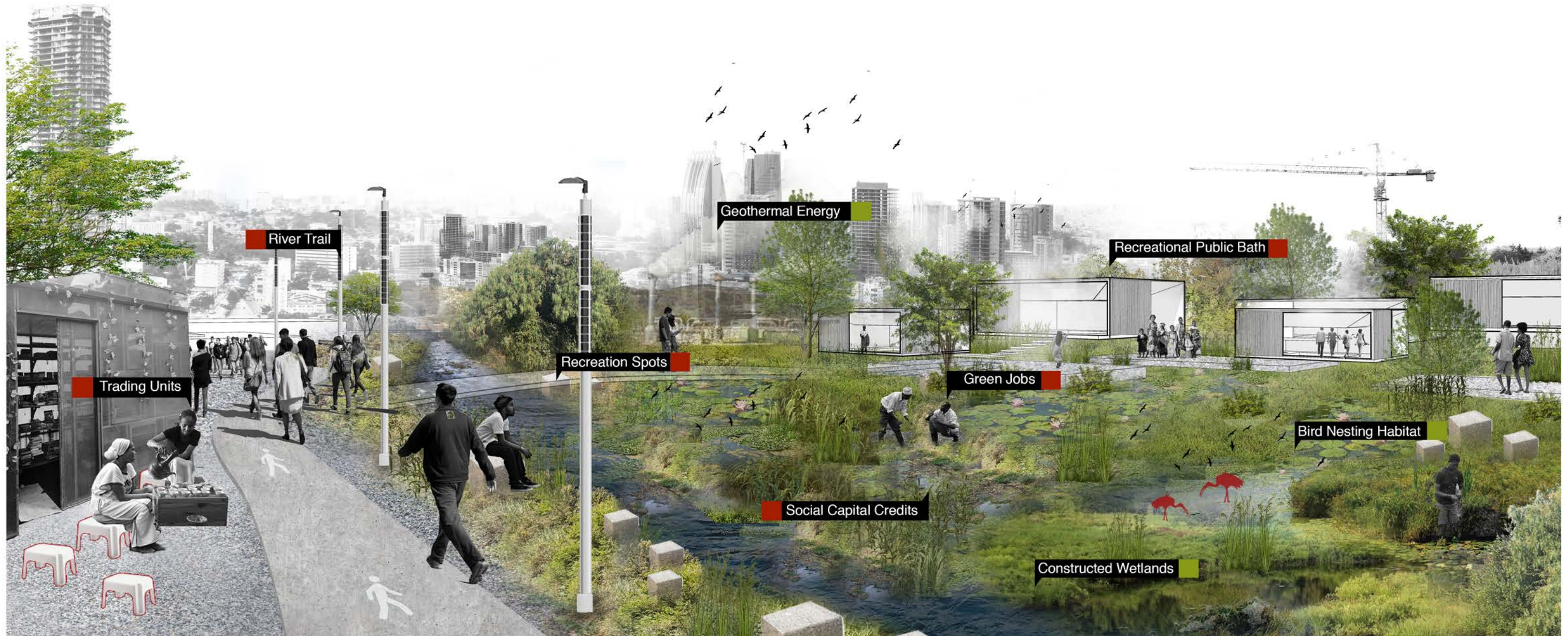
**Trigger:** Wetlands, Riparian Vegetation, Public Spaces



**Growth:** Weaving the River edges to the city fabric



**Network:** Integrated Development, Green Corridors, Pocket Parks

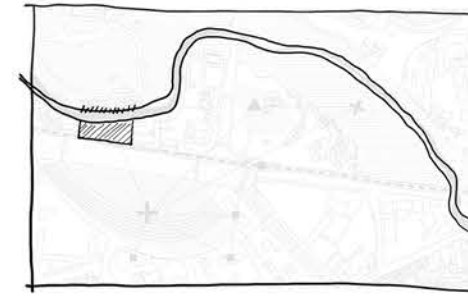




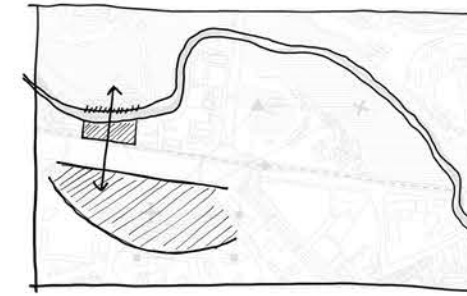
# Filwoha Hot springs

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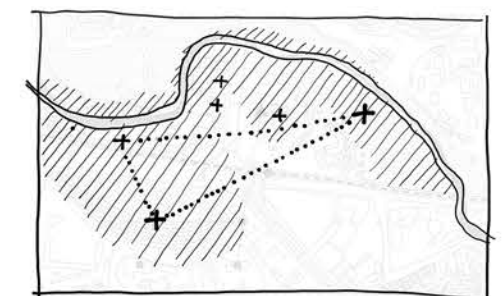
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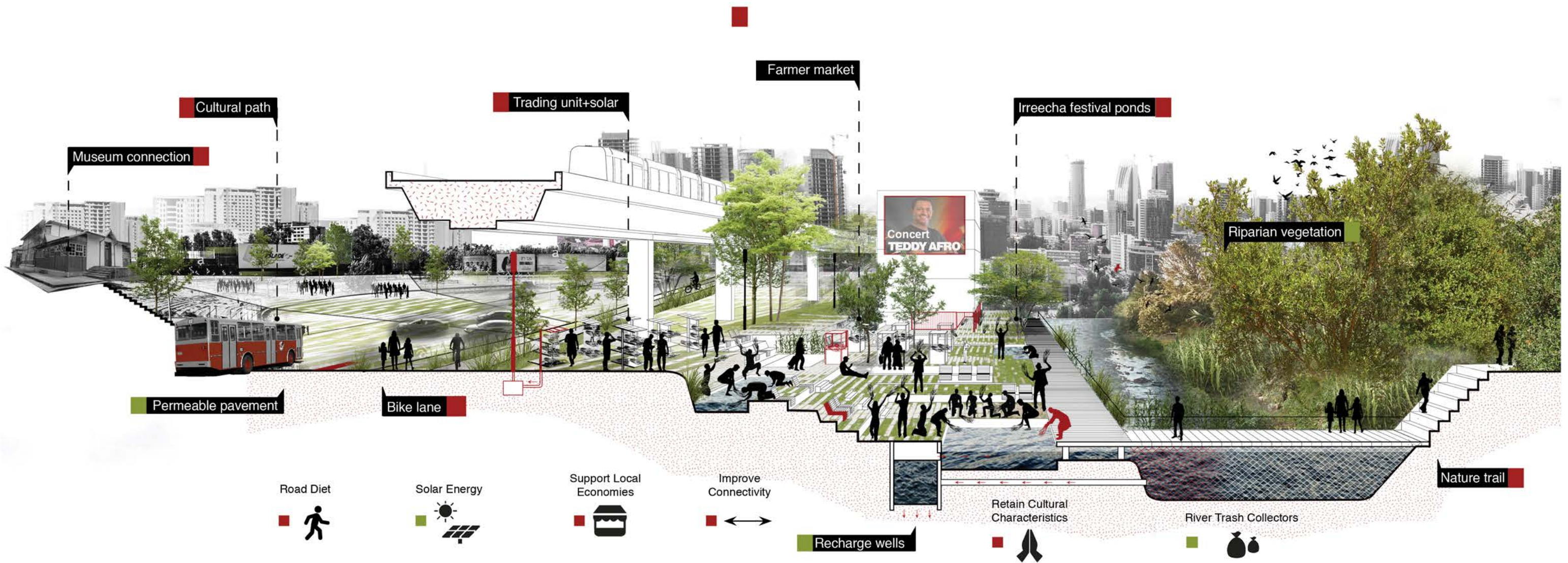
**Trigger :** Revitalize Vacant lots with local trade



**Growth:** Improve connectivity through road diet and pedestrianization



**Network:** Create a network of cultural nodes





# 02

## COLLABORATIVE RETAIL

REDEFINING RETAIL SCAPE IN HUDSON VALLEY

Location : Kingston ,Hudson Valley  
 Course : Urban Design Studio  
 Role : Research and Design  
 (Chris, Einat Lubliner, Hatem Alkhatlan)  
 Duration : 14 weeks, Fall 2019

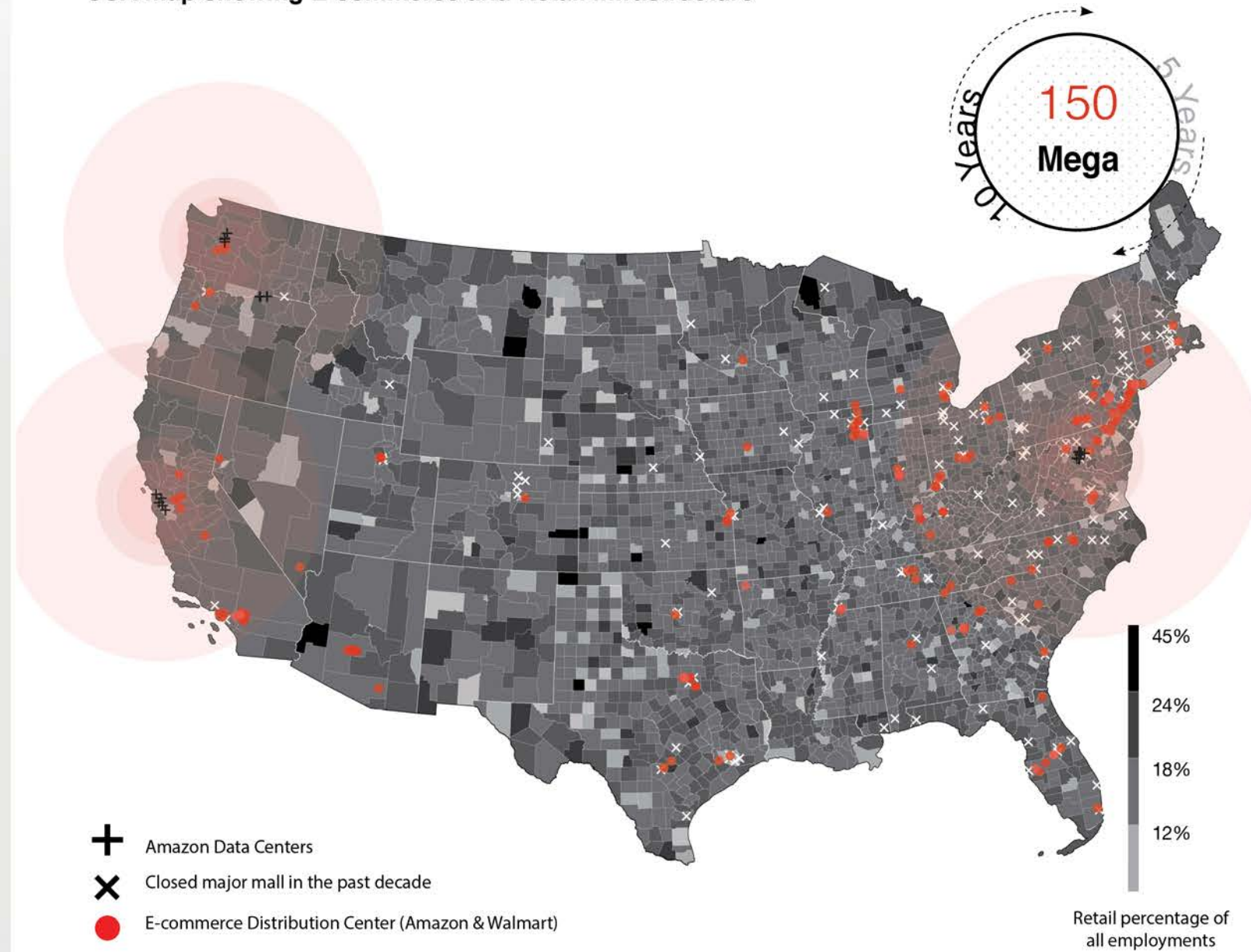
With the global transition from traditional shopping to e-commerce and the change in consumer trends, the main street retail, Big Box stores and malls which were a de facto social space for American small towns have transformed into redundant infrastructure. The repercussions of this have highly impacted social interaction, local economy, existing infrastructure, jobs and services. This gives an opportunity to redefine a new retail module that spurs from a bottom-up approach through main street revival and by providing experiences and awareness to consumers along with establishing a shared collaborative platform for small businesses by sharing space, energy, resources, waste management and storage. This sharing of assets not only reduces cost and carbon emission but also funnels local economy, promotes interaction, elevates jobs and social equity. It further encourages collaborative consumption



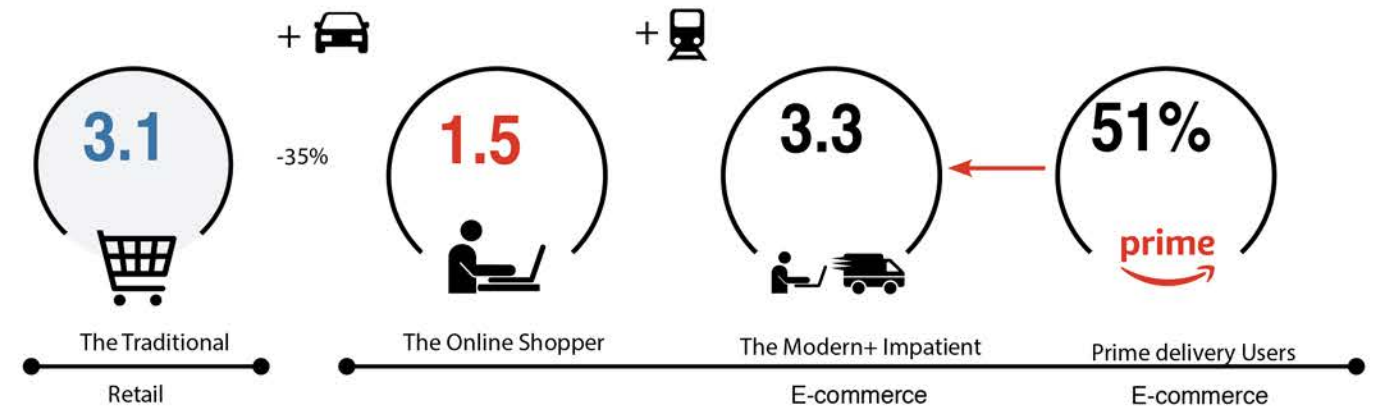
QR code for video



USA map showing E-commerce and Retail infrastructure



Consumer Behavior and CO<sub>2</sub> emission (kg per journey)





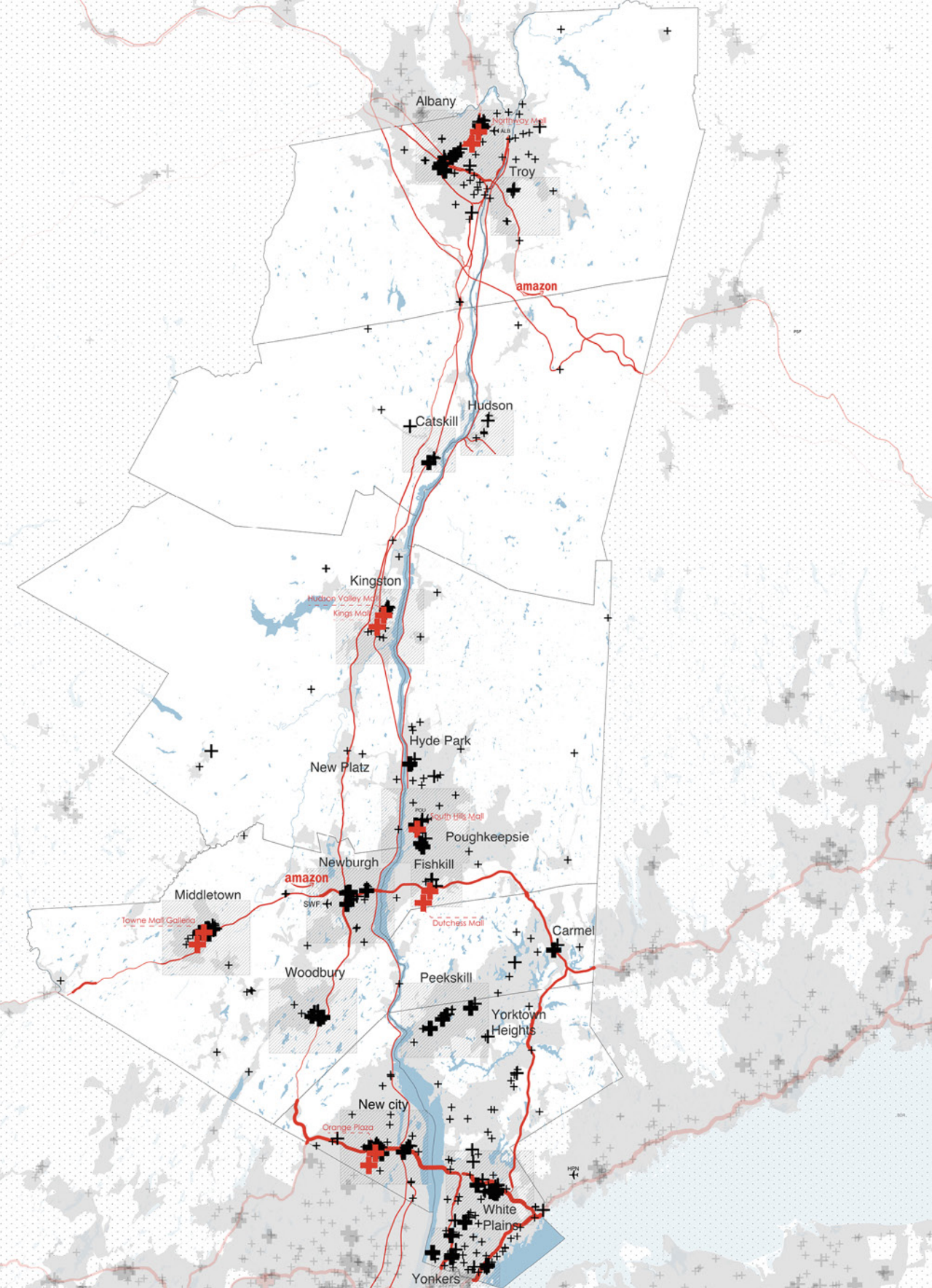
# The Dead Retail Infrastructure

Shopping malls  
58

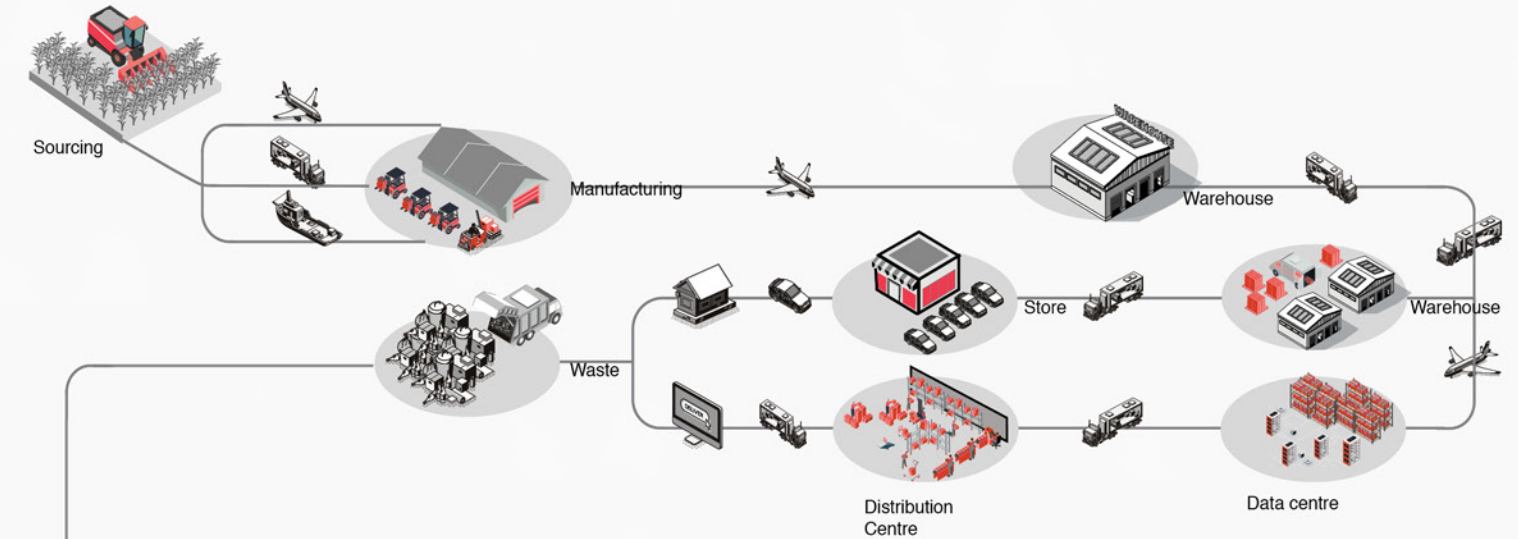
Big Box stores  
317

Street stores  
1000+

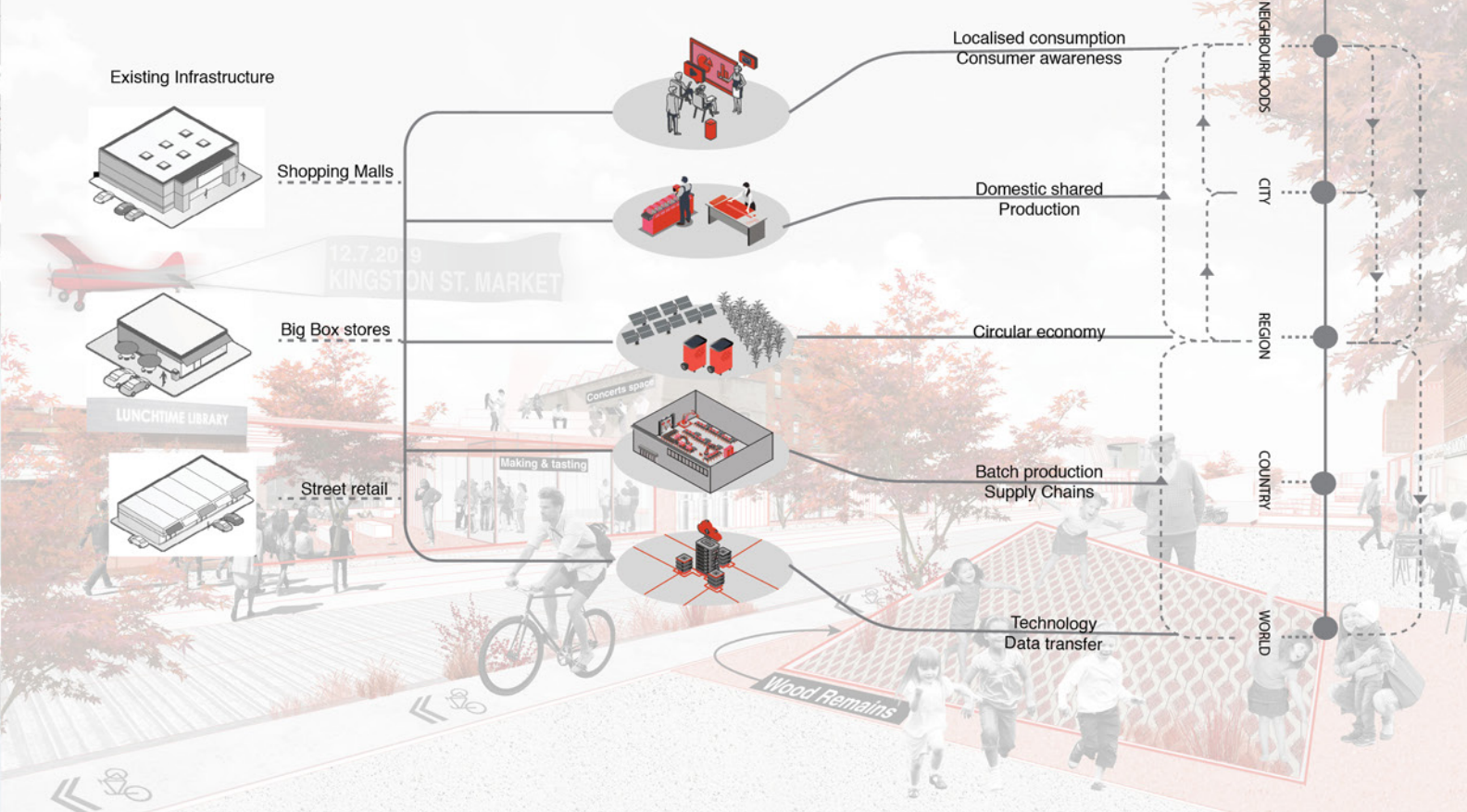
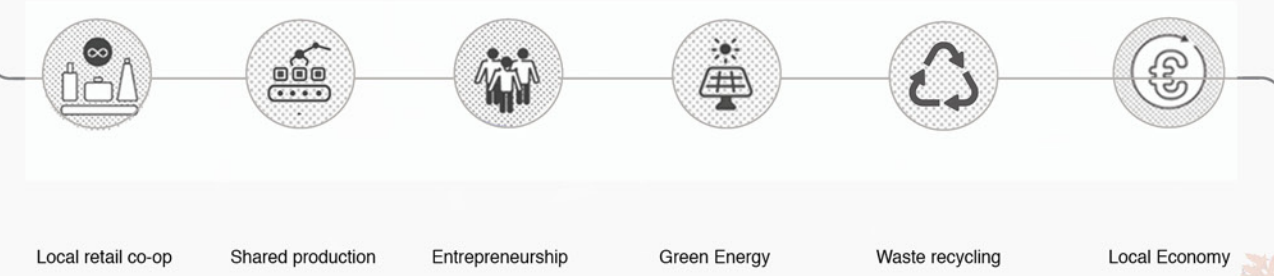
+ Dead Malls  
+ Big Boxes  
+ Department Stores



# Traditional Retail Infrastructure

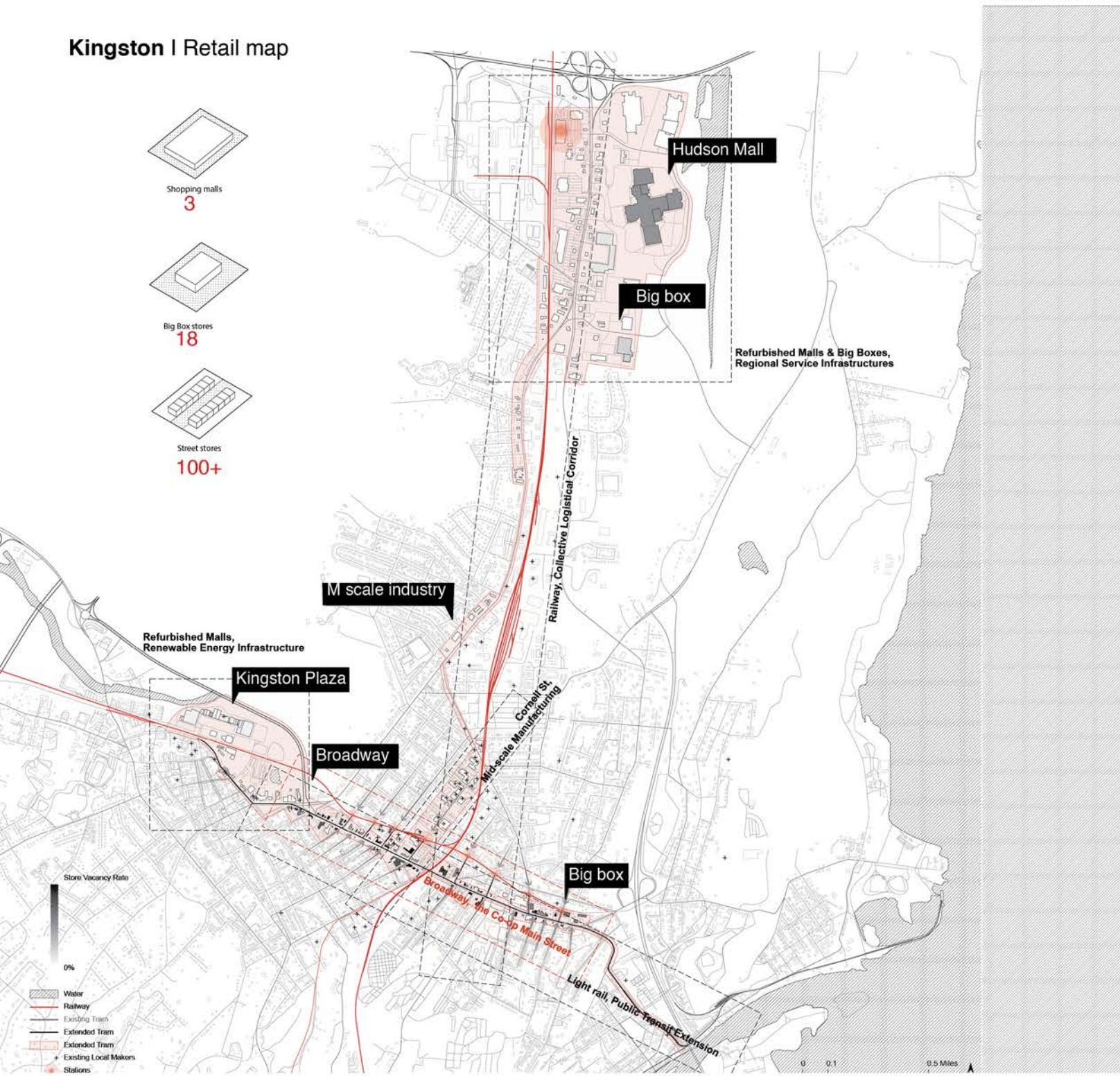


# Proposed Retail Chain



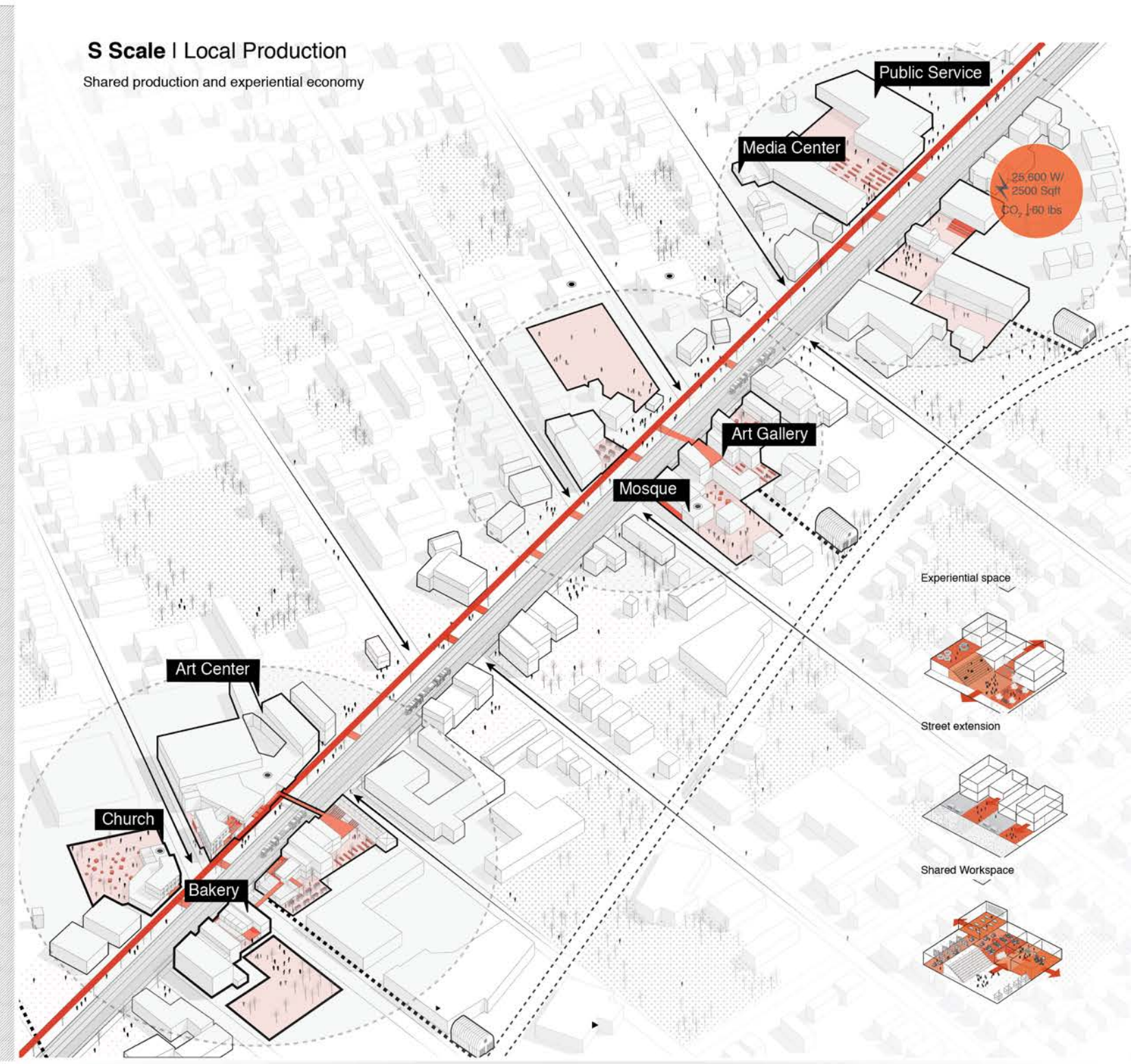


# Kingston | Retail map

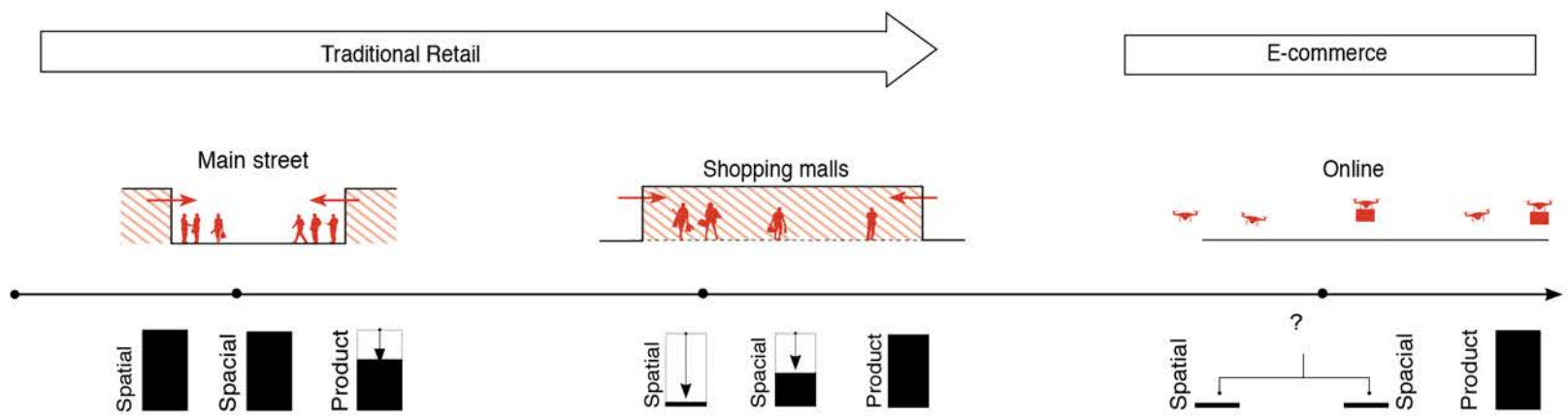


# S Scale | Local Production

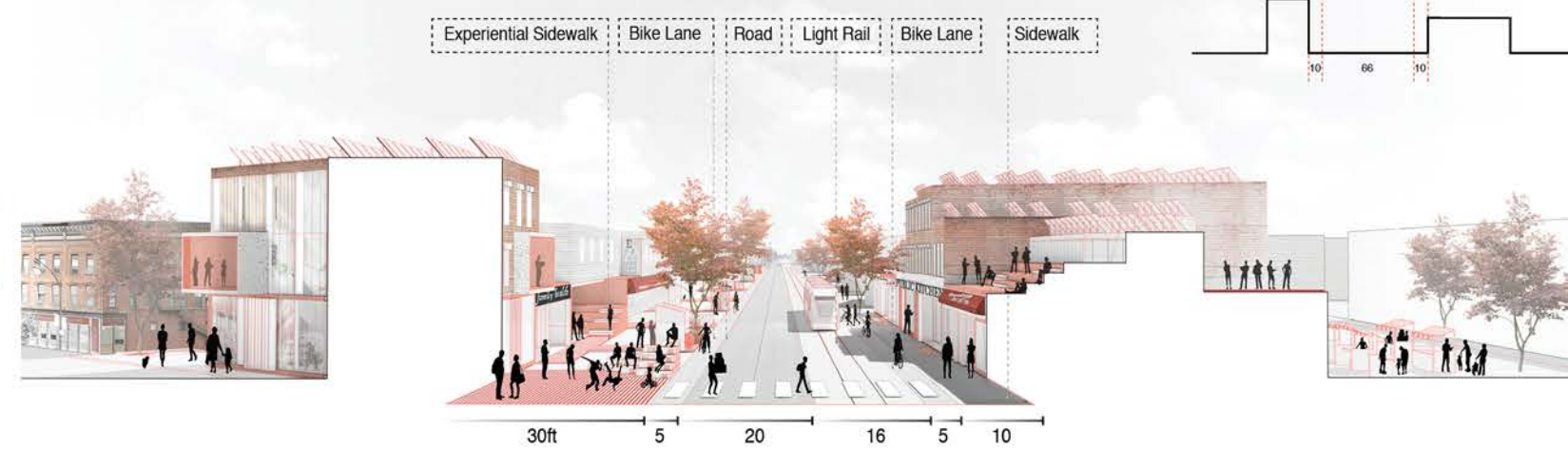
Shared production and experiential economy



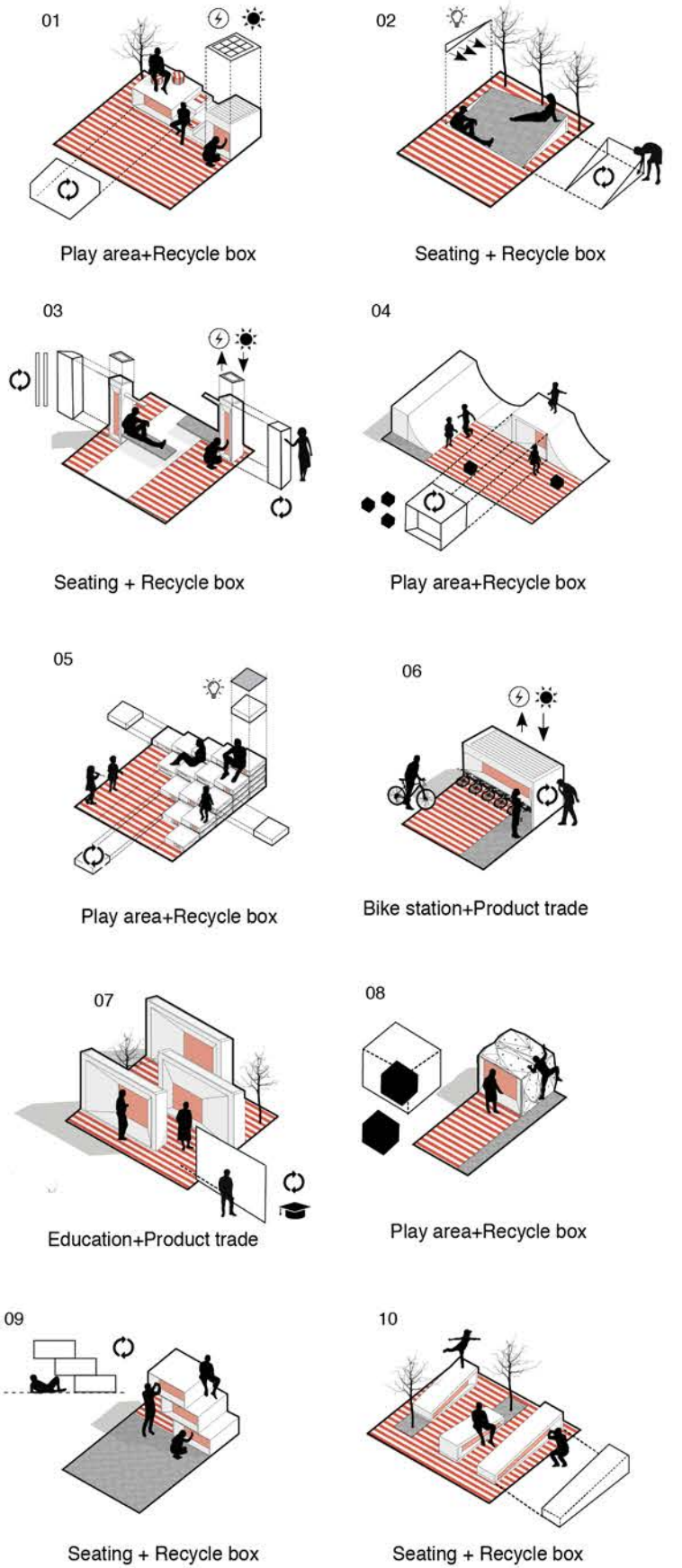
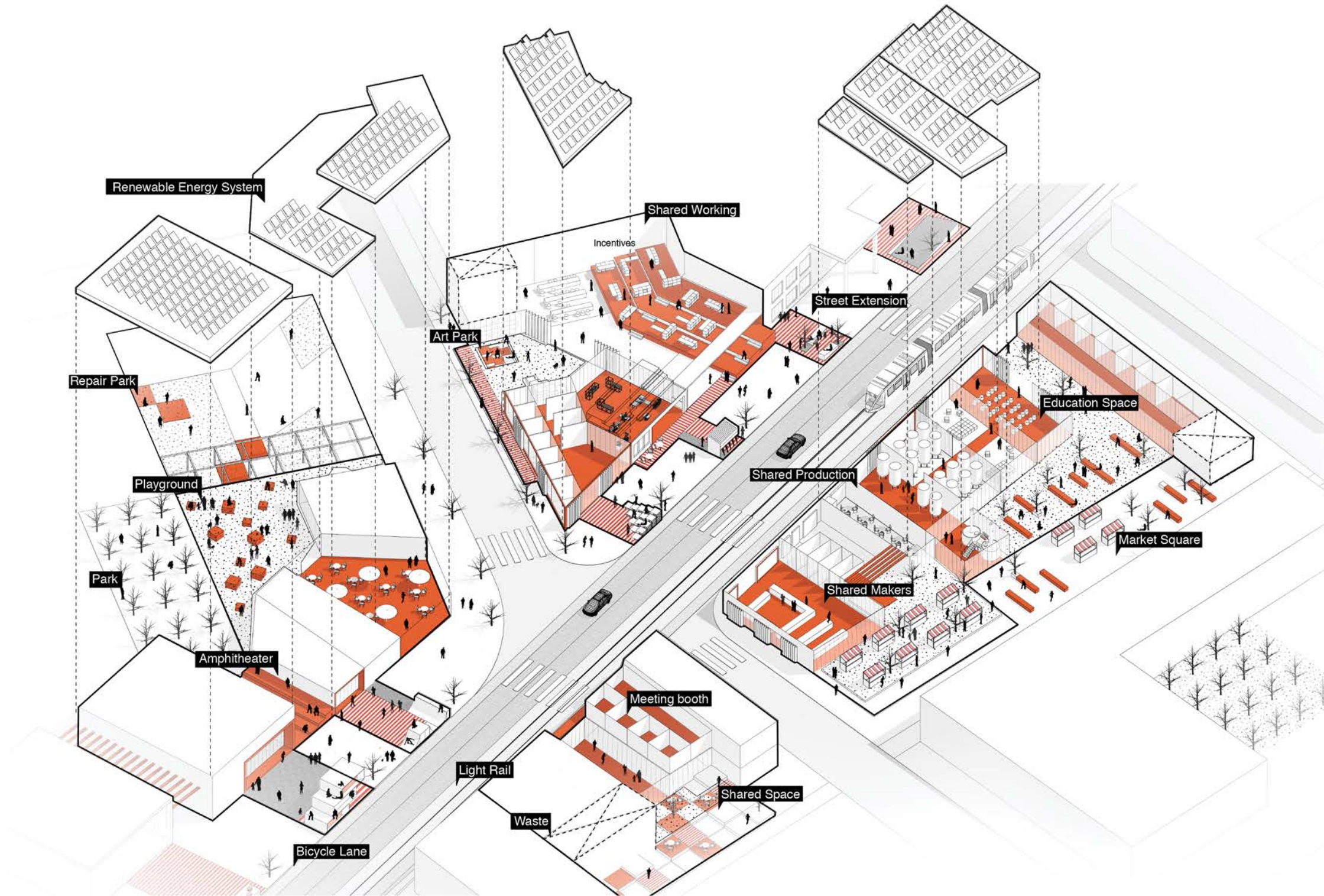
## Evolution of Retail



## Commercial street section

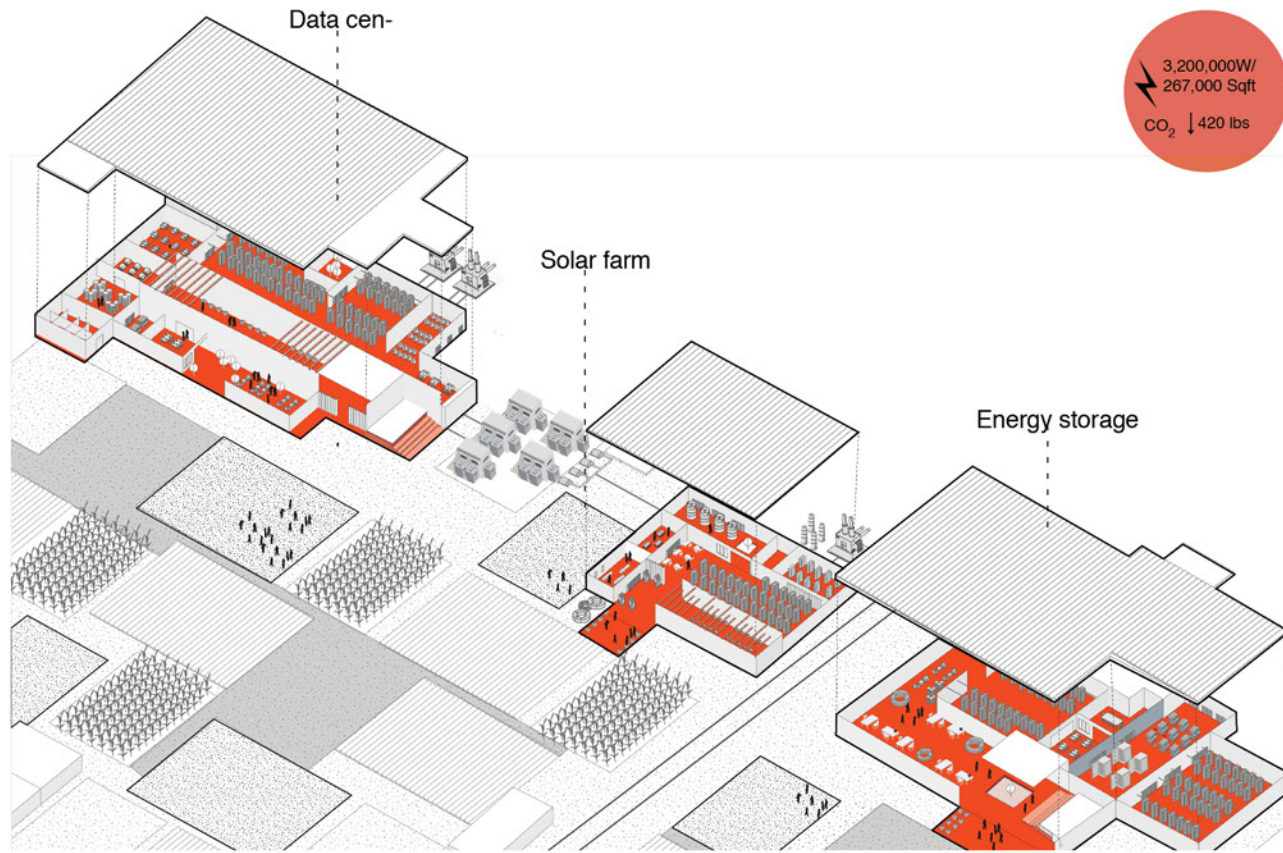








**M Scale | Renewable Energy Production**  
Solar Farms & Data Center

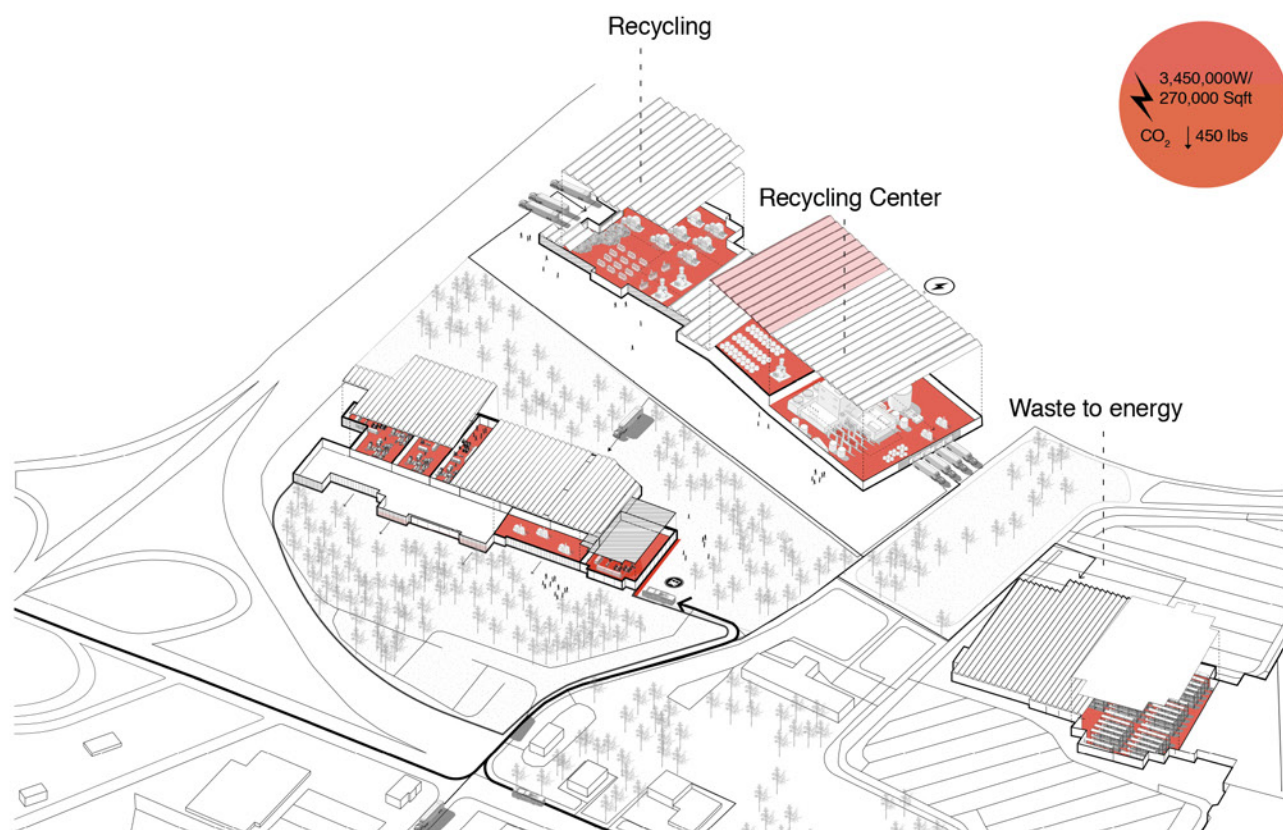


Renders showing collaborative spaces



View showing the Big box converted to a shared Maker space with a public front

**L Scale | Recycling and Distribution Center**  
Recycle to Energy Plant & Distribution Center



Repair & Recycling Park as a part of the street collaborative retail



# 03 "TRANSIT"ION

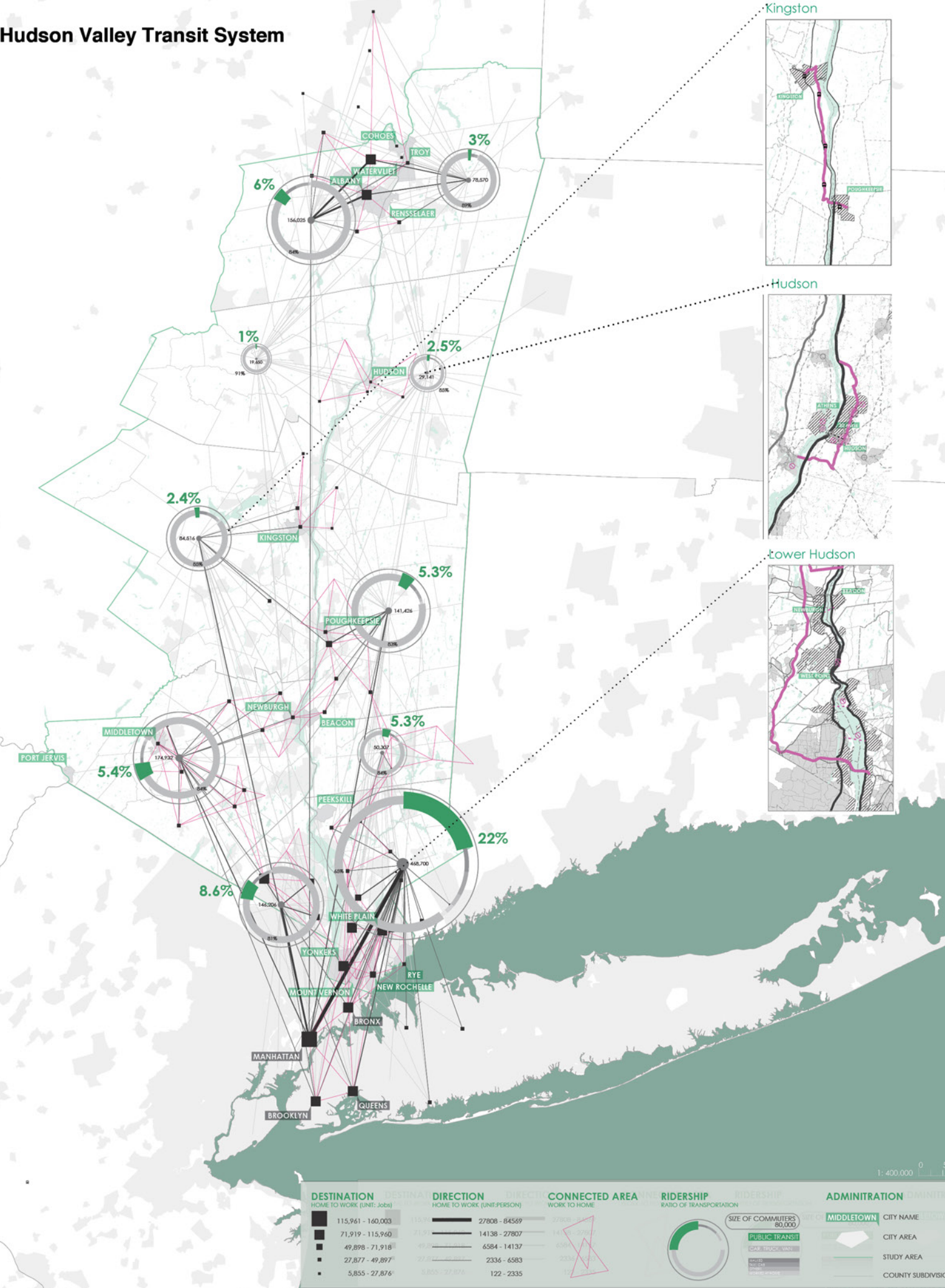
## ENHANCING TRANSIT SYSTEM IN HUDSON VALLEY

Location : Kingston ,Hudson Valley  
 Course : Urban Design Studio  
 Role : Research and Design  
 ( Annie Wu, Ting Zhang, Yuan Qin)  
 Duration : 2 weeks, Fall 2019

Transit sector is the largest contributor of carbon emission in comparison to all other sectors. It counts to almost 46% percent of the total carbon emission in the United States. In the Hudson Valley, there is interregional, intra-regional and local level transit infrastructure run by several private companies. These services are not reliable and accessible to all residents in the Hudson. Hence the projects addresses this challenge through a multi model transit system with focus on micro-transit options to provide better accessibility .In order to reduce carbon emission , we look at autonomous transport run by renewable energy and Complete streets with pedestrian, bike and segregated bus lanes. Further Transit Oriented development module focuses on congregating housing, shopping , job opportunities, public amenities and leisure at convenient access to transit. This system ALSO promotes localization, in terms of providing more jobs and using local resources to limit travel.



### Hudson Valley Transit System

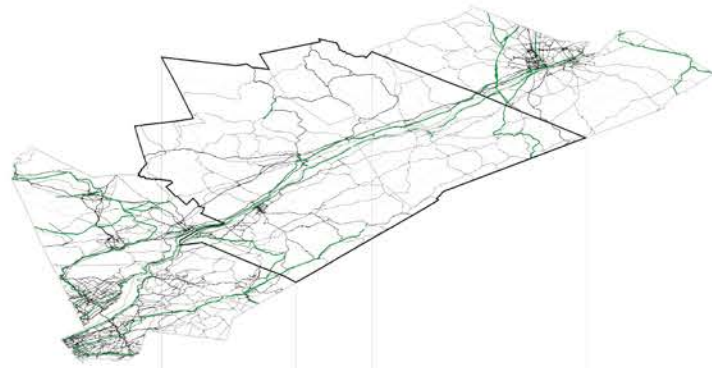


DESTINATION	DESTINATION	DIRECTION	DIRECTION	CONNECTED AREA	RIDERSHIP	RIDERSHIP	ADMINISTRATION
HOME TO WORK (UNIT: Jobs)	HOME TO WORK (UNIT: Jobs)	HOME TO WORK (UNIT: PERSON)	HOME TO WORK (UNIT: PERSON)	WORK TO HOME	RATIO OF TRANSPORTATION	SIZE OF COMMUTERS	CITY NAME
115,961 - 160,003	115,961 - 160,003	27808 - 84569	27808 - 84569	14138 - 27807	14138 - 27807	80,000	MIDDLETOWN
71,919 - 115,960	71,919 - 115,960	14138 - 27807	14138 - 27807	6584 - 14137	6584 - 14137	80,000	CITY AREA
49,898 - 71,918	49,898 - 71,918	6584 - 14137	6584 - 14137	2336 - 6583	2336 - 6583	80,000	CITY AREA
27,877 - 49,897	27,877 - 49,897	2336 - 6583	2336 - 6583	122 - 2335	122 - 2335	80,000	STUDY AREA
5,855 - 27,876	5,855 - 27,876	122 - 2335	122 - 2335			80,000	COUNTY SUBDIVISION

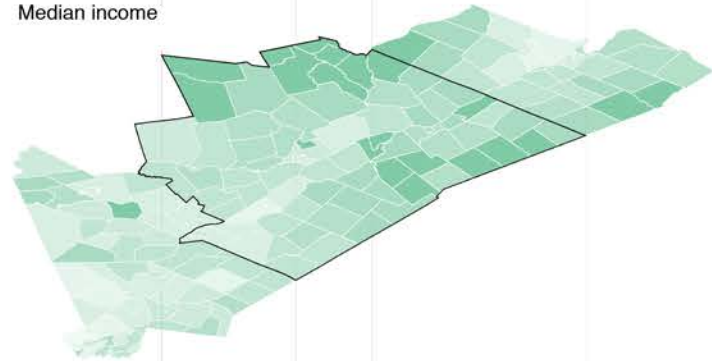


# Transit access-County level

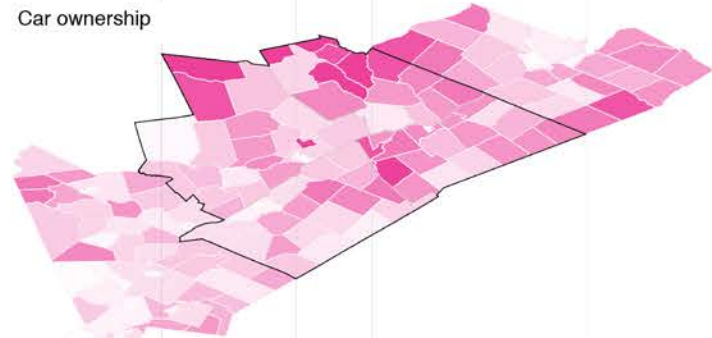
Transportation Network



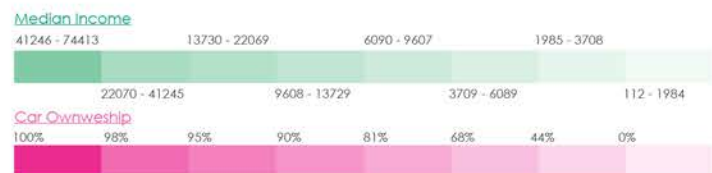
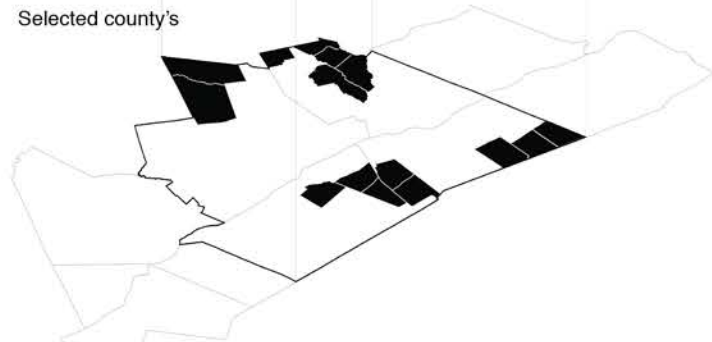
Median income



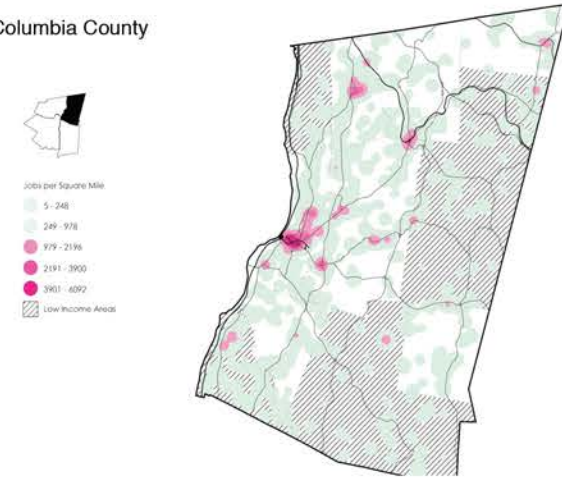
Car ownership



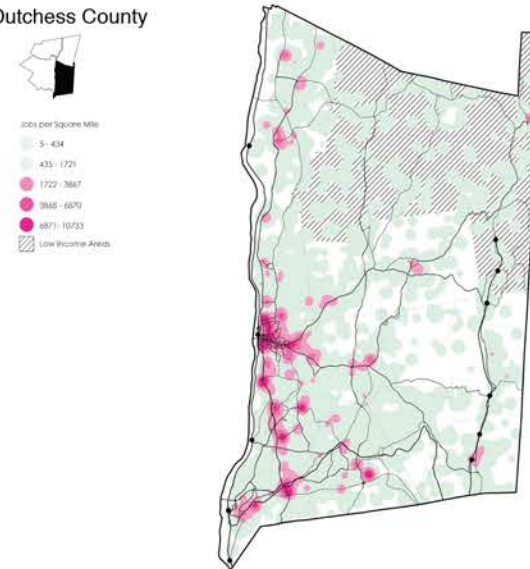
Selected county's



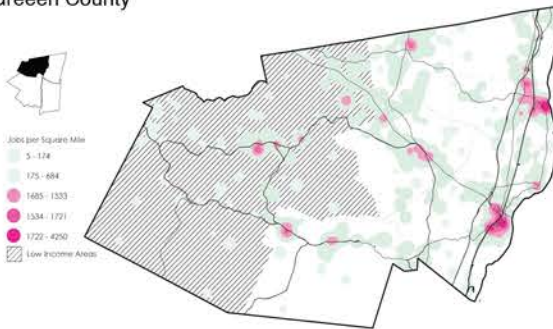
Columbia County



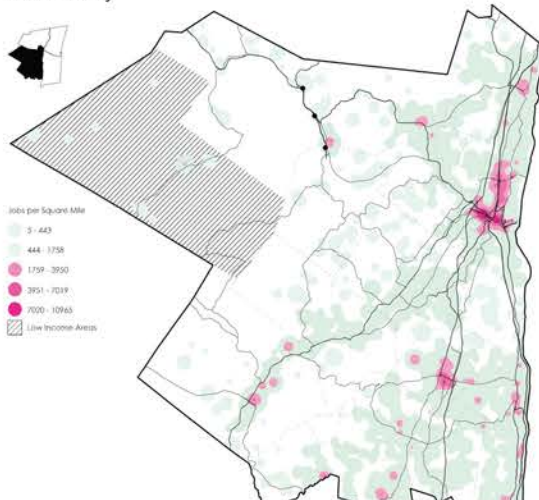
Dutchess County



Green County



Ulster County



# Proposed Interventions



Micro transit access to big box stores and transit oriented development



Complete streets project focusing on pedestrian access and bike lanes



# 04

## RENEWING THE BROWNFIELD

RE“SCAPING” BROWNFIELD AREAS IN JERSEY CITY

Location : Jersey city and Hoboken  
Course : Urban Design Studio  
Role : Research and Design  
(Yao Yao, Hatem Alkathlan)  
Duration : 14 weeks, Fall 2019

This project is an attempt to foster a holistic system of interventions that informs and strengthens each other by focusing on revitalizing the brown field and underutilized areas in Jersey city. The project will transform the potential brownfield areas along with the heart of city into a linear urban trail and create a new destination and accessible green corridor for the neighborhoods in the core of the city. The design aims to connect neighborhoods, create an engaging experience and develop a resilient urban corridor away from the waterfront. The project will connect civic, public, commercial, cultural spaces with soft infrastructure to engage with the ecological asset of the city.



QR code for video



### Jersey city Urban Challenges

Transforming Jersey's green inaccessible space and brown-field areas to potential green urban public space



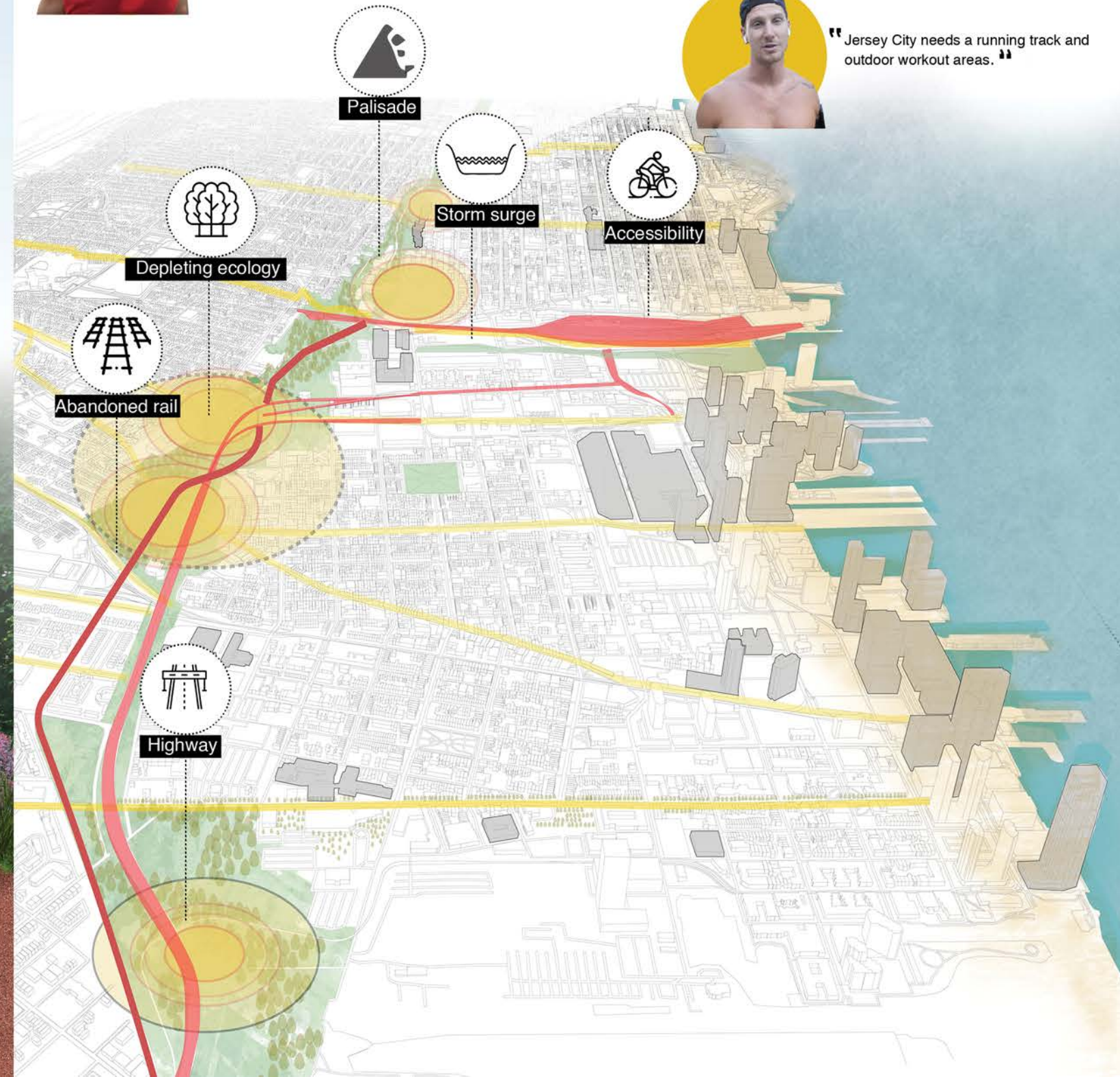
“ Jersey City has parks, but if you don't drive or you don't live close to one, your access is limited. ”



“ I want a safe place where you can leave your kid and just enjoy and relax. ”



“ Jersey City needs a running track and outdoor workout areas. ”





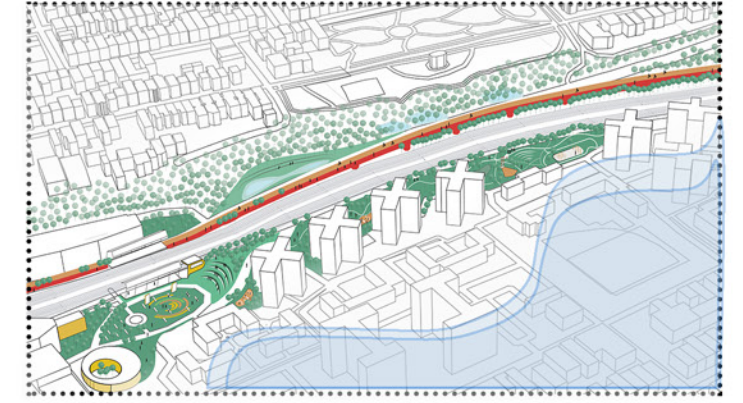
# Design Proposal



01. Liberty State Park



03. Dickinson Highschool



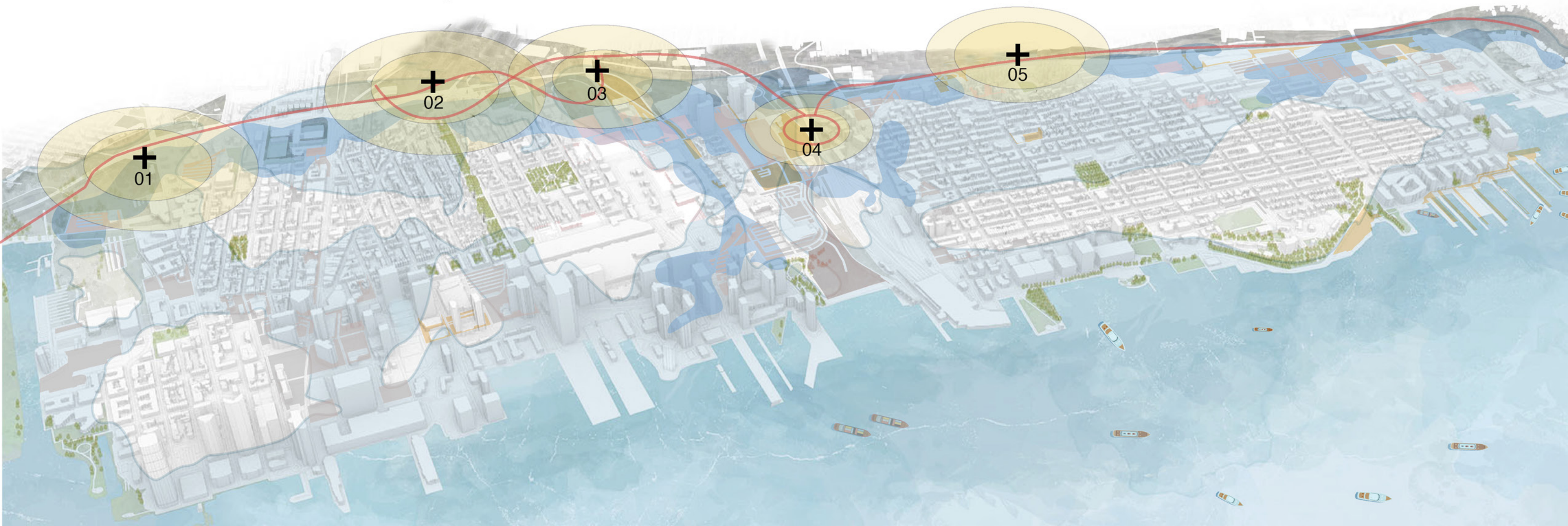
05. Second street station



02. Mary Benson Park



04. Hoboken, NJ Transit line





# Design Proposal at Dickinson Highschool

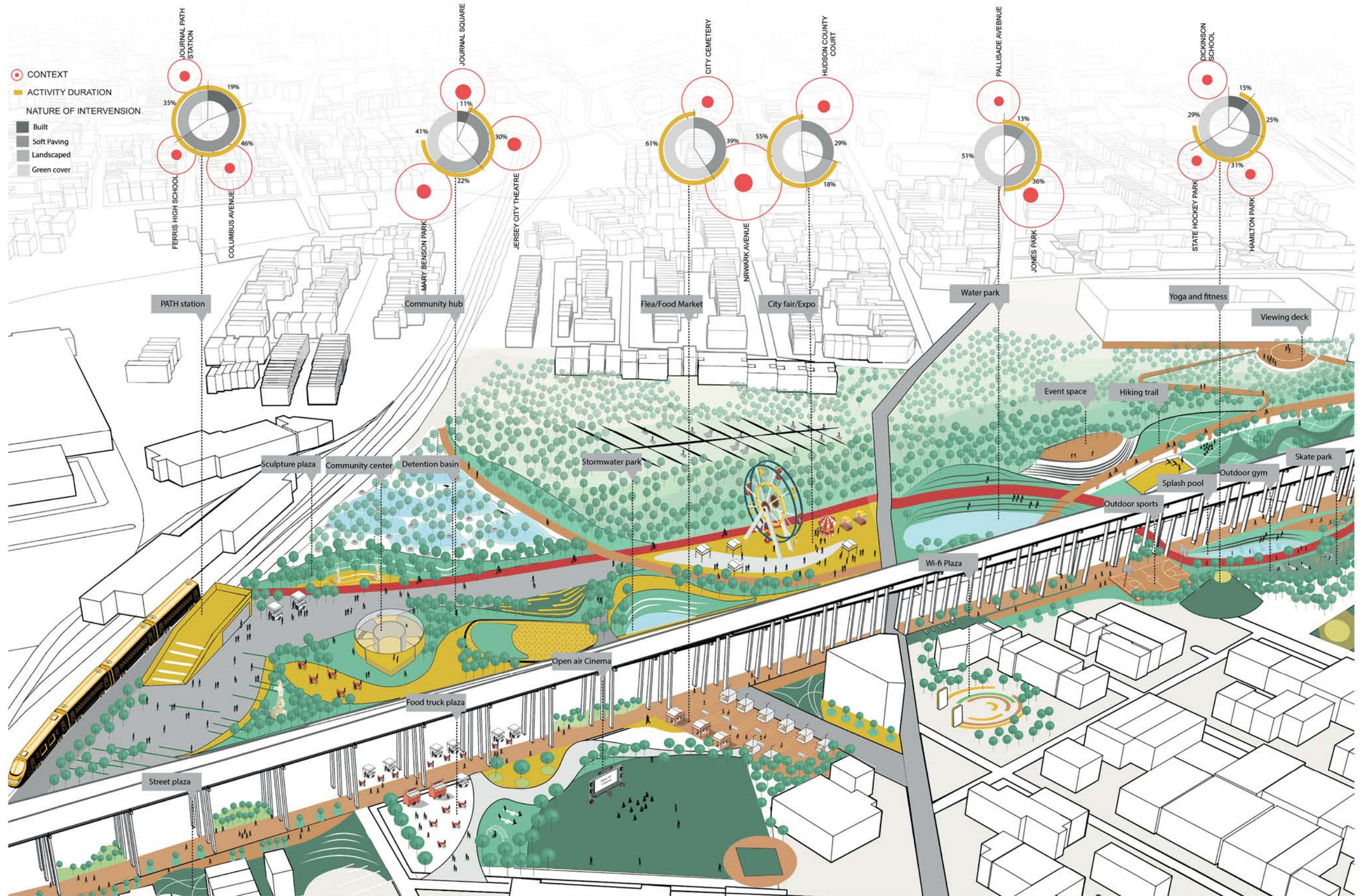
Transit node

Community node

Economy node

Recreation node

Fitness node







View of bike and pedestrian walkway

Development of the brown field areas under the highway in the heart of Jersey city , to provide better connectivity to the transit stations and integrate neighborhoods on the east and west of the palisade.



View of the concert amphitheater

Development of public spaces along the abandoned railway to reduce crime and provide accessibility to green space to the residents of Jersey city and Hoboken.



## 02 MAPPING & TYPOLOGIES

STARBUCKS | Fall 2019  
EFFECT | GIS analysis of relation of Starbucks  
location and gentrification

SEOUL | Spring 2020  
PALIMPSEST | Comparing Normative  
Urban models with Seoul



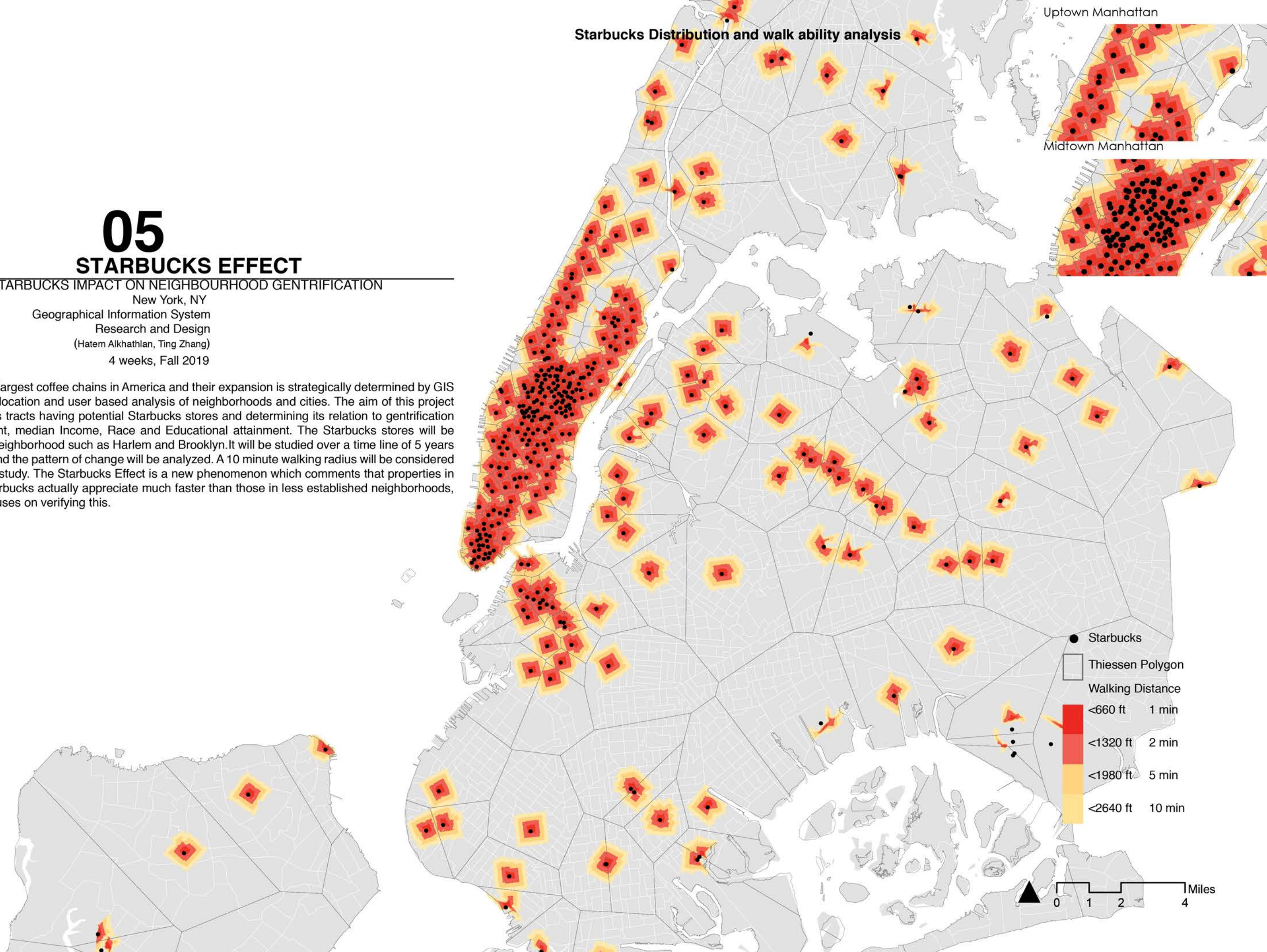
# 05 STARBUCKS EFFECT

## STUDYING STARBUCKS IMPACT ON NEIGHBOURHOOD GENTRIFICATION

Location : New York, NY  
 Course : Geographical Information System  
 Role : Research and Design  
 (Hatem Alkhatlan, Ting Zhang)  
 Duration : 4 weeks, Fall 2019

Starbucks is one of the largest coffee chains in America and their expansion is strategically determined by GIS analysis and extensive location and user based analysis of neighborhoods and cities. The aim of this project is to explore the census tracts having potential Starbucks stores and determining its relation to gentrification criteria like median Rent, median Income, Race and Educational attainment. The Starbucks stores will be studied at a gentrified neighborhood such as Harlem and Brooklyn. It will be studied over a time line of 5 years before and after 2013 and the pattern of change will be analyzed. A 10 minute walking radius will be considered for the boundary of the study. The Starbucks Effect is a new phenomenon which comments that properties in close proximity to a Starbucks actually appreciate much faster than those in less established neighborhoods, hence the research focuses on verifying this.

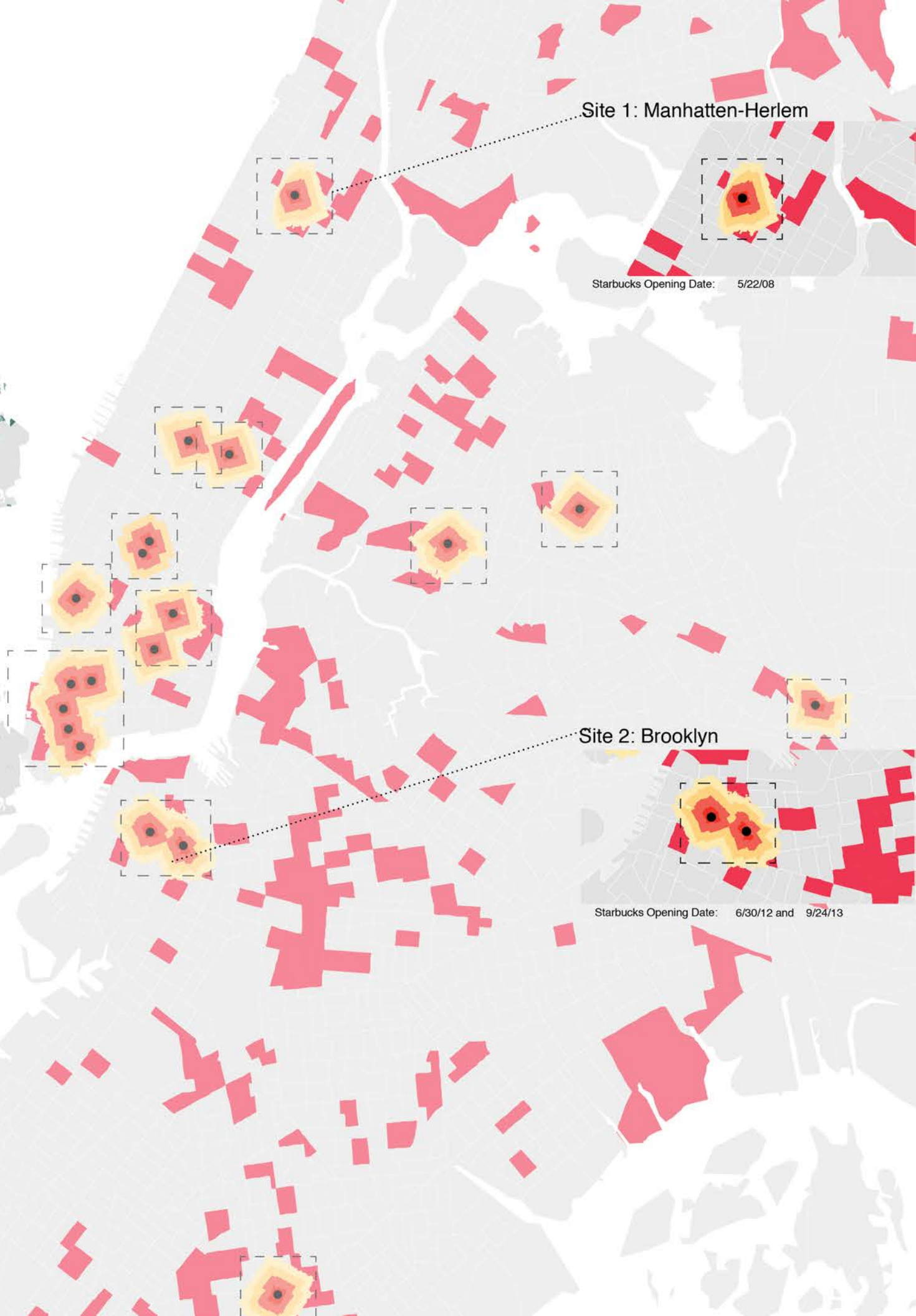
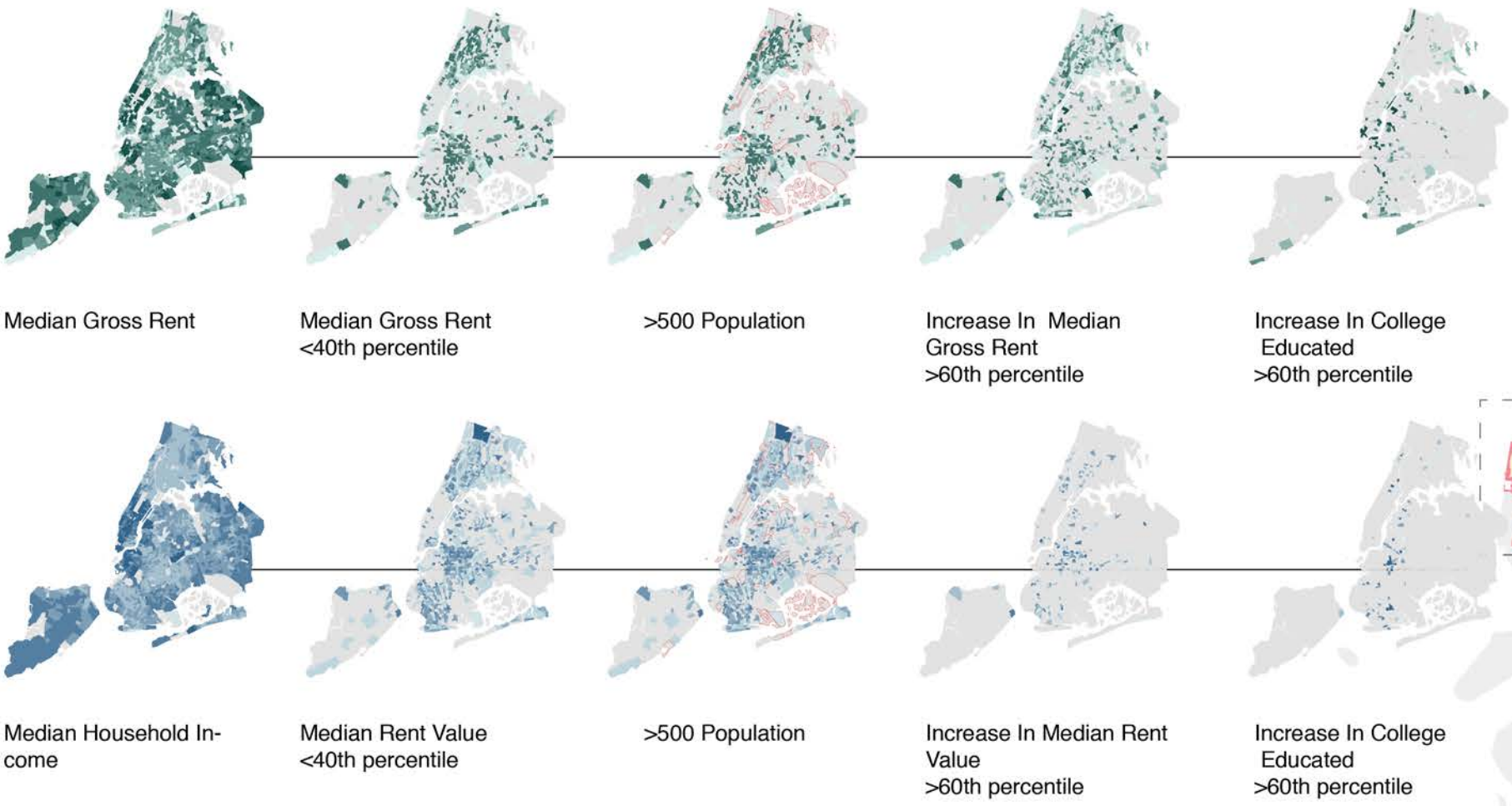
### Starbucks Distribution and walk ability analysis





## Process of identifying gentrified neighborhoods

In this section, we examine the correlation between gentrification and the impact of opening a Starbucks location. Datasets from 2009 to 2017, Starbucks stores opened around the period of study. By using the criteria and methods from Governing.com, we have identified the gentrified tracts that moved from the bottom 40th percentile for median rent and median household income to the top 60th percentile, for residents holding a bachelor's degree or higher, and for tracts that has more than 500 population.





## Site 1: Manhattan-Herlem

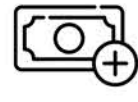
The second site is located in Manhattan, Harlem, which has one Starbucks stores opened in May 2008, in addition to 3 other stores opened before the study period 2009-2017.

This study area saw an increase of median rent from 2009 to 2017 by %35, a change from \$812.2 to \$1,244. The Median income also has increased drastically by %36, from \$42,402 to \$58,107. The percentage of residents age 25 and over holding bachelor's degrees increased moderately by %15.70, and the percentage white population has increased by %19.64 while the black population has increased too by %5.69.



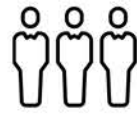
**%31.49**

Increase in  
Median Rent



**%36.03**

Increase in  
Median Income



**%19.64**

Increase in  
White Population



**%15.7**

Increase in  
Education of bachelor's  
degree or higher

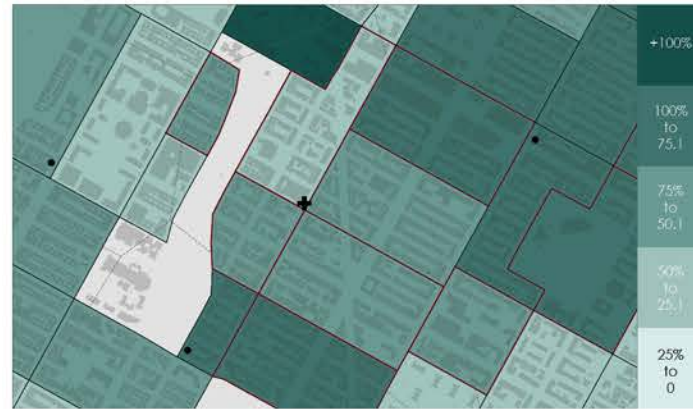
- ✚ Established Starbucks in the study period. (2009-2017)
- Established Starbucks before/after study period.
- Identified Gentrified Tracts.
- Starbucks Boundary (Voronoi diagram)

Identified Gentrified Tracts from 2009 to 2017 & Starbucks Locations



Starbucks Opening Date: 5/22/08

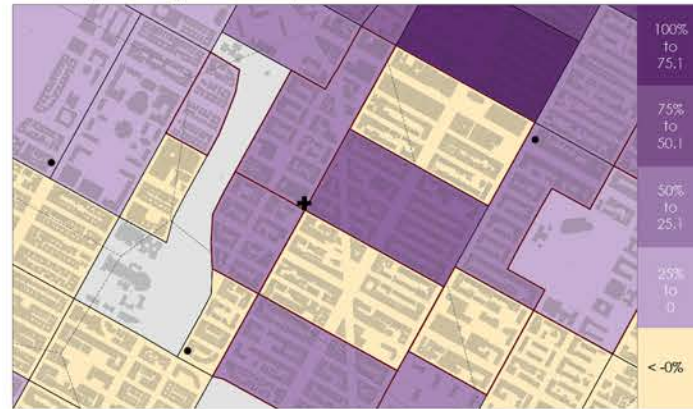
Percentage of Change In Median Rent From 2009 to 2017



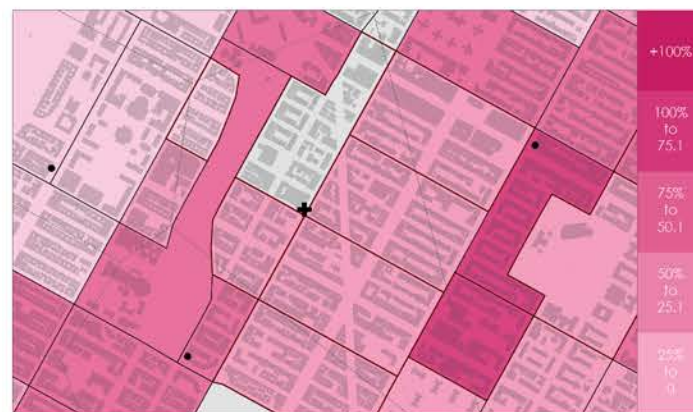
Percentage of Change In Median Income From 2009 to 2017



Percentage of Change In White Population From 2009 to 2017



Percentage of Change In Higher Education From 2009 to 2017



## Site 2: Brooklyn

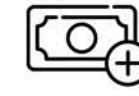
The first site that we chose to examine is located in Brooklyn, which has two Starbucks stores opened in June 2012 and September 2013, located 0.43 Miles from each other, in addition to 12 other stores opened before the study period 2009-2017.

This study area saw a drastic increase in median rent from 2009 to 2017 by %48, it increased from \$1,135 to \$2,000. The Median income also has increased by %41, from \$65,521 to \$11,0191. The percentage of residents age 25 and over holding bachelor's degrees jumped to %61.68, and the percentage white population has increased by %9.91, while the black population decreased by % -58.53.



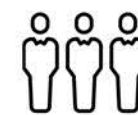
**%48.15**

Increase in  
Median Rent



**%41.13**

Increase in  
Median Income



**%9.91**

Increase in  
White Population



**%61.68**

Increase in  
Education of bachelor's  
degree or higher

- ✚ Established Starbucks in the study period. (2009-2017)
- Established Starbucks before/after study period.
- Identified Gentrified Tracts.
- Starbucks Boundary (Voronoi diagram)

Identified Gentrified Tracts from 2009 to 2017 & Starbucks Locations



Starbucks Opening Date: 6/30/12 9/24/13

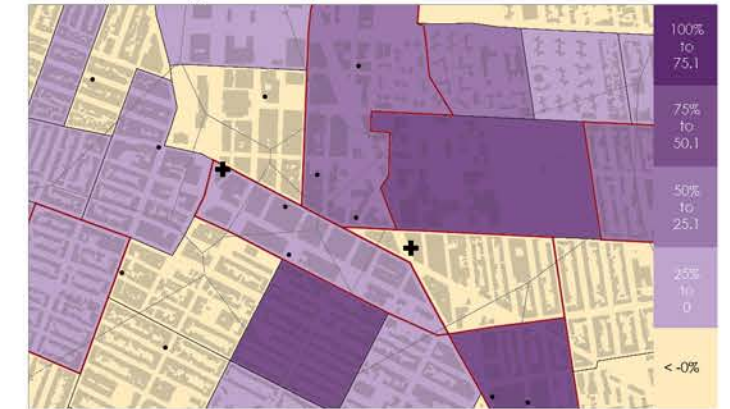
Percentage of Change In Median Rent From 2009 to 2017



Percentage of Change In Median Income From 2009 to 2017



Percentage of Change In White Population From 2009 to 2017



Percentage of Change In Higher Education From 2009 to 2017





# 06

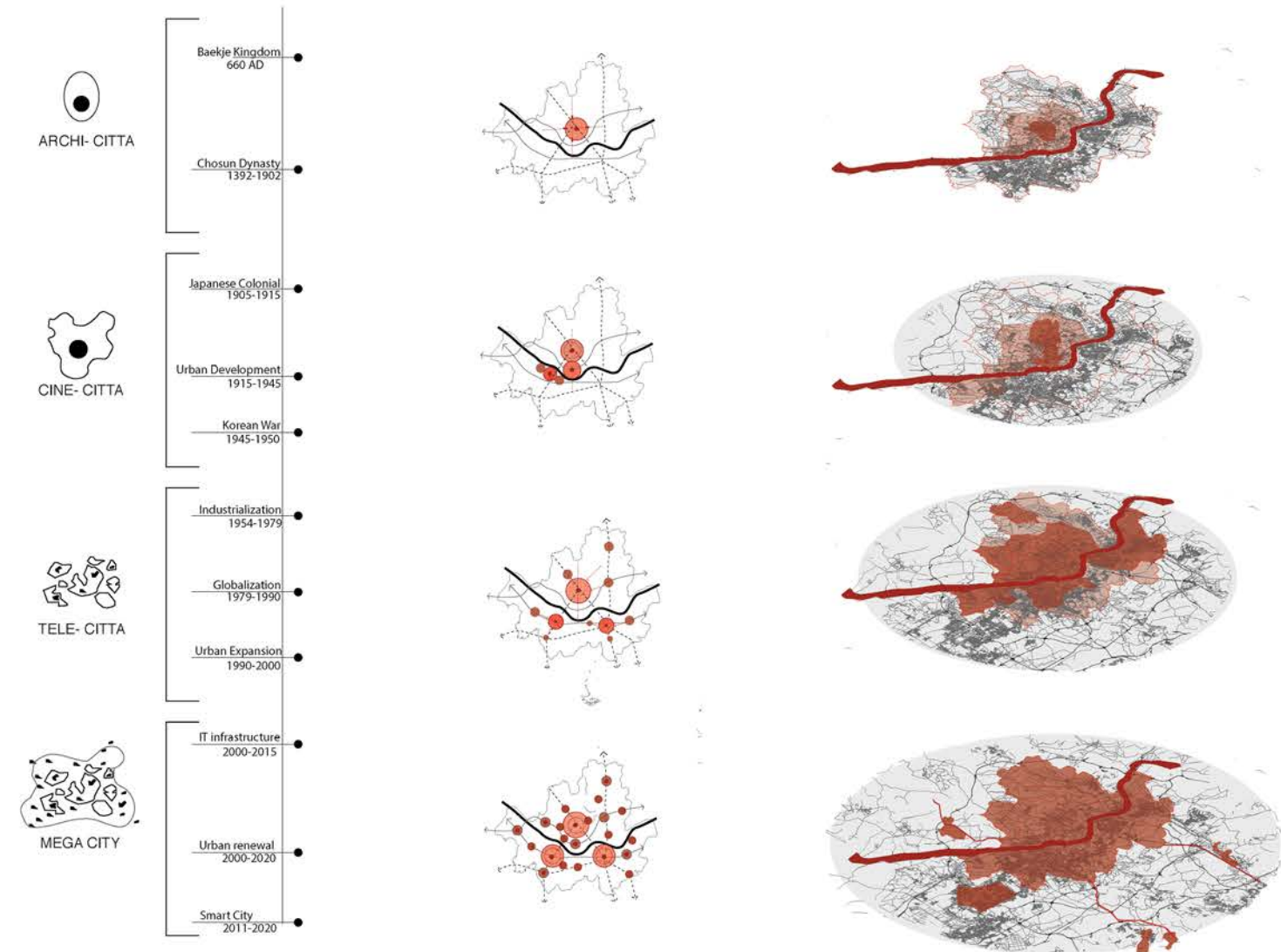
## SEOUL PALIMPSEST

### NORMATIVE URBAN MODEL COMPARISON

Location : Seoul, South Korea  
 Course : Recombinant Urbanism  
 Role : Research  
 (Einat Lubliner, Minjung Lee)  
 Duration : 4 weeks, Spring 2020

Seoul underwent a gradual transition from a monocentric urban model in the Archi Citta period to a polycentric organic model that exists today. In the Archi citta period, focus was mainly on the center of the walled city, Mapo, and Yeongdeungpo. There was a clear top down management and clear geometric order. During the Cine Citta period, the city expanded with colonial influence. Due to ongoing wars the development was hindered and there was a huge socio-economic divide in development. After liberation from Japanese colonial rule in the Tele Citta period, the city experienced explosive growth in population and urban development. The Basic Urban Plan was set up to respond to housing, transportation and infrastructure challenges and to lead the change through systematic and comprehensive planning with a long-term vision. Today, Seoul's urban development serves as a model to partnering economies and hubs of technology and innovation.

### Normative model Comparison



### Pandemic City





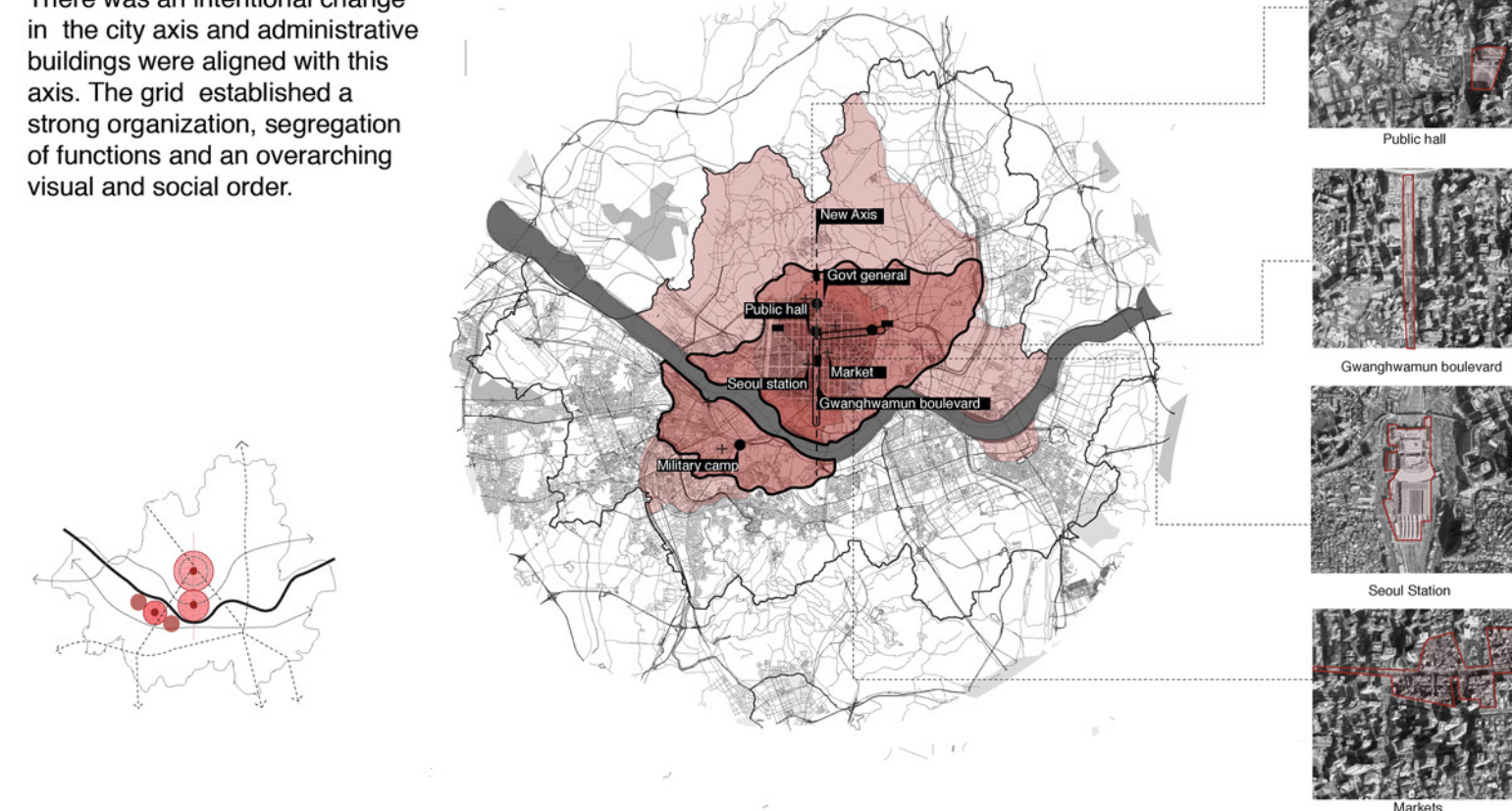
## City of Faith (Archi Citta)

In the city of faith, fortified walls were constructed in two tiers to protect the palaces, markets and the public boulevard. The main boulevard is connected to the rest of the city through small alleys containing residences and commerce.

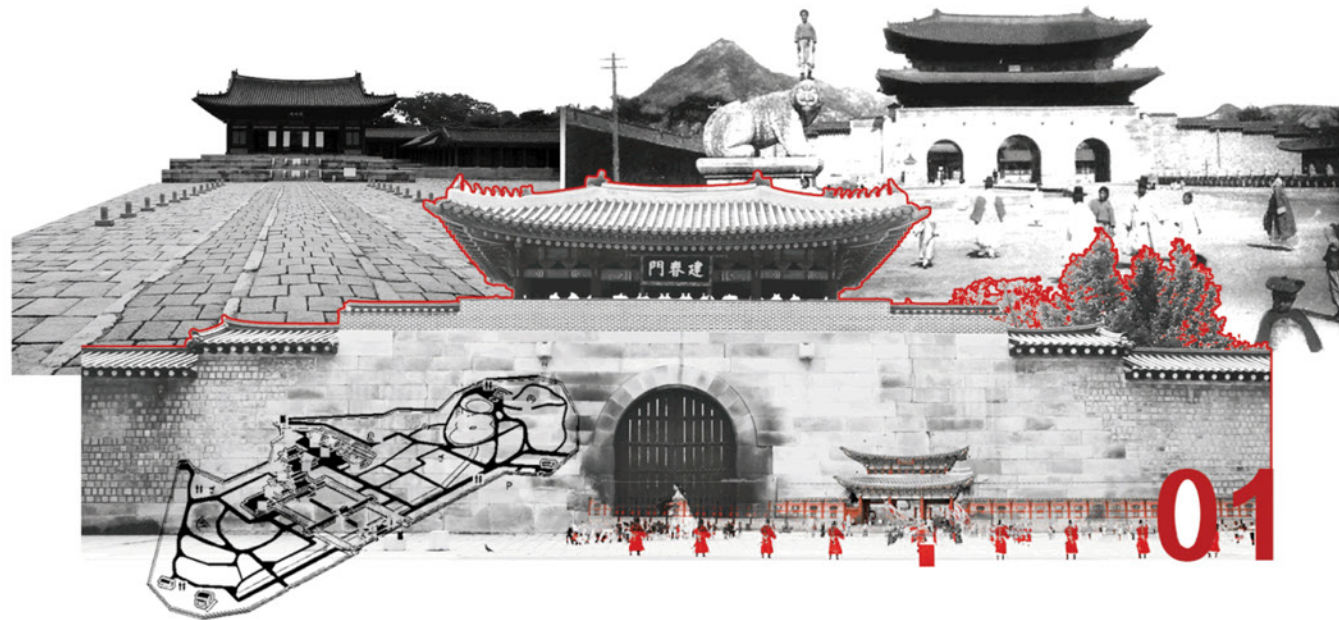


## City as a Machine (Cine Citta)

During this period the city colonised by the Japanese. There was an intentional change in the city axis and administrative buildings were aligned with this axis. The grid established a strong organization, segregation of functions and an overarching visual and social order.



Gyeongbokgung Palace



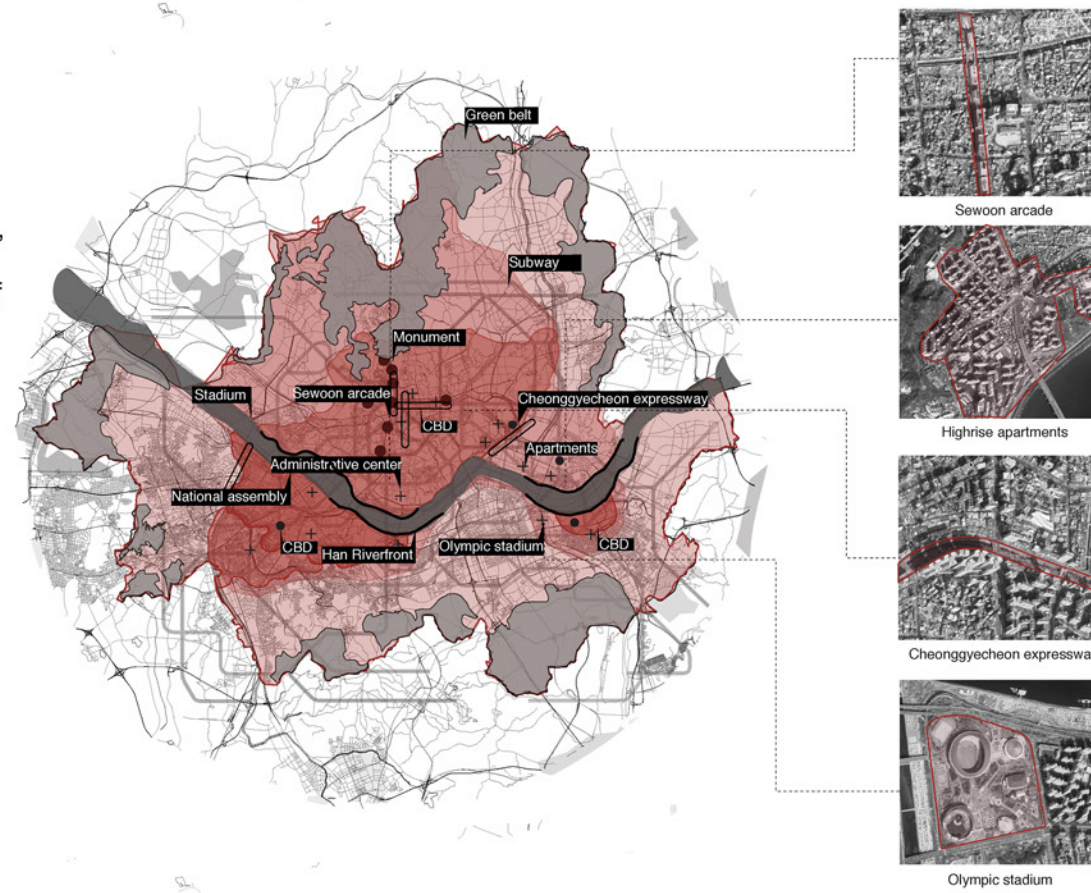
Colonial Administrative buildings



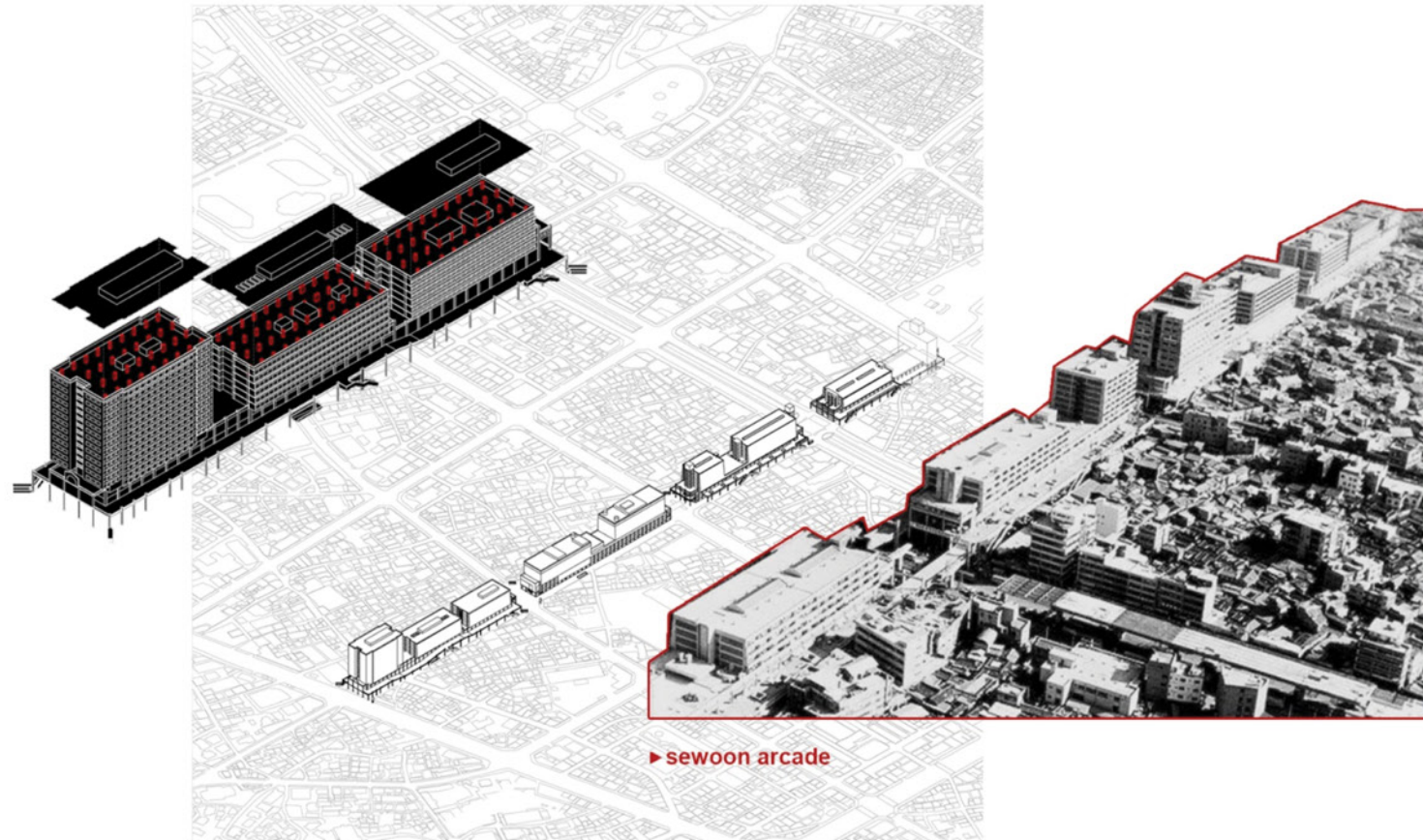


## Organic City (Tele Citte)

The Tele Citte is a polycentric urban model. Due to improved transportation infrastructure like the subways and expanded roadways, urban sprawl was prevalent. There was increased specialization of uses, proliferation of private high-rise development and segregation of class..

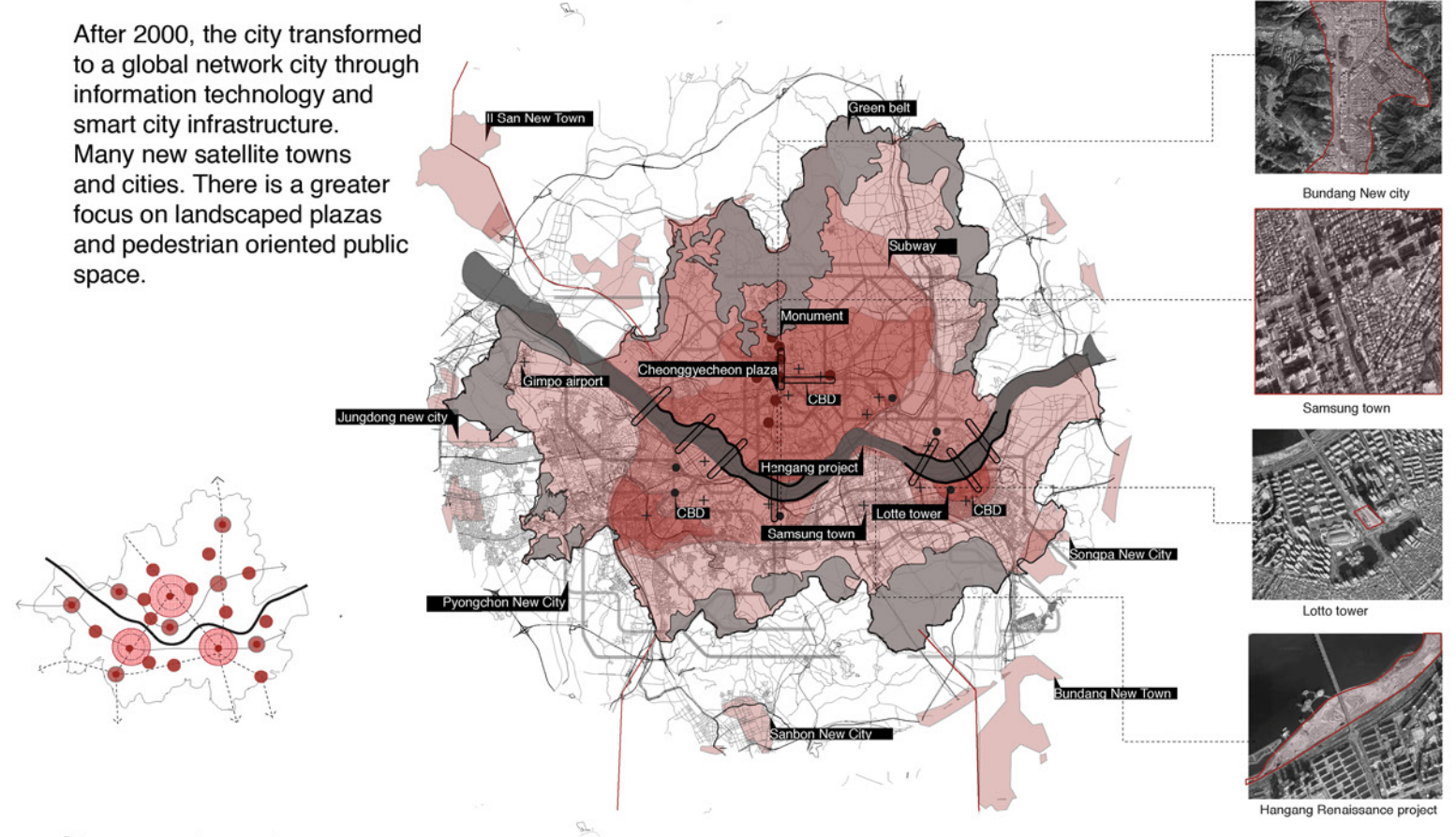


Sewoon Arcade

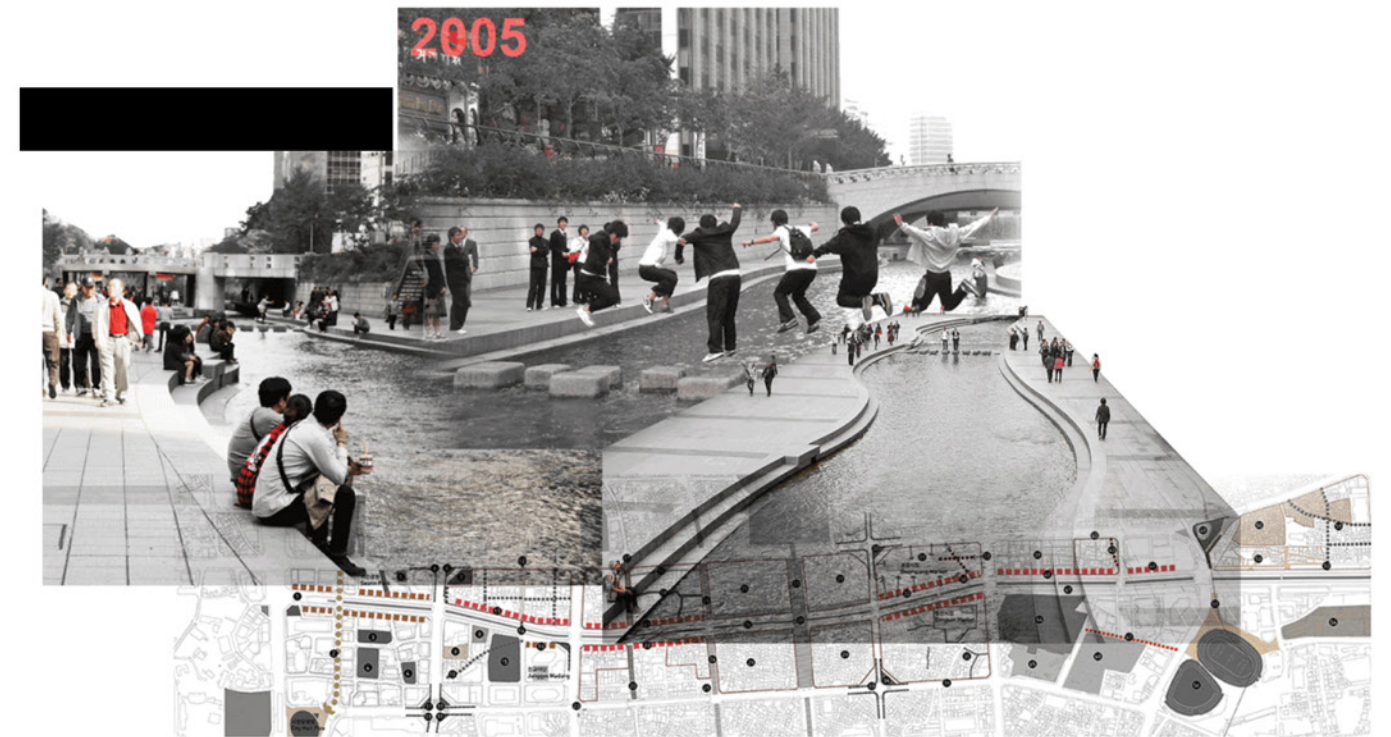


## Metacity

After 2000, the city transformed to a global network city through information technology and smart city infrastructure. Many new satellite towns and cities. There is a greater focus on landscaped plazas and pedestrian oriented public space.



Cheonggyecheon plaza





# PROJECTS | DESIGN STUDIO MAPPING & TYPOLOGIES RESEARCH

## 03 RESEARCH

"GENTRI"FIND | **Fall 2020**  
Tools and policies to  
mitigate gentrification

DESIGN | **Spring 2020**  
OPTIMIZATION | Ladybug environmental  
analysis

FLEXCITY | **Spring 2020**  
Application to foster cities  
resiliency during crisis

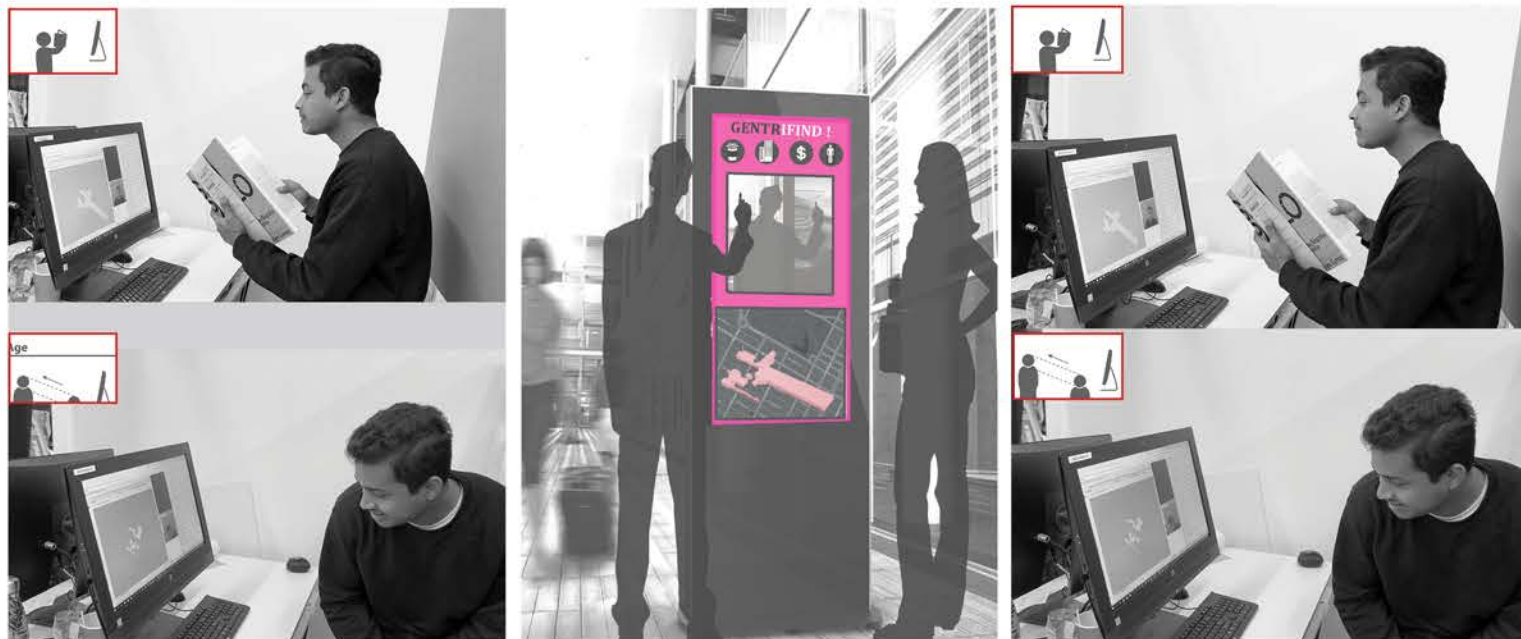


# 07 GENTRIFIND

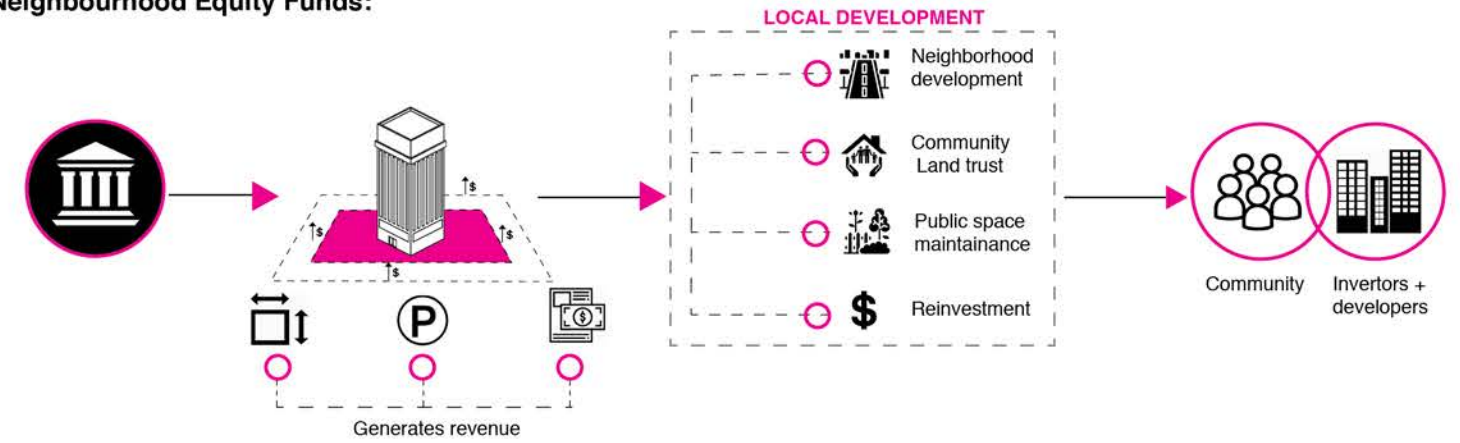
REDEFINING RETAIL SCAPE IN HUDSON VALLEY

Location : New York, NY  
 Course : Difference in design  
 Role : Research (Einat Lubliner)  
 Duration : 5 weeks, Fall 2019

This research explores the debate about the criteria and parameters of gentrification and attempts to understand the real and perceived impacts and causes of such change on the physical, economic, social and cultural dynamics of community, through a tool based approach that informs urban planners, designers and communities about the change. It can further inform an combination of policies (top-down approach), public engagement tools (bottom-up approach) and spatial design solutions that can prevent the displacement of people and instigate positive growth of the neighborhood. An Interactive tool can not only collect information but also educate citizens abouts impacts of gentrification and neighborhood change.



## Neighbourhood Equity Funds:



## Proposed Gentrifind Platform:

To identify gentrification we developed a prototype which is a data driven platform based on GIS and Grasshopper softwares, and programmed it to identify gentrification according to specific parameters. The outcome of the tool could assist in 3 aspects: Policies (top-Down), awareness and education (bottom-Up) and spatial Design (both top Down and bottom-up).

## How ?

The first step is collecting data according to the defined parameters. It is collected through a combination of census data (GIS) and latest app based resources. This data is then filtered by a set of 'rules' from earlier case studies of gentrification. The overlapping areas between the different parameters - indicates the areas at risk. This further helps in educating the local residents , policy making and spatial design.

## Policies:

### 1. Neighborhood Equity Funds:

Neighborhood Equity Fund is a collectively-managed, collectively-owned fund created through the capture of real estate development profits with the purpose of mitigating the effects of gentrification by providing access to capital for residents affected by escalating land values.

### 2. Equal Distribution of resources:

While zoning plans are revised, equal distribution of affordable housing, public amenities are made mandate.

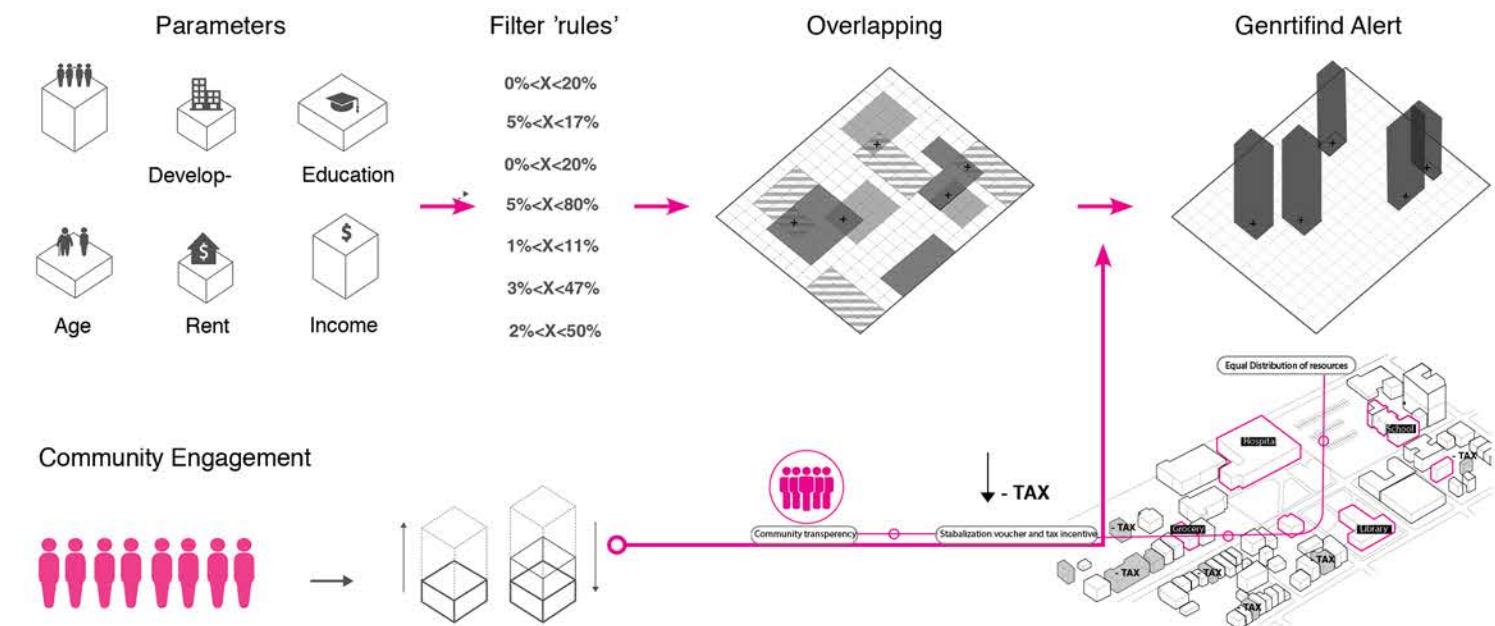
### 3. Stabilization Voucher and Cost control:

Reduction or freezing of property taxes to protect long-time residents and local business.

### 4. Community Involvement:

Empowering all the residents involved through app-based community surveys or interactive urban information booths.

## Methodology





# 08

## DESIGN OPTIMIZATION

### LADYBUG ENVIRONMENTAL ANALYSIS

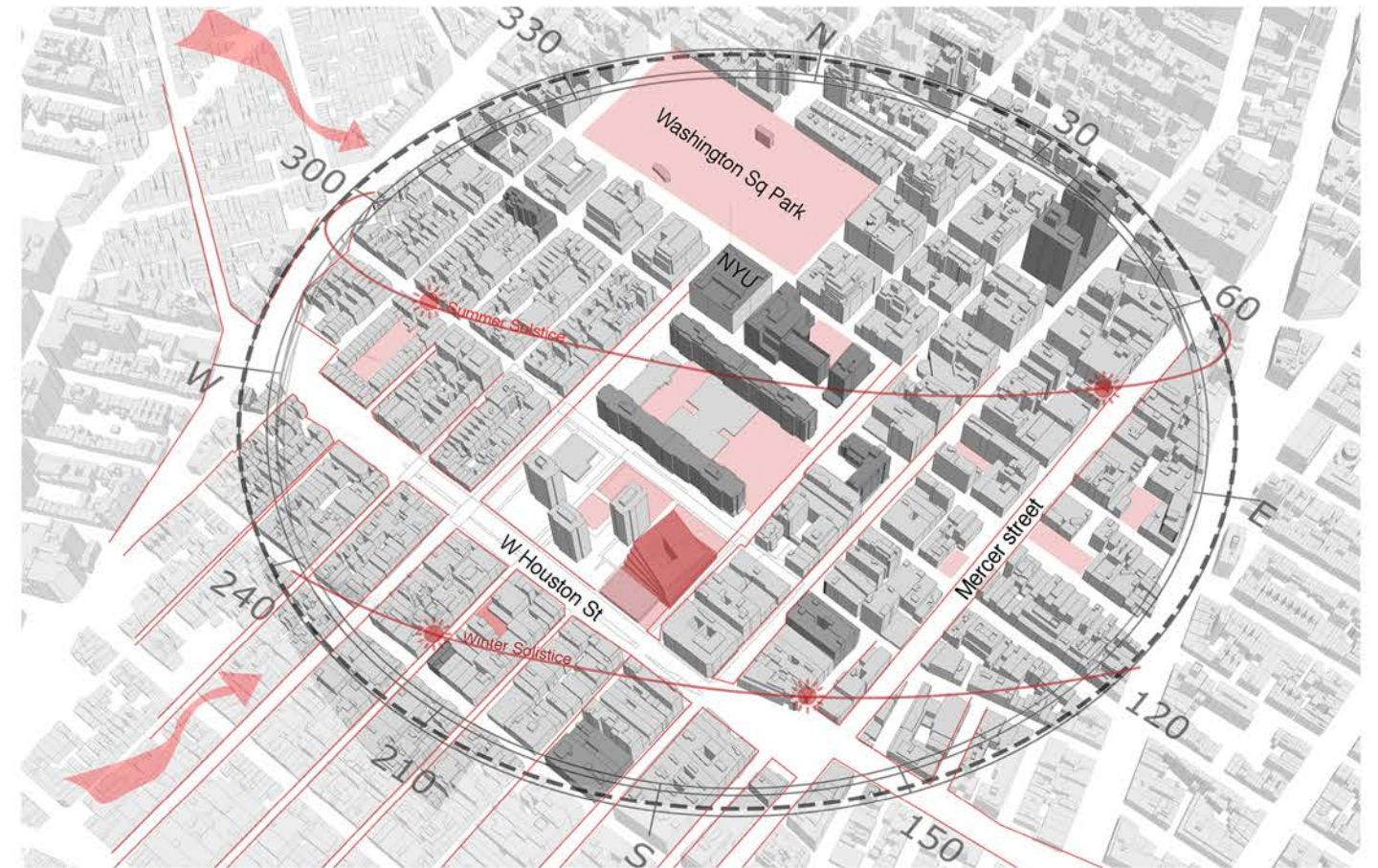
Location : New York, NY  
Type : Rethinking BIM  
Role : Research and coding  
(Einat Lubliner)  
Duration : 14 weeks, Spring 2020

This project aims to optimize massing and facade design through radiation analysis, sunlight hour and shadow study to design a sustainable, climatologically oriented and energy efficient building. These studies are conducted through ladybug analytical tools .Several massing geometries are tested for sunlight hour, radiation,shadow range using ladybug tools After the studies are conducted an optimum building massing option is chosen for further study of facade openings.

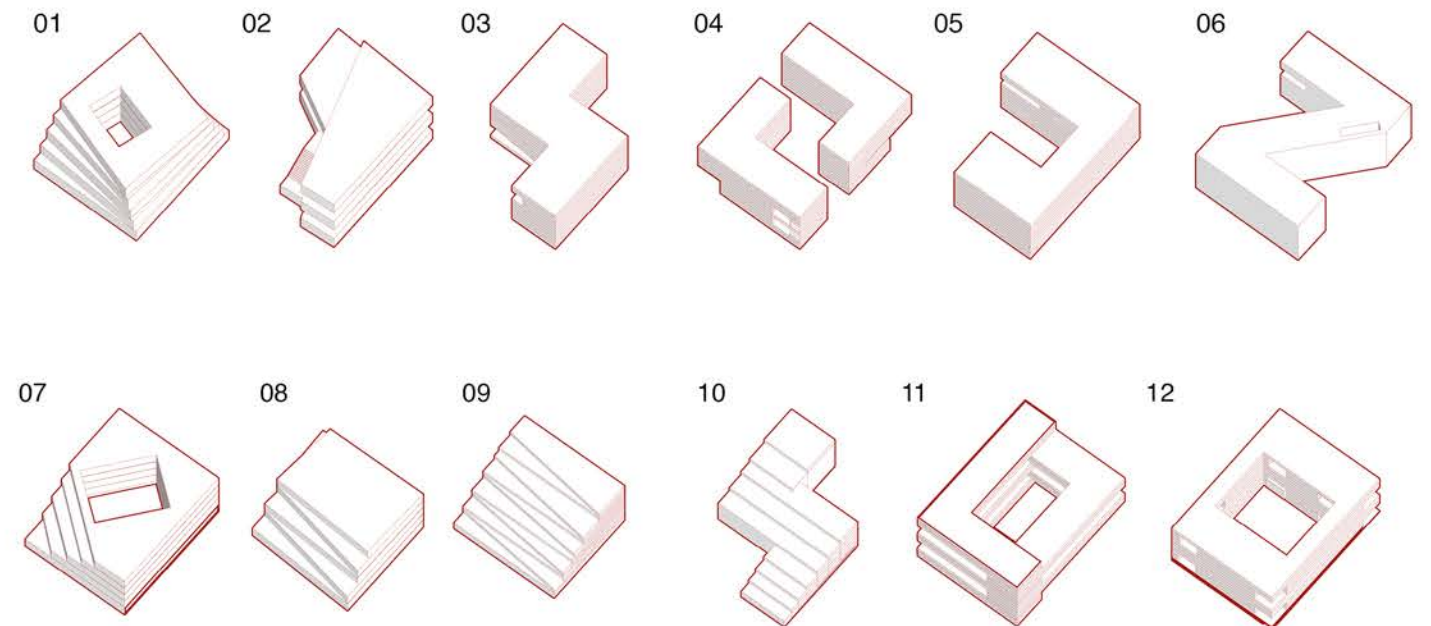
Ladybug supports the evaluation of initial design options through solar radiation studies, view analyses, sunlight-hours modeling, and more. Integration with visual programming environments allows instantaneous feedback on design modifications and a high degree of customization.

### Urban context

Study of solar path and wind directions



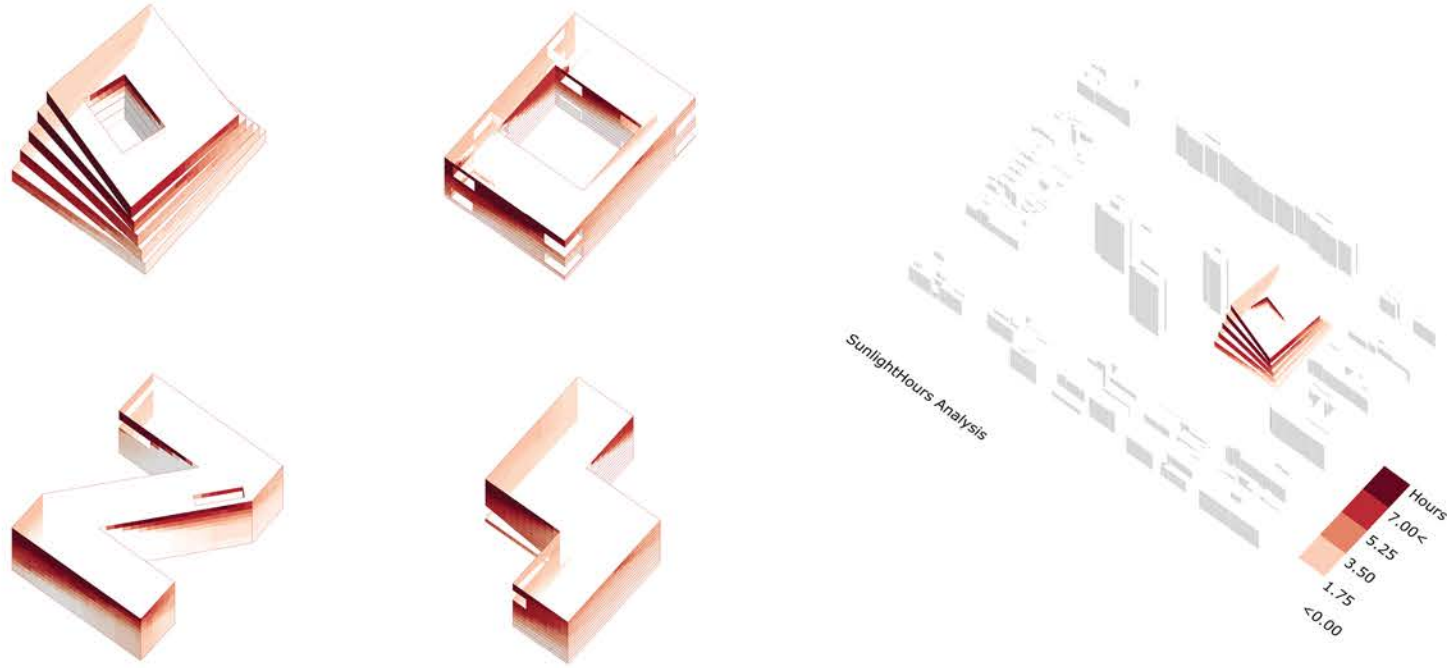
### Massing options for design





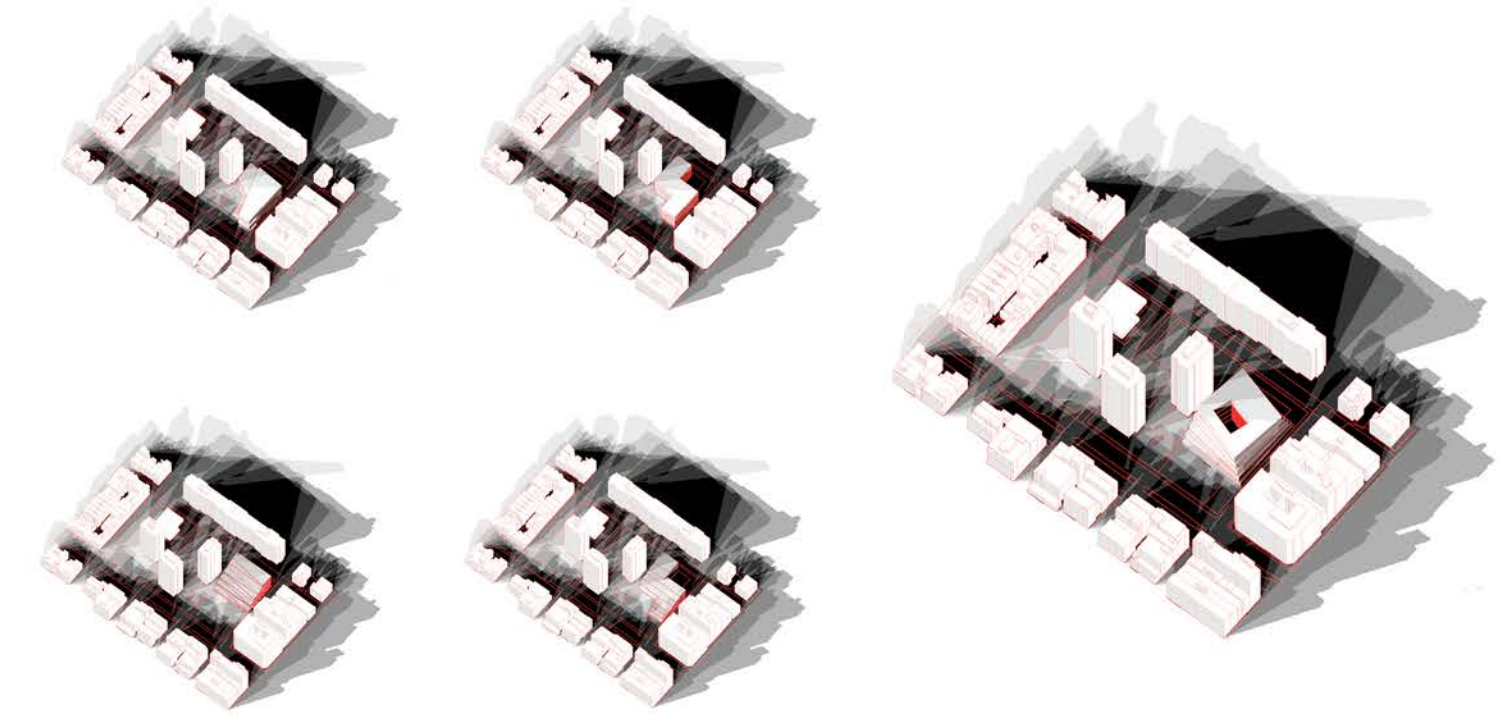
## Sunlight hour Analysis

This study represents the total sunlight hours received by the massing in winter. The study will be conducted in all seasons and the mass that receives maximum number of sunlight hours in winter and least in summer will be nominated for further study.



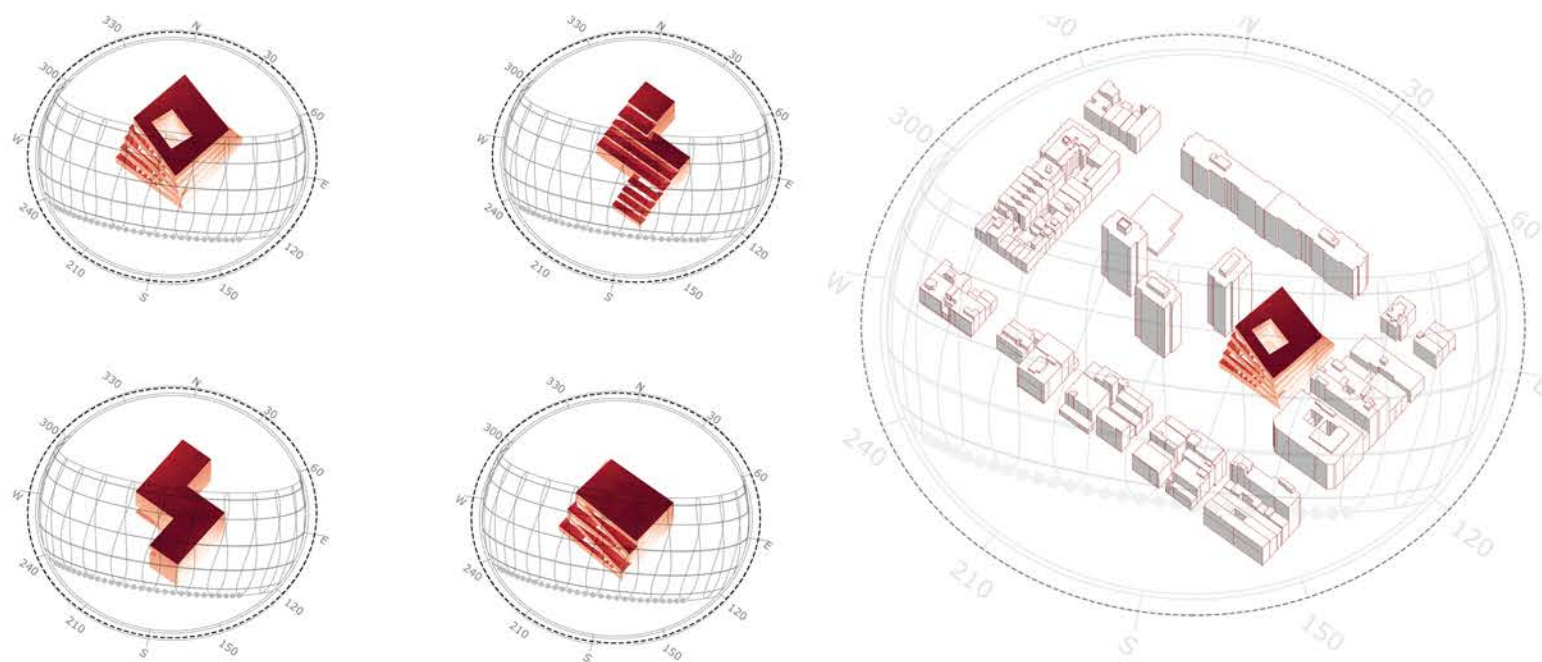
## Shadow range Analysis

Comparing shadow impacts of various construction options in respect to the context can determine outdoor public spaces and indoor courtyards.



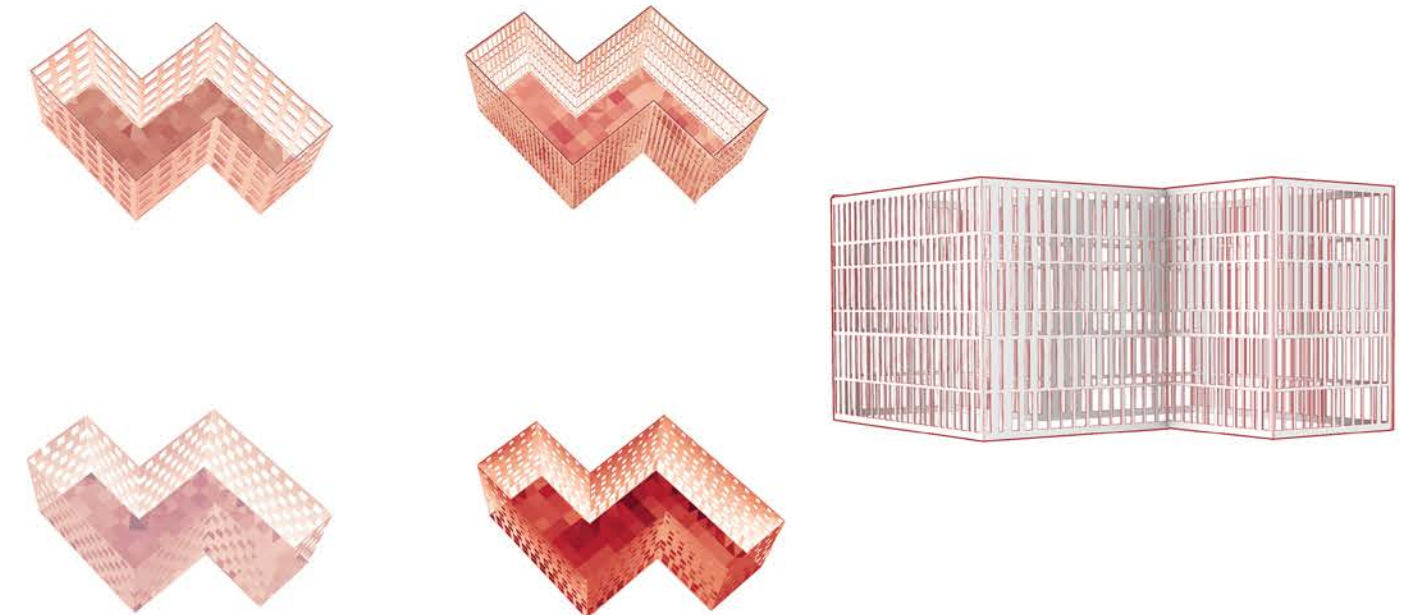
## Radiation Analysis

This study represents the total radiation that the building facade (especially the roof) is receiving. The study was done during the summer, so the lowest range of radiations is the favorable,



## Radiation Analysis: Facade

Further the facades were analyzed to understand the thermal comfort and the amount of heat and light received within the building. Modulating the facade can further help regulate microclimate and wind circulation within the building.





# 09 FLEX(CITY)

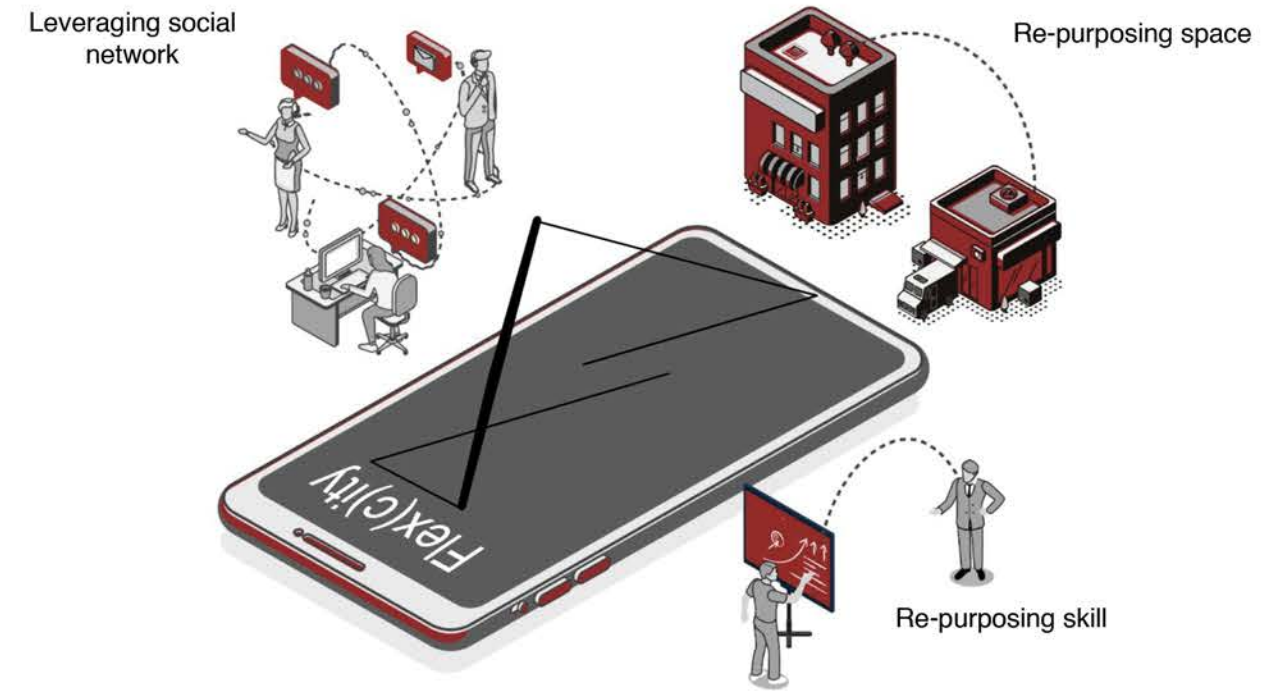
AN APP TO FOSTER CITIES RESILIENCY DURING CRISIS

Location : Global  
 Type : Academic(Columbia GSAPP)  
 Role : Research and proposal  
 (Einat Lubliner, Tal Fuest, Eduardo Veronese)  
 Duration : 2 weeks, Spring 2020

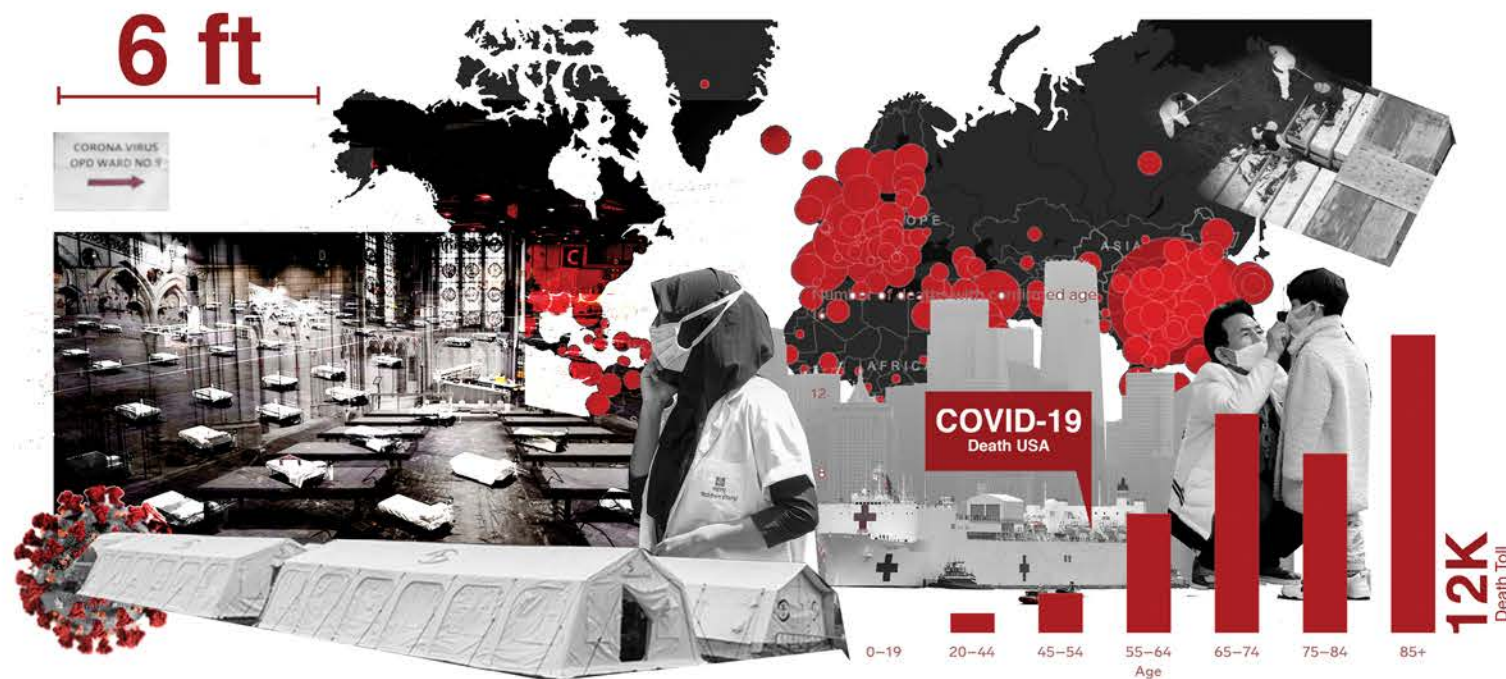
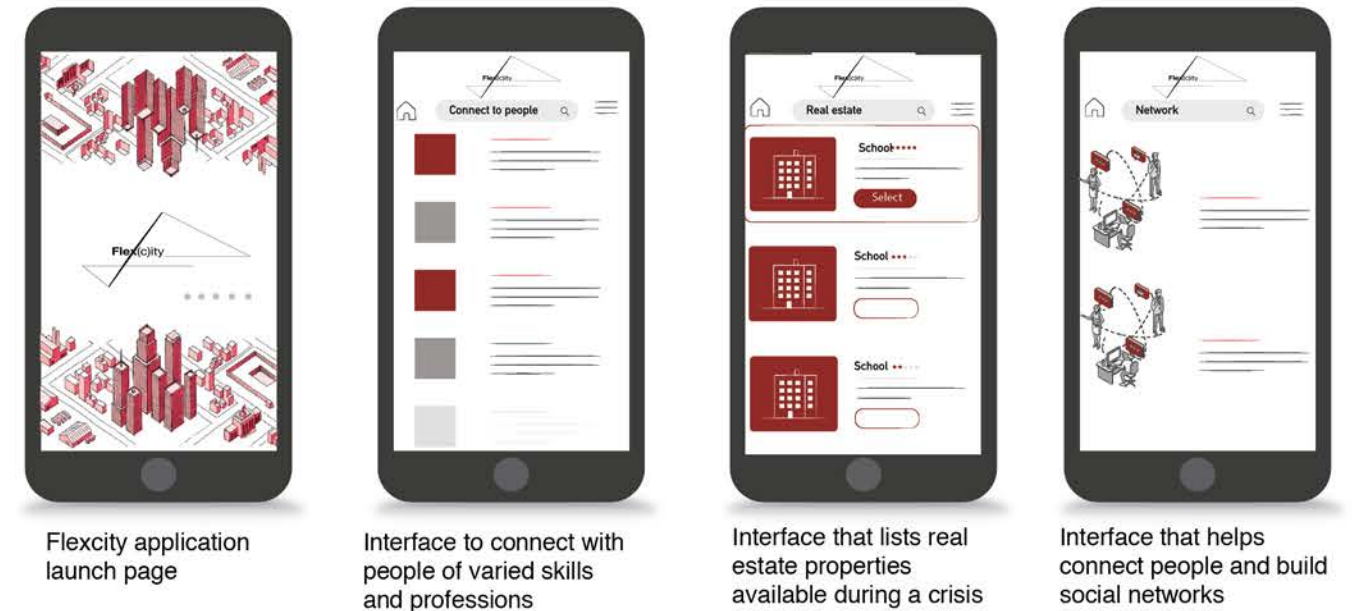
Rapid population growth, increase in consumption, climate change threats and economic inequality have led to a intolerable reality, where humankind is dealing with some of the most devastating and impactful crises. The disastrous outcomes had brought loss in human life, damage to property which left many individuals homeless, and vast unemployment throughout the world. We propose an application that mediates between the existing Infrastructure and the new need during a crisis. It will assist in re-purposing space, skills and create social-groups or networks to provide effective assistance during a crisis.

## Mission of the technology

The Application is a technological platform for re-purposing skills and space and leveraging social networks at the time of stress to provide immediate and efficient action. Our aim is to advance the potential of human resource during a crisis that can intern support people in need.



## Visualization of Application



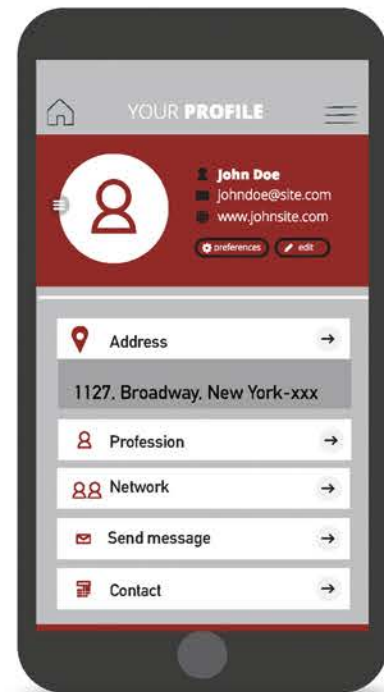


**Scenario:**

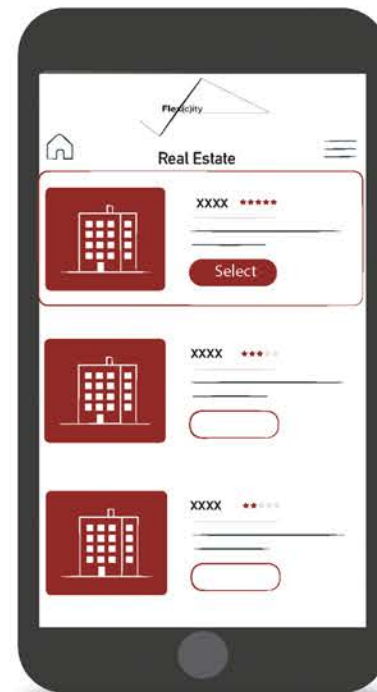
Application of the to search for shelter during a disaster or a crisis.



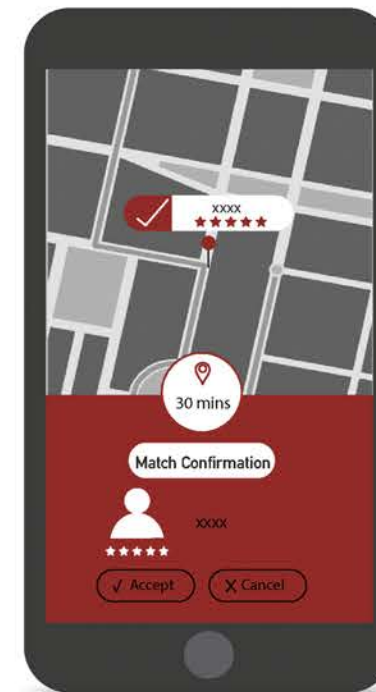
Flexcity application launch page



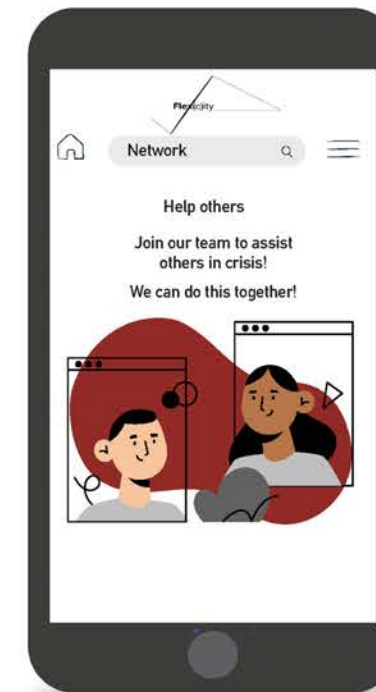
Platform collecting user information and location



Options to browse for shelter and space



Matching location of the shelter confirmed



Connecting to network of people



COLUMBIA  
**GSAPP**