

COLUMBIA
GSAPP

**GRADUATION PORTFOLIO
SELECTED WORKS 2021 - 2022**

JIE KONG

MSADU, CLASS OF 2022



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2021 SUMMER

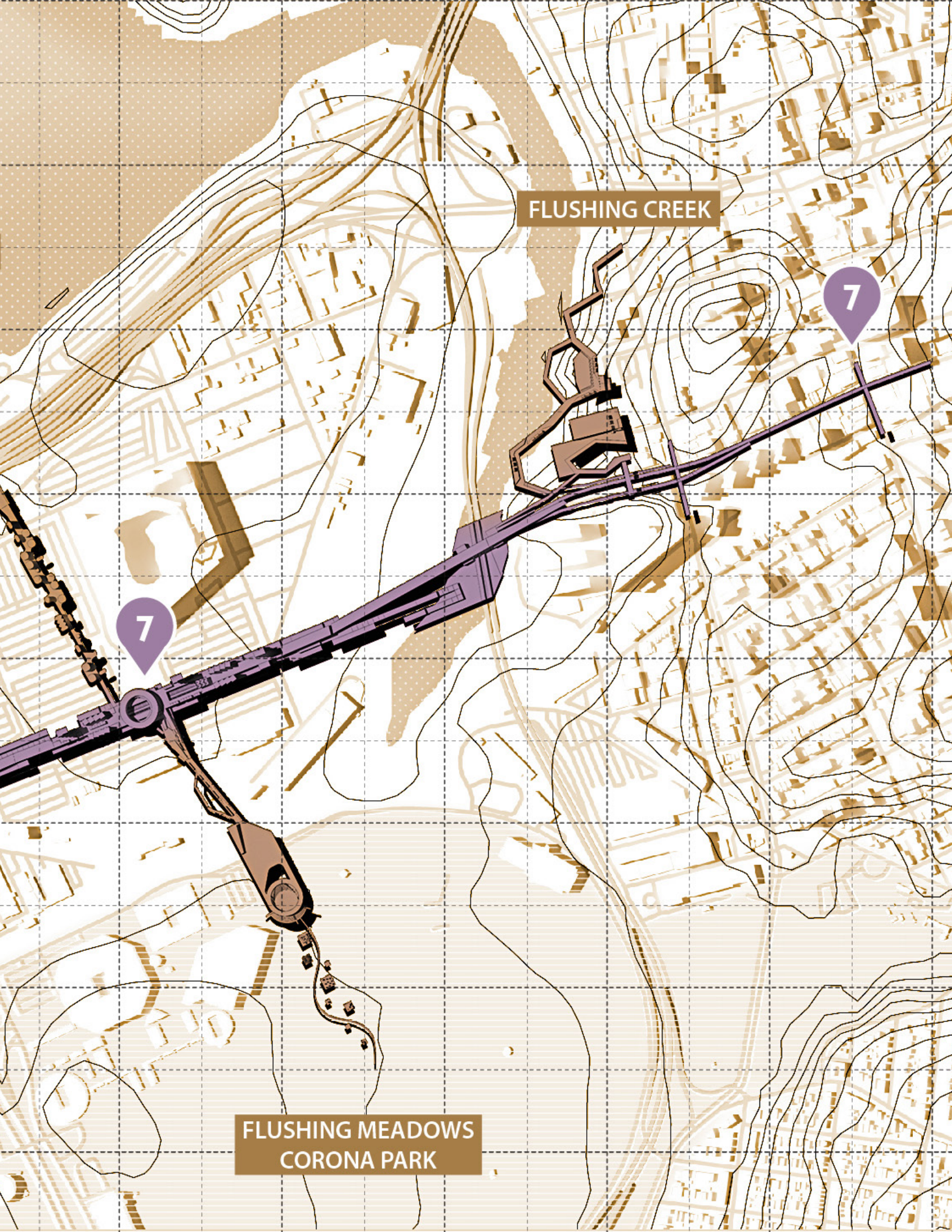
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STUDIO I THE NEW YORK STUDIO

CITY EDGES: SITES, SYSTEMS, SPACES, STORIES

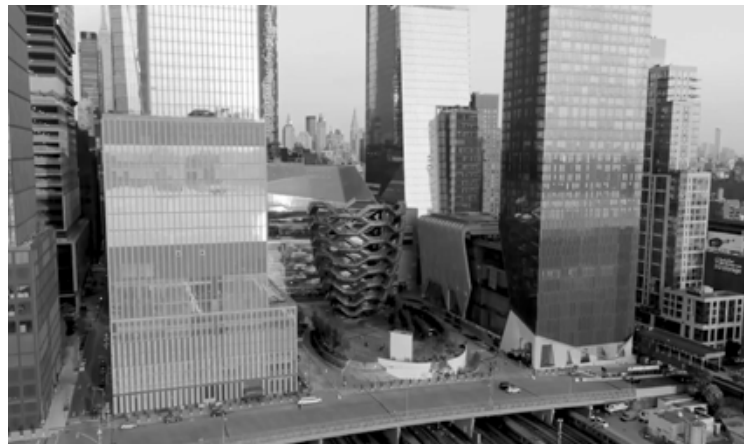
**THE COMMUNITY EXPRESS 7
WITH AUTHORITY FOR COMMUNITY INVESTMENT**

FACULTY: *Nans Voron - Coordinator,
Sagi Golan - Coordinator,
Jae Shin, Galen Pardee, Austin Sakong,
Sean Gallagher, Tami Banh,
Candelaria Mas Pohmajevic, Nupur RoyChaudhury*

TEAM MEMBERS: *Jie Kong, Shirley Chen,
Galina Novikova, Giulia Chagas*



HUDSON YARDS



SUPERCUT- HUDSON YARDS



CORONA



SUPERCUT- CORONA



FLUSHING



SUPERCUT- FLUSHING



SUPERCUT- 7 TRAIN

ROLE PLAY



Giulia Chagas

EDC REPRESENTATIVE



Shirley Chen

COMMUNITY BOARD REPRESENTATIVE



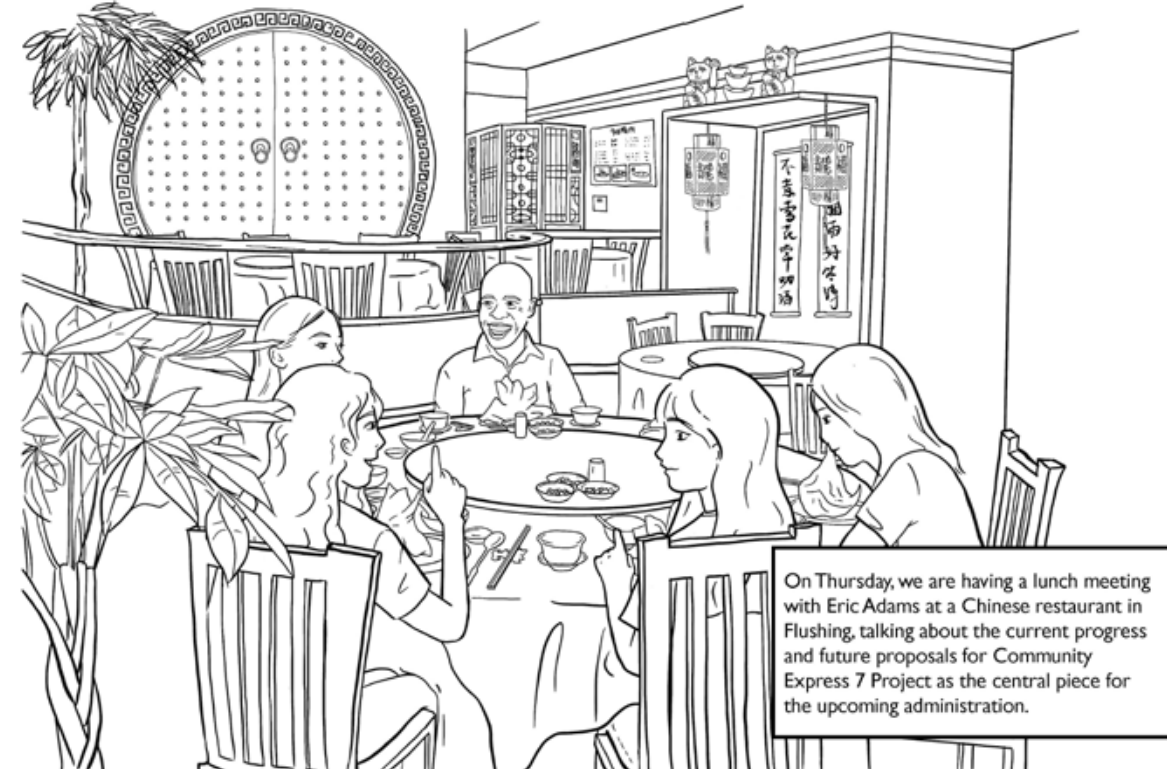
Galina Novikova

MEMBER OF FLUSHING ANTI-DISPLACEMENT ALLIANCE



Jie Kong

SMALL BUSINESS OWNER IN FLUSHING



On Thursday, we are having a lunch meeting with Eric Adams at a Chinese restaurant in Flushing, talking about the current progress and future proposals for Community Express 7 Project as the central piece for the upcoming administration.

TWO YEARS LATER ...



- A role-play was used during the presentation to immerse ourselves in context better and try to put ourselves as real designers that communicate and persuade residents, vendors, governments, and NGOs. -

DIVERSITY ALONG 7 TRAIN

DIVERSITY

INEQUALITY



STORIES OF PEOPLE

HUDSON YARDS



The streets feel wider and more spacious than other parts in New York. The Highline makes getting downtown super accessible by walking! I love living in Hudson Yards.

High-rise and trendy construction attracts tourists and high-income residents

Koryn, 24
resident living in Hudson Yards area

I rarely go to the big park because I am always working. It would be good if I can go there and relax.

I am living in a very small room which cost \$800 per month, which is a lot for me. I have no roommate.

CORONA

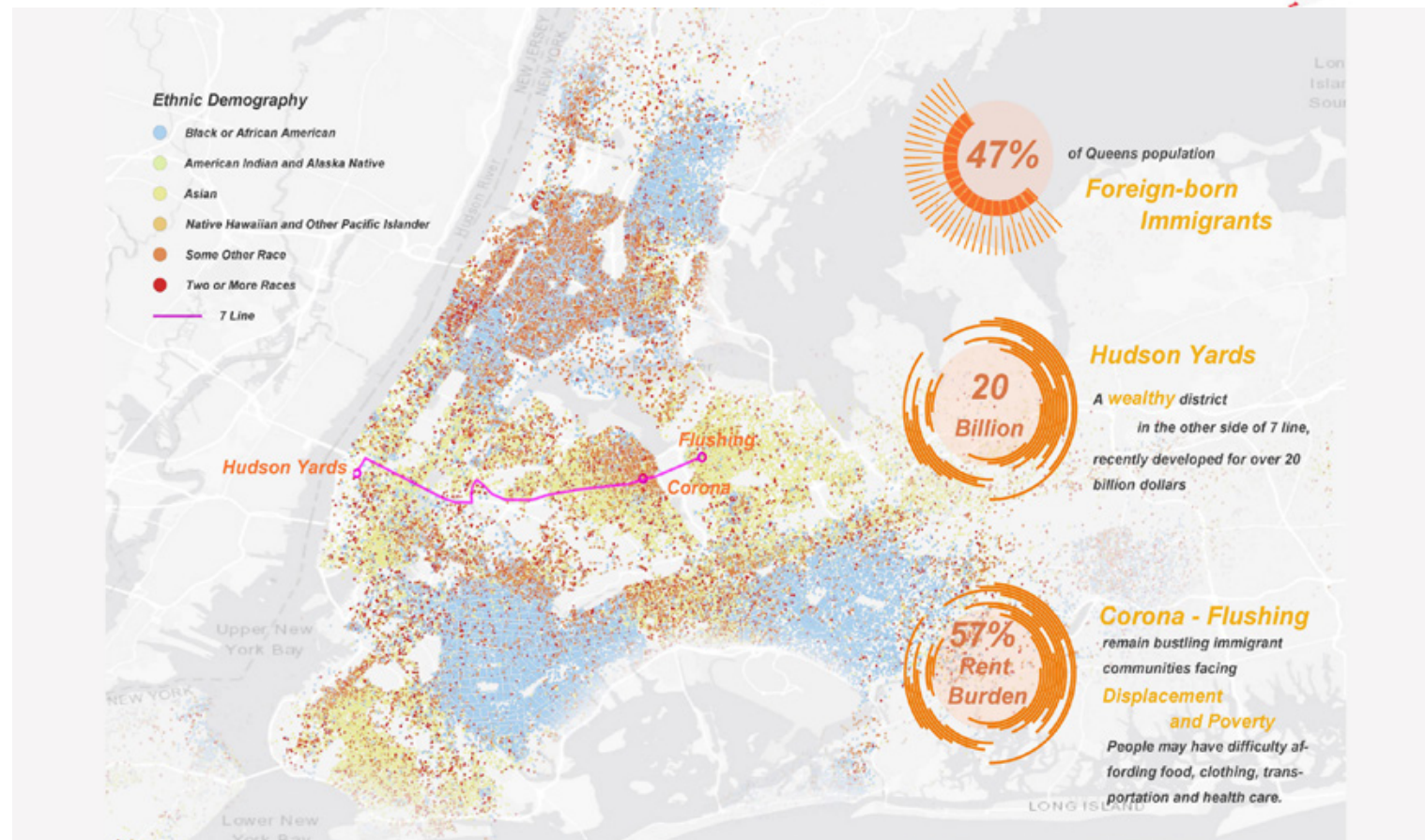


Rosa, 50
food vendor at Corona Plaza

Thomas, 51
resident in Corona, living close to the 7 train

Vendors occupies roadways spaces, makes them exposed in a danger environment

Gentrification makes low-income population get DISPLACED



It was very hard to start my business when I first came here in Flushing. During COVID we were impacted a lot and the rent keeps increasing.

Communication with customers is challenging for me. My English is not good as an immigrant workers but I don't have time or money to go to a language class.

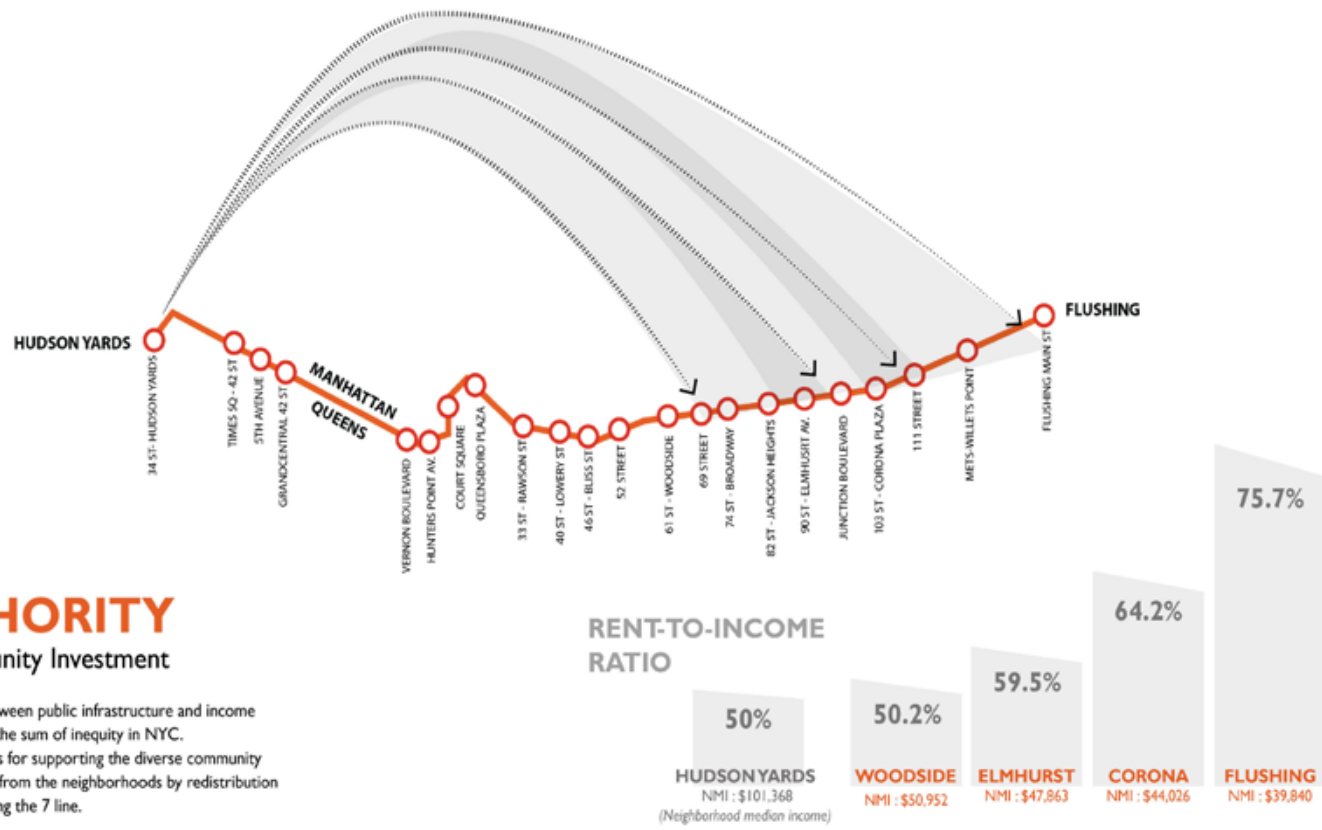
Lin, 36
small Chinese antique shop owner

Chen, 20
bubble tea shop worker in Flushing

Retail RENTS have INCREASED small businesses are forced to CLOSE

FLUSHING

TAX AVENUE



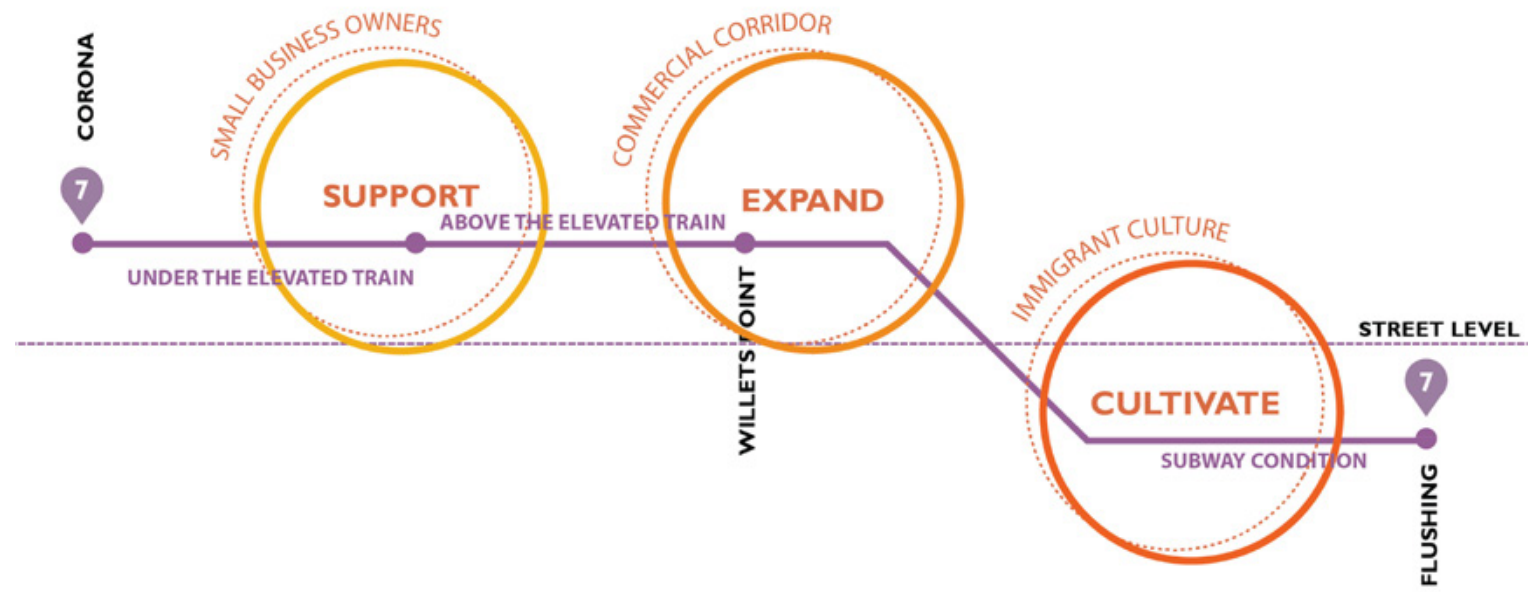
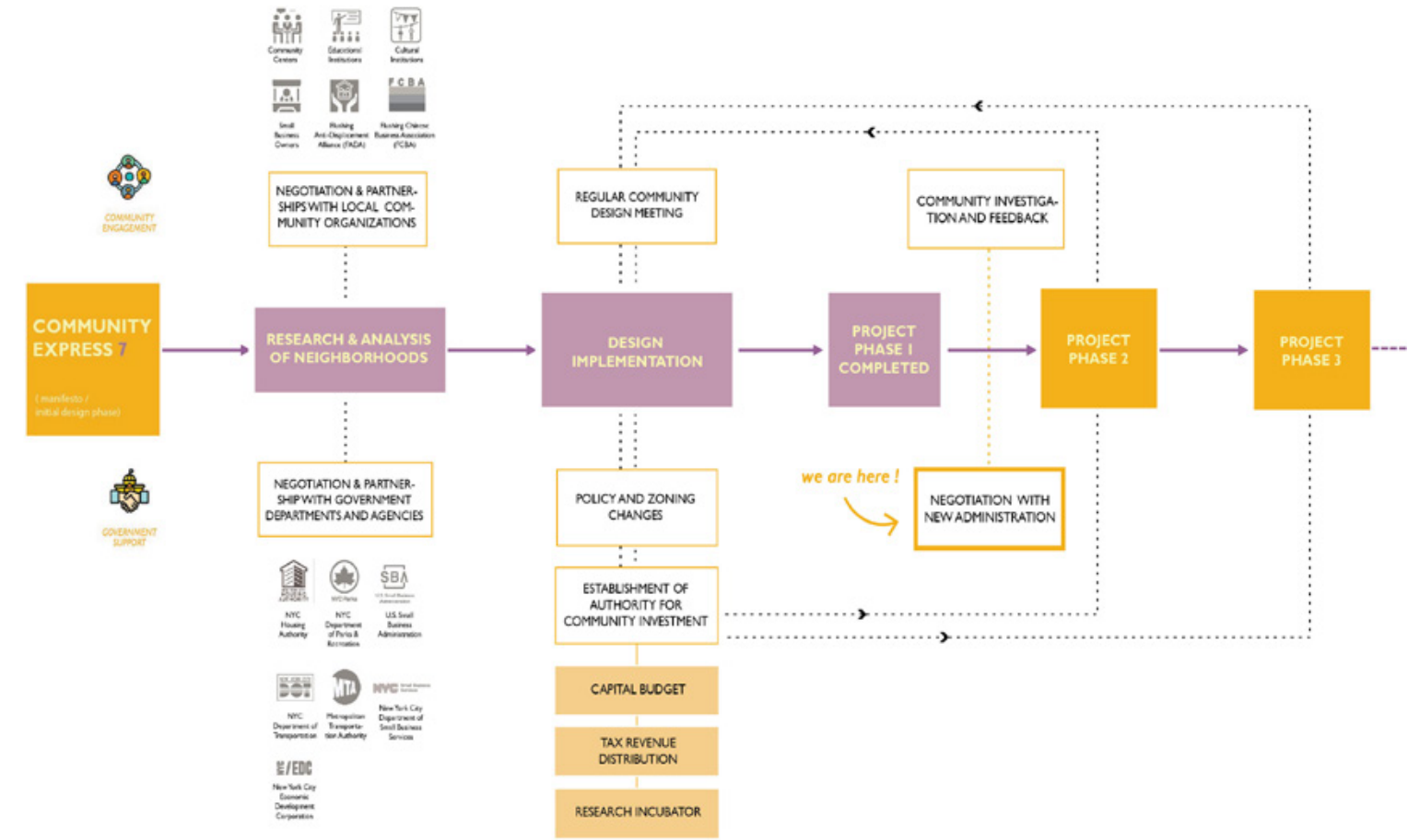
AUTHORITY for Community Investment

The difference between public infrastructure and income pattern highlights the sum of inequity in NYC. This authority aims for supporting the diverse community and serving needs from the neighborhoods by redistribution of tax revenue along the 7 line.

The Seven Line subway connects the most ethnically diverse neighborhoods in the world. 47% of Queens population is Foreign-born immigrants. While the seven line is a large connector of different cultures, it also reveals the inequitable income patterns along neighborhoods within the city. As an example, on one end is Hudson Yards, a wealthy district recently developed for over 20 billion dollars, while Flushing and Corona have remained bustling immigrant communities facing displacement and poverty.



Hudson yards, where billions of city dollars were spent to create the largest and most expensive mixed-use development in American history. What could we have done to the other end of the line, to celebrate the local community flushing with the same investment?
 After understanding the inequitable patterns along the line, we are focusing on the neighborhoods of Flushing and Corona, where these striving communities represent culture and diversity.



Small businesses are in danger of being displaced as a result of new development, rent increase, eviction and permit control. In order to protect these vulnerable communities along the seven line, we aim to provide an infrastructural framework capable of securing adequate spaces including housing and retail spaces, celebrating local culture, and strengthening a sense of place and belonging. The seven line is space for opportunity because it intersects Flushing Meadows Corona Park and Flushing Creek, as well as other underutilized space.

FOCUS I CORONA

- Market hall, food hall, open market and plaza create the space to celebrate the local market culture
- 2nd floor food hall connect the extended platform of the train track
- SBA office located inside the market hall to provide support to vendor, at the same time there is lounge sleeping space, and skill training classroom.





- This built proposal really came alive with all the seating options and small vendor stall selling coffee and quick bites along the extended platform especially useful for the commuter and vendor was those information kiosks for people navigating through the market hall & food plaza.

There are also video phone booth to connect immigrant families to their distant families abroad. -



- The Central plaza in front of the market hall entrance is going to be a nice flexible public space for people to sit, relax, and enjoy the live performance when there is events or festivals. During weekends it can be used as outdoor market. -

FOCUS 2 FLUSHING



temporary event space

vendors

open market

market hall

subway station

expanded sidewalk





- Here at the main street we are going to have a expanded sidewalk and improved streetscape so more customers would come during day and also at night. The open rooftop dining spaces are going to benefit some of the food vendors and small local restaurants as well. I can imagine during the Spring Festival this place is going to be super populated and fun. -

-The streetscape also going to change throughout different time and with different events. There are also waste management system along the commercial corridor to mitigate the current street condition in flushing, in which garbage from the vendors and pedestrian can be seen everywhere. -

FOCUS 3 AFFORDABLE HOUSING



The diverse ethnic identity is what we, the community board always want to preserve and celebrate. And what's great about this proposal is that the affordable housing are customizable and flexible with the base architecture provided by the designers and the neighborhood can actually customize their house base on their needs and cultures. In this future envision animation of the facade of these affordable apartment, our community board members are excited about the diverse cultural identities being preserved and expressed from the architecture and the flexibility that it provide to accommodate the residents' needs.



Year 1



Year 3



Year 5



Year 10



READING NEW YORK URBANISMS

STORY MAP

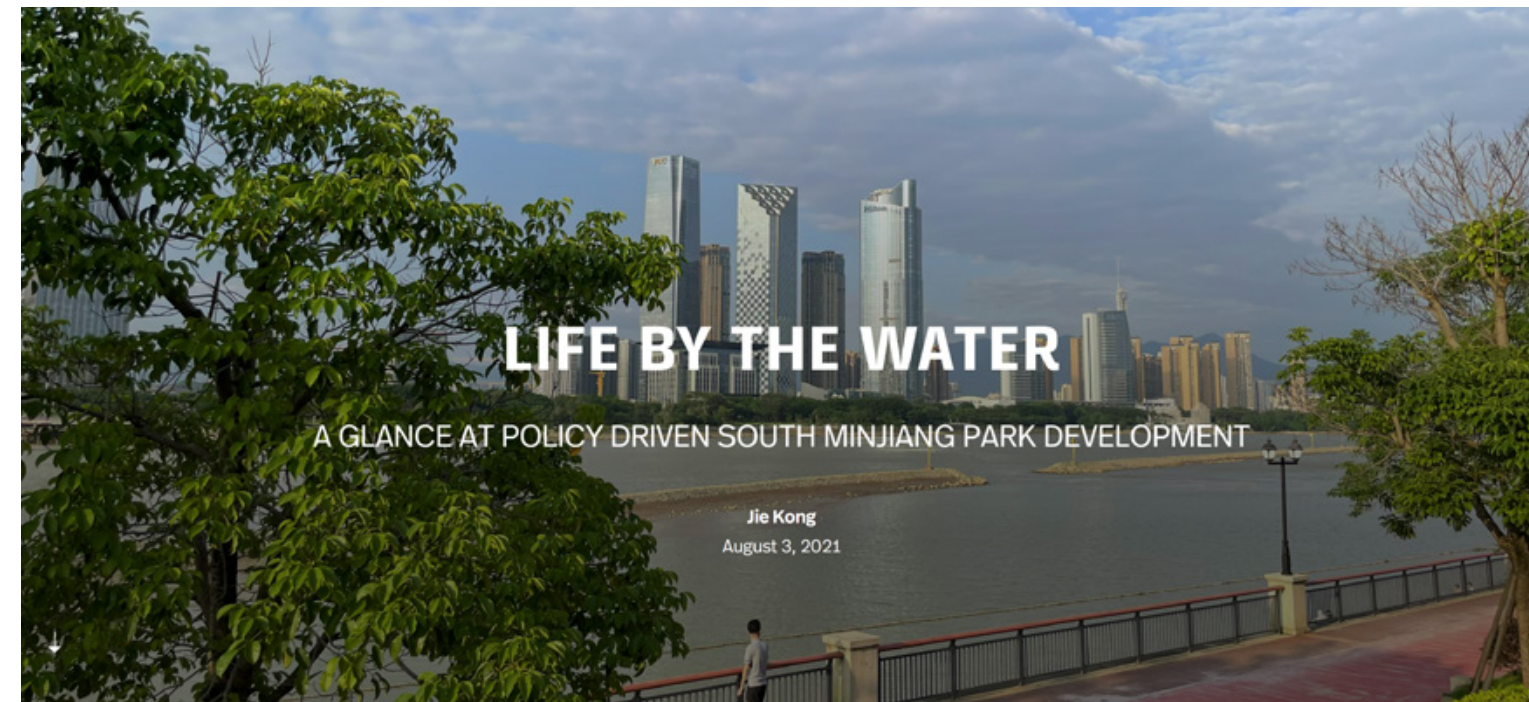
LIFE BY THE WATER

A GLANCE AT POLICY DRIVEN SOUTH MINJIANG PARK DEVELOPMENT

<https://storymaps.arcgis.com/stories/1119797c06584c4688e072e32b1e4073>

FACULTY: Cassim Shepard - Coordinator
Jesse Hirakawa - Instructor
Gabriel Vergara - Associate
Kai Zhang - Teaching Assistant

INDIVIDUAL WORK



With the development of the city, different policies determine and promote the development of the riverside area, its function and status in the overall city are constantly changing, which also affects the composition of the people who come to the surroundings for activities, economic vitality, and future policy decisions. Through the collection of historical data and current situations, we can find this kind of action and reaction forces between policies and the people.



The old photos: "A Dongyin Paintings" (1924-1944, Japan)

They used boats as houses and lived on the rivers and seas. Because the boats resembled eggs, they are called "Dan" tribes.



Q:
Planning for the waterfront part of the park

Min River of South Minjiang Park Section

The Role Evolution of Min River and Surrounding Area Driven by Policies

As the mother river, the Min River and its coastal environment play a significant role in the city's overall ecological system and economic development. In the process of Fuzhou's modern planning, the government's overall and partial plannings of the city have promoted the development of the South Minjiang Park area. The following will introduce the main government documents and related decisions in different periods and their influence on the site.

(Photography: Skypixel -- Huangying)



Q:
Planning for the waterfront part of the park

Originally there was a waterfront trail

Min River of South Minjiang Park Section

- THE ACTION AND REACTION FORCE - PEOPLE & PARK DESIGN AND TRANSFORMATION

GOVERNMENT DESIGN & PLANNING ADJUSTMENTS -----
PEOPLE'S BEHAVIORS & REACTIONS

- (1) Revetment Erosion & People Washing Clothes and Drowning Accident --- Shore Reinforcement
- (2) Bike Lanes + Sidewalks --- Invite the elders and children from nearby neighborhood --- Cancel Bike Lanes & Widen Running Ways --- More Exerciser --- Healthier Habits
- (3) Ecological Restoration --- Sight obstruction & Movement Obstruction --- Strengthen Pruning and Replace some kinds of Vegetations --- Higher park understory space utilization --
- Leisure facilities --- Increase people's intimacy and awareness of the natural environment



HISTORY AND THEORY OF URBAN DESIGN

PAPER

THE OPPORTUNITIES BRING BY AUTONOMY IN SENIOR WOMEN CO HOUSING PROJECT

FACULTY: *Noah Chasin - Professor
Charlette Caldwell - Instructor
Joseph Huennekens - Instructor
Tal Fuerst - Associate
Nupur RoyChaudhury - Teaching Assistant*

INDIVIDUAL WORK

The aging population is a global challenge that calls for various renovations. It is common to see governments make efforts to carry out pension reform, retirement income system transformation, financial supports, and social services. Nevertheless, with the accelerated rise of the elderly population and longevity come with their higher quality of life requirements and growing self-awareness, the current social-economic and policy support for the elderly does not have sufficient flexibility and self-development to cope with future demographic changes. According to WHO¹, the world's population aged over 60 years is expected to be 2 billion in total in the next 30 years, which is more than twice as was in 2015's, and these populations appear a tendency of concentrating more on middle- and low- income counties and regions. So it's crucial for society today to figure out financial and operational efficient ways to better fit into future scenarios.

For senior people, the basis for their life happiness and further pursuit is health. Their physical function declines, which means the scope of their activities has been reduced, and the demand for the surrounding environment and healthcare facilities therefore increase. The downward trend of independent living ability shows they require physical assistance and mental support from their family, community, and society. Moreover, after reaching the statutory retirement age, their role in the family and society is changing, reminding us to pay more attention to their access and awareness of finding

¹ World Health Organization, Fact sheets, "Ageing and health" Accessed August 13, 2021. <https://www.who.int/en/news-room/fact-sheets/detail/ageing-and-health>

supporting social and government financial agencies and the prejudice they might face.

All of these conditions inspire people to form a more integrated way of thinking and

smoother working flow to construct a more livable environment to relocate the senior.

The New Ground program² in the UK, for example. The establishment of the Older

Women's Co-housing (OWCH) community is one of the explorations made by the senior

group themselves and of great examples to illustrate how all these considerations come

together and function throughout different periods, agencies, and spatial locations.

New Ground is UK's first senior co-housing community located in High Barnet,

London, speaks for women over 65 as their representative to prove and show the value

and capacity of senior women through their nearly 20 years' fight among various social

obstacles and the achievement of realizing a new form of co-housing in their own country.

Compared to traditional nursing homes for UK's senior people, this innovation set a

precedent of engaging autonomy and providing independent choices for these typically

vulnerable people, therefore achieve their late years' well-being by reducing loneliness

and isolation³ and increasing sense of belonging and personal value⁴.

² Older Women's Co-housing, Accessed June 30, 2021. <https://www.owch.org.uk/>

³ World Health Organization, Commentaries, " Seeking shelter from social isolation and loneliness under the tree of friendship" Accessed August 13, 2021. <https://www.who.int/news-room/commentaries/detail/seeking-shelter-from-social-isolation-and-loneliness-under-the-tree-of-friendship>

⁴ Maria Brenton, Oct. 2017 "Community Building for Old Age: Breaking New Ground. The UK's first senior cohousing community, High Barnet" wrote to UK Cohousing Network Senior Cohousing Ambassador, for the Housing Learning

The autonomy, as the central idea of this senior women co-housing project, has different meanings and roles in different phases throughout the history of construction,

therefore make the project unique and superior to other unilateral targeted housing

support projects. To be more specific, doesn't like the uncertainty and large scale of

traditional nursing homes, for OWCH⁵ it's up to the residents themselves to decide the

people to share the housing. The advantages of limiting the resident scale and choosing

neighbors can better customize their community to save budget while focusing on some

kinds of the groups' special common needs, such as education, planting, medical help,

women aids, and so on. The positive relationship between the neighborhood can also help

the community operate smoother to gather the power to attract and seek more external

assistance. The successful collaboration among OWCH and housing associations like

Housing for Women, land developers, and fund-providers like Hanover, successively

became significant key turning points in the implementation of the project. All of these

could not happen without nearly a decade's regular weekly meetings within the members

of OWCH, their enthusiasm to promote and explain the project to the original residents

and their negotiations with government departments. The autonomy they set in the

and Improvement Network

https://www.housinglin.org.uk/assets/Resources/Housing/Practice_examples/Housing_LIN_case_studies/HLIN_CaseStudy-139_OWCH.pdf

⁵ Maria Brenton, Oct. 2017 "Community Building for Old Age: Breaking New Ground. The UK's first senior cohousing community, High Barnet" wrote to UK Cohousing Network Senior Cohousing Ambassador, for the Housing Learning and Improvement Network

https://www.housinglin.org.uk/assets/Resources/Housing/Practice_examples/Housing_LIN_case_studies/HLIN_CaseStudy-139_OWCH.pdf

beginning, becomes the fuel of the later one for community spacial design and organic living pattern, for example, their equal view to the center lawn and flower broader, private bedroom and shared kitchen, laundry, and vegetable field, a state that can be easily switched between independent and shared. Thus, as can be seen nowadays, these women feel much more empowered and more decisive⁶.

OWCH's organic self-support has been tested out even during the pandemic. One of the founder members, Maria Brenton, wrote 'New Ground' Co-housing Community, High Barnet: resilience and adaptability (Maria, 2020)⁷ to report and reflect the residents' reactions and post-pandemic life. The resilience and adaptability she mentioned are what autonomy is going to the community in the future phases. These senior ladies quickly adapted virtual communication through mutual help. They set up 3 to 4 people-groups to manage each other's health conditions and set up emergency response measures if there are infected people in the community. Even they had been restricted to travel, this group of people didn't suffer a lot from loneliness and isolation. On the other hand, they spread messages of encouragement to the elderly and children who suffered elsewhere through

⁶ Community Led Housing, London, "Older Women's Co-Housing" <https://www.communityledhousing.london/project/older-womens-co-housing/>

⁷ Housing Lin, Blogs, " 'New Ground' Co-housing Community, High Barnet: resilience and adaptability" Accessed August 13, 2021. <https://www.housinglin.org.uk/blogs/New-Ground-Cohousing-Community-High-Barnet-resilience-and-adaptability/>

the Internet. And they also made food by themselves and sent them to the surrounding communities.

OWCH community has overcome many hurdles to achieve this result finally. It can bring more influence than just provide themselves a residential space; the role it's going to play in aging society could be an incentivization for more vulnerable groups to chase for their needs and have the power to bring transformation future senior housing situation. However, this autonomy is still in need of further improvement. Although it realized the cost-efficiency by mutual inner support and mental plus physical care by customizing personal life patterns, it still could be difficult for the disabled and the diseased elders to operate likewise. Traditional nursing homes⁸ still have their indispensable parts to play because of their medical care. It's a prior choice for a normal family since they don't have enough time, money and energy to care for the diseased elders and wait for the customized community to be built. But we can still see the breakthrough in various homcare and aging in place programs, which could potentially be combined with co-housing to form a further upgraded and specialized autonomy community workflow. It's doable because of the smaller scale compared to normal nursing houses. The reduction on the workload of healthcare workers could provide a better service to the group, thus avoiding inadequate care and inefficiency, which are very common and urgent to be solved. The future of the development of co-housing can be expected.

⁸ Wikipedia, "Nursing home care in the United Kingdom" Accessed August 13, 2021. https://en.wikipedia.org/wiki/Nursing_home_care_in_the_United_Kingdom



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<https://cohousing.org.uk/case-study/new-ground-cohousing-development-inspiring-example-not-might-live-get-older-live-cities/>

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World Health Organization, Fact sheets, "Ageing and health" Accessed August 13, 2021.
<https://www.who.int/en/news-room/fact-sheets/detail/ageing-and-health>



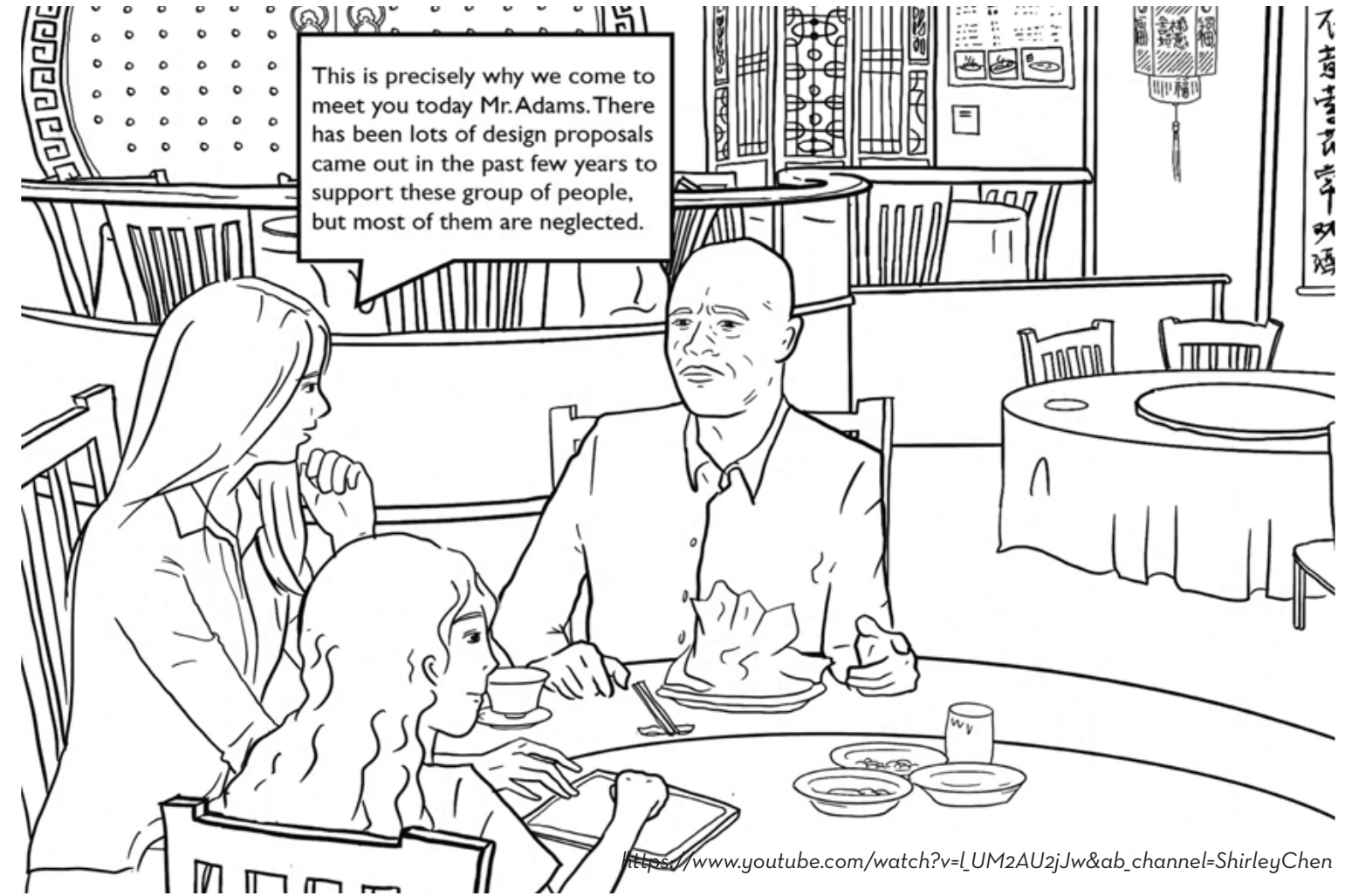
DIGITAL TECHNIQUES FOR URBAN DESIGNERS

ANIMATION, SUPERCUT, DATA MAPS

FACULTY: Richard Chou - Coordinator
Eric Huntley - Instructor
Paul Kamuf - Instructor
Joy Wu - Teaching Associate

TEAM MEMBERS: Jie Kong, Shirley Chen,
Galina Novikova, Giulia Chagas

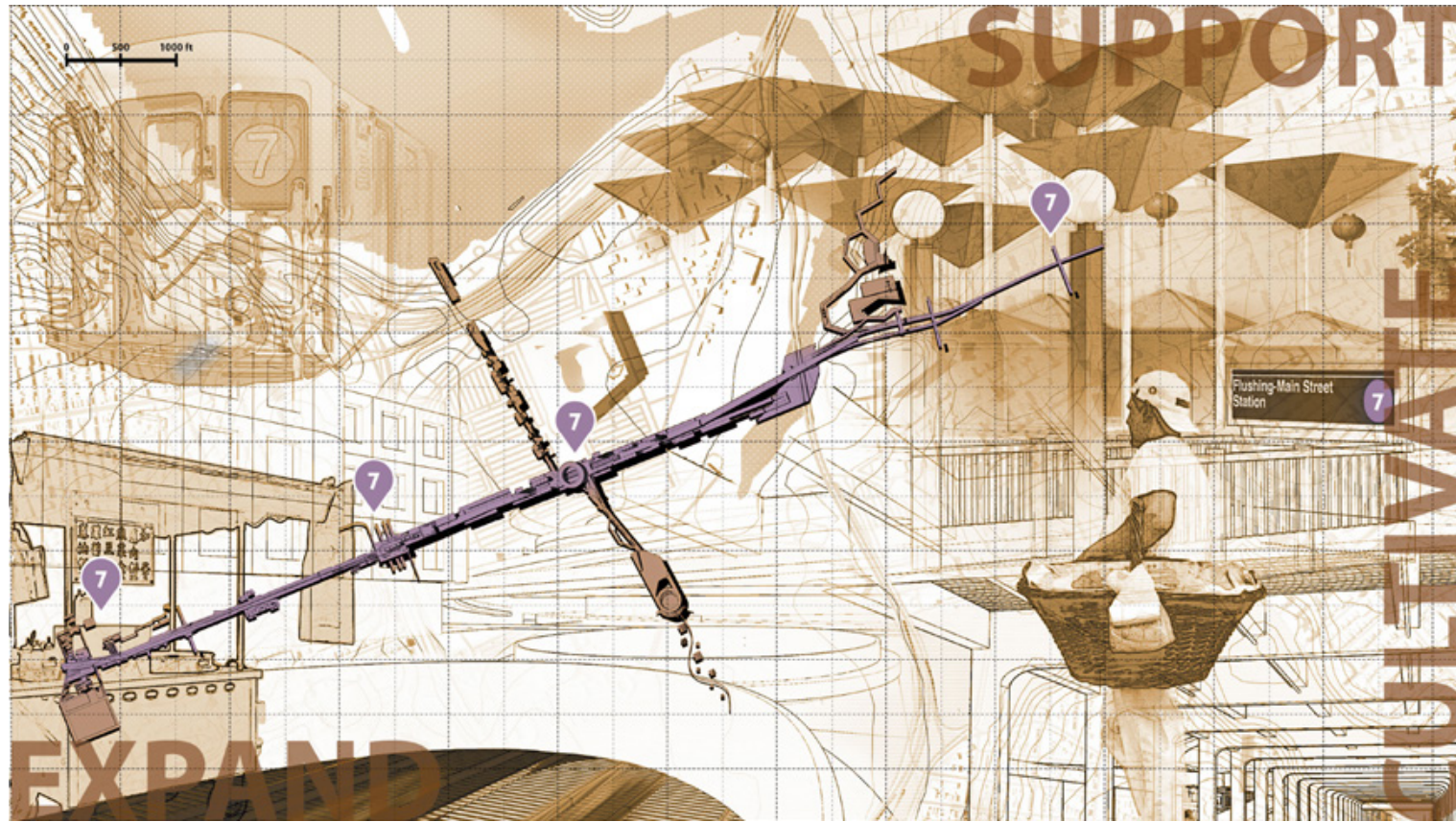
Role-Play Animation



Manifesto Supercut

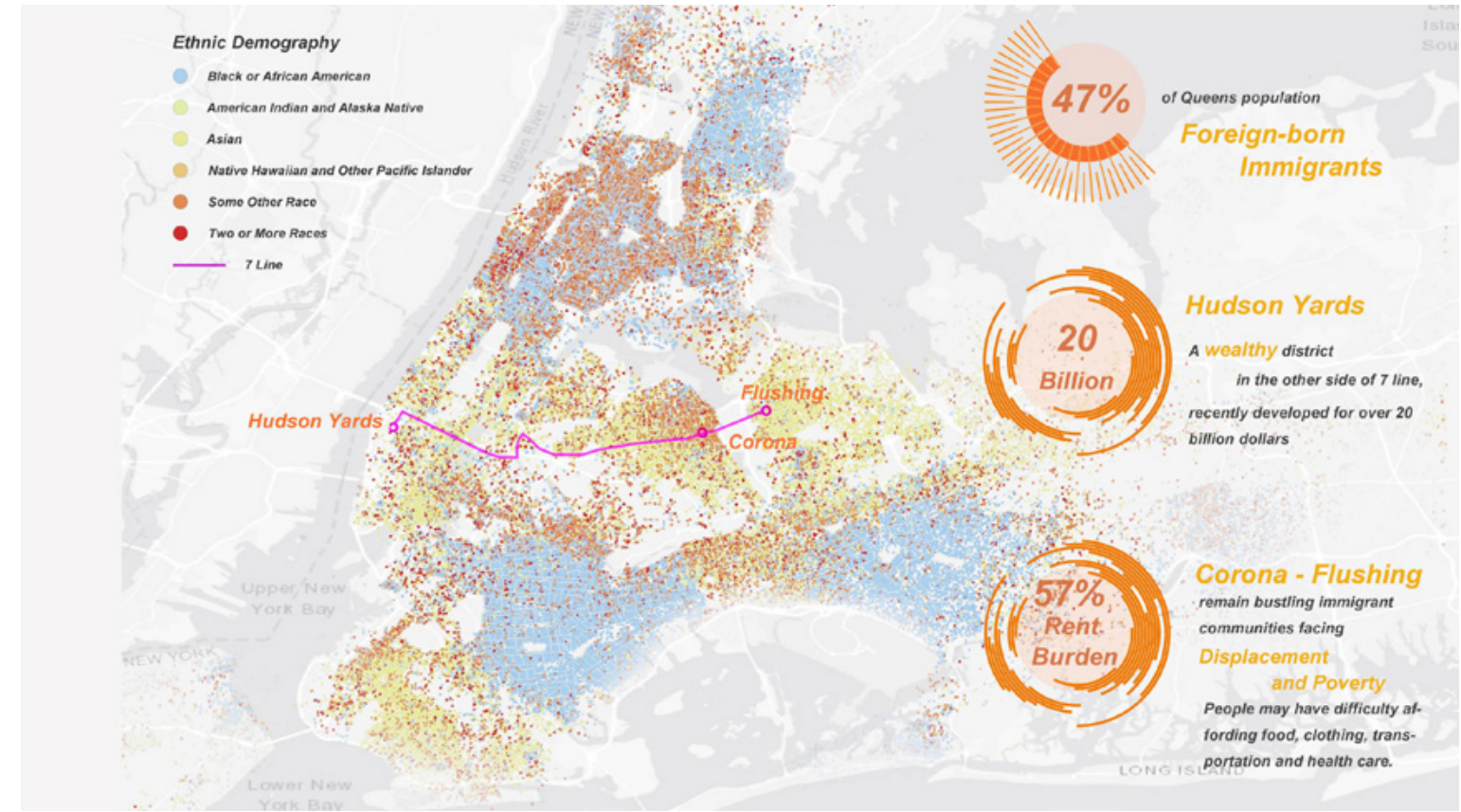


Super Drawing

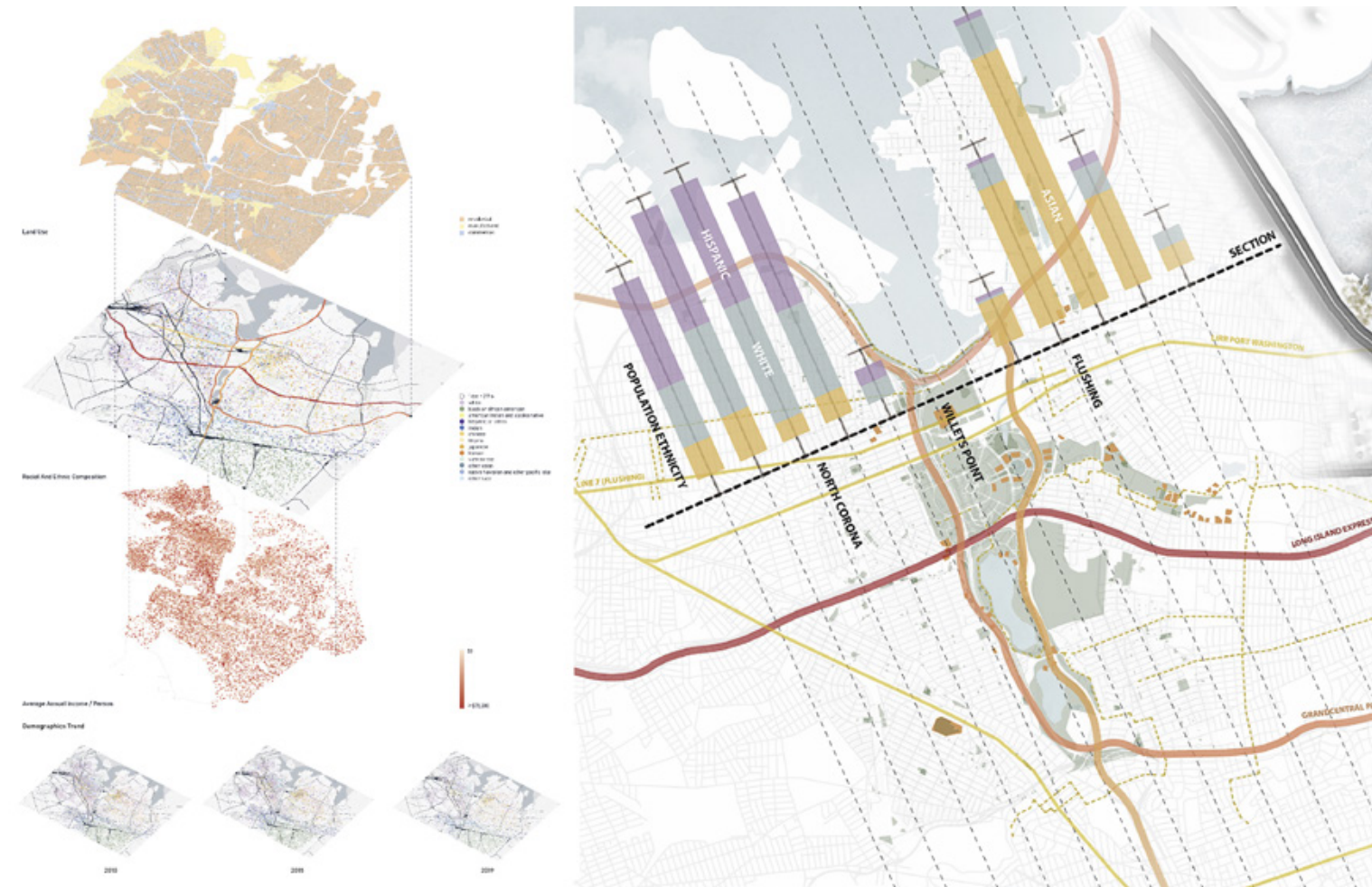


https://www.youtube.com/watch?v=nKdGVUGWtV4&ab_channel=GiuliaC

Data Map



Data Map



Design Strategy Animation



https://www.youtube.com/watch?v=qqfPc7JryTw&ab_channel=JieKong
https://www.youtube.com/watch?v=1EsWGfowxqs&ab_channel=ShirleyChen
<https://www.youtube.com/watch?v=1CTmgo1pfno>

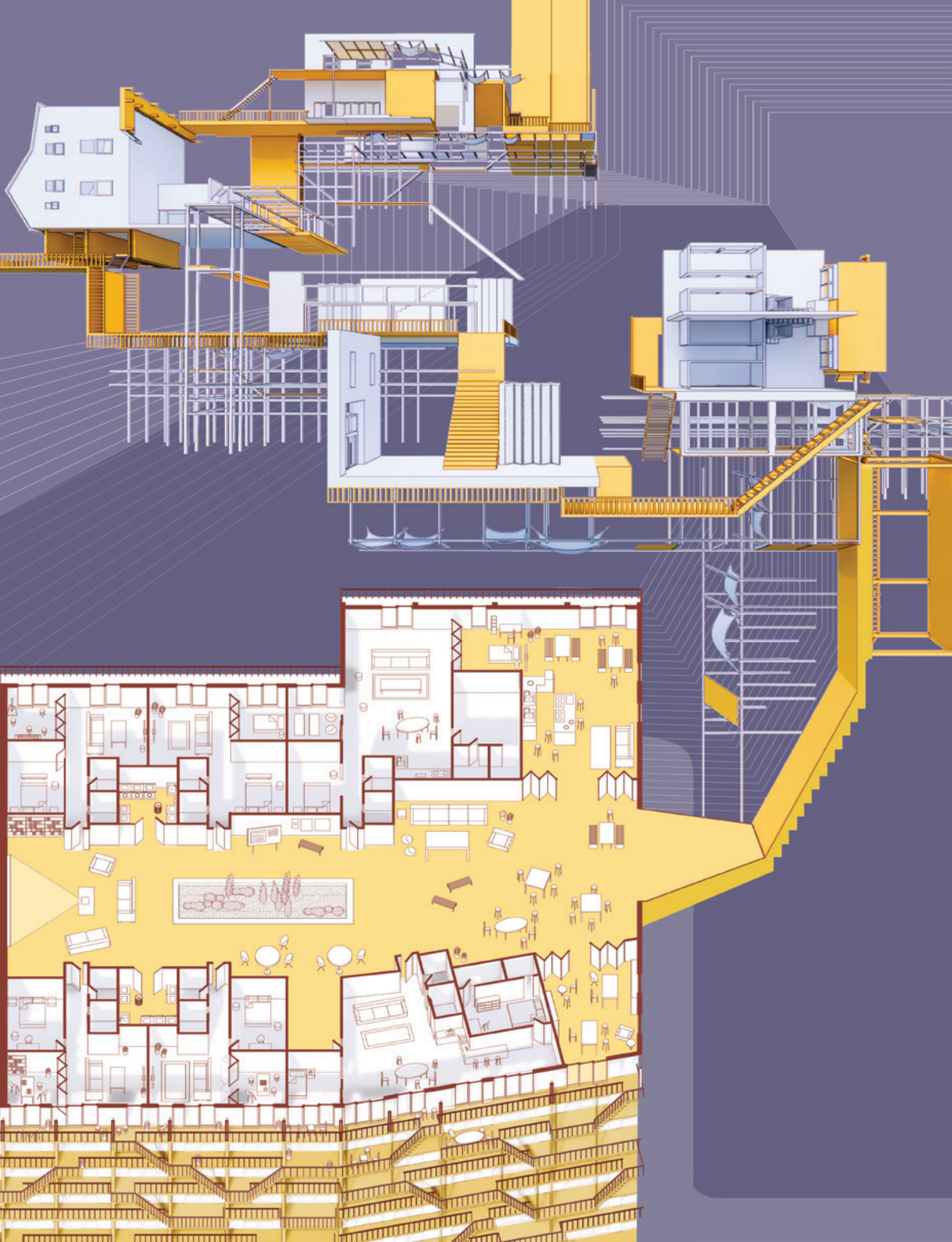
STUDIO II AMERICAN CITIES & REGIONAL CONTEXTS

ATLANTA AFTER PROPERTY

CABBAGETOWN: COMMUNITY THROUGH DOMESTICITY

FACULTY: Emanuel Admassu - Coordinator
Nina Cooke John, Chat Travieso, Lexi Tsien
Nupur Roy - Teaching Associate

TEAM MEMBERS: Jie Kong, Shirley Chen,
Jake Tiernan, Sydnee Sampson





Cherokee Families

The Cherokee family structure was matrilineal, meaning children joined their mother's clan and rarely saw their fathers. Domestic relations were based on communal ties rather than household ones, with extended family and clan members flowing freely between houses as needed.

Cherokee Family Domesticity In the 19th Century History of the Mill Speculation



Domesticity In the 19th Century

Europeans introduced more rigid domesticity, with women expected to stay home and provide child-care while men work. The domestic became grounded to the property one inhabits and immediate blood relations rather than communal ties.

Cherokee Family Domesticity In the 19th Century History of the Mill Speculation



Cabbagetown Background

The mill was constructed in Cabbagetown in 1886, and further expanded on European domesticity. Single-family housing was created and rented to workers, with many including multiple generations under one roof.

Cherokee Family Domesticity In the 19th Century History of the Mill Speculation



Speculation

However, as the mill shutdown, owners sold many of the factory homes out from under residents. Investors seeking to make Cabbagetown a "Gingerbread Village" bought up properties, which then sat vacant due to speculation and transforming the homes into Airbnb's.

Cherokee Family Domesticity In the 19th Century History of the Mill Speculation

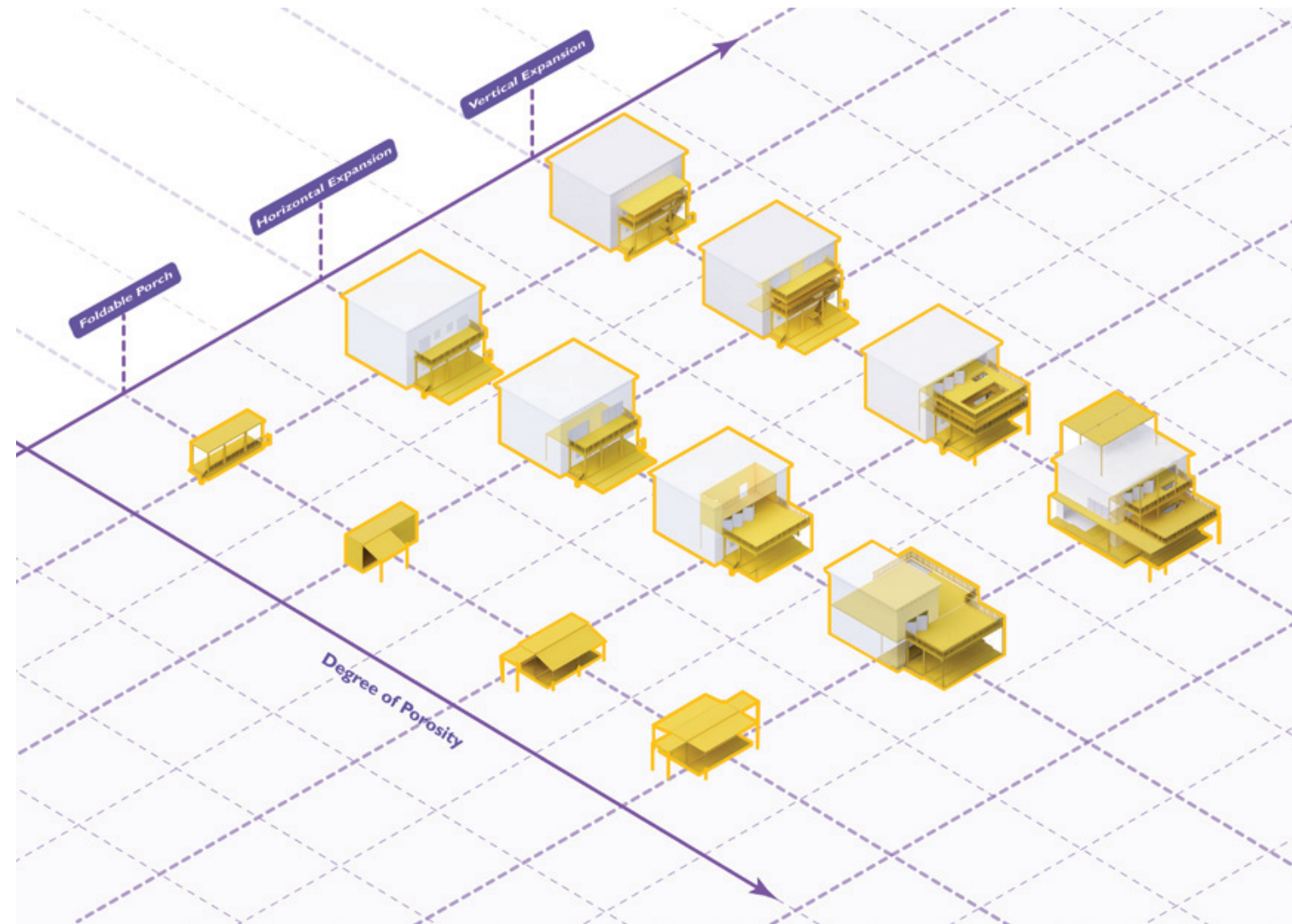


Porch Typology

Due to the Fulton Bag Mill being shut down, owners sold many of the factory homes out from under residents. Investors seeking to turn Cabbagetown into a “Gingerbread Village” bought up properties, which then sat vacant due to speculation and transforming the homes into AirBNB’s.

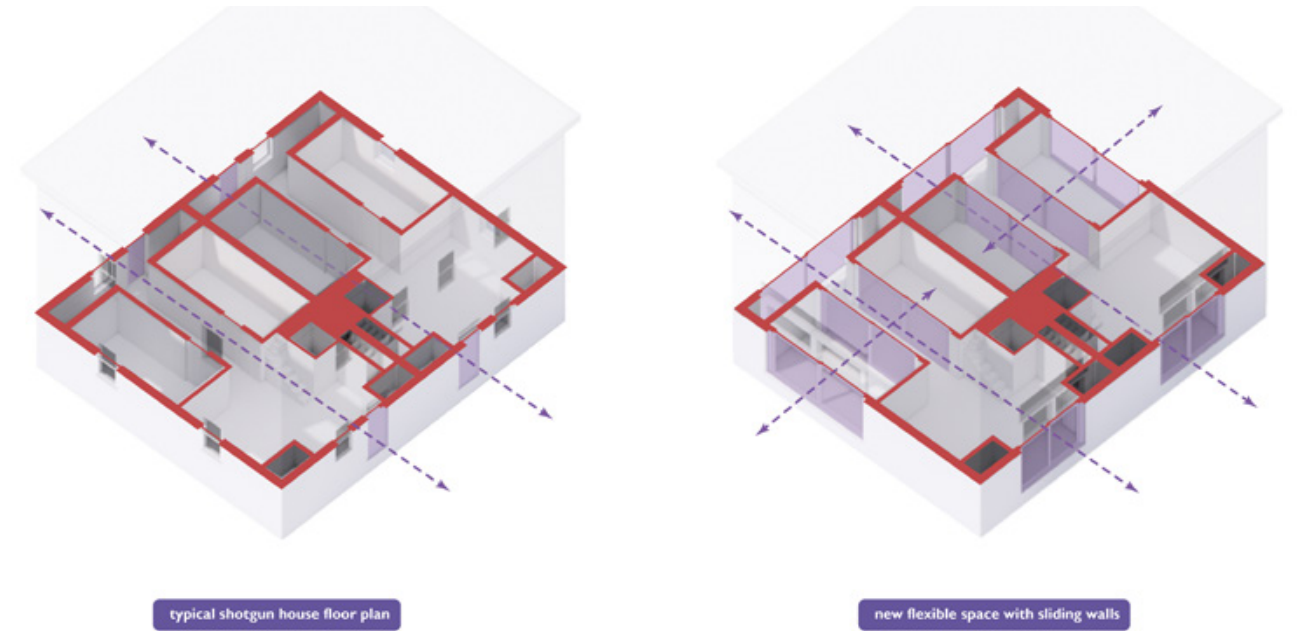
To disrupt the speculation over vacant and AirBNB homes, these homes are then re-organized around a new domestic structure and support the needs of multiple families by blending them in the process. As this unfolds, the barriers of the domestic space breaks down by bleeding to the outside.

By adapting and transforming the typical shotgun house floor plan allow different uses of the space and various degrees of openness. With sliding doors placed at the facade and interior wall, a fluid circulation can be created from front to the back, from alley to alley. The flexible interior organization created by the sliding and folding walls generate different degrees of porosity, and these interior arrangements can be determined by the spatial needs for the occupants.



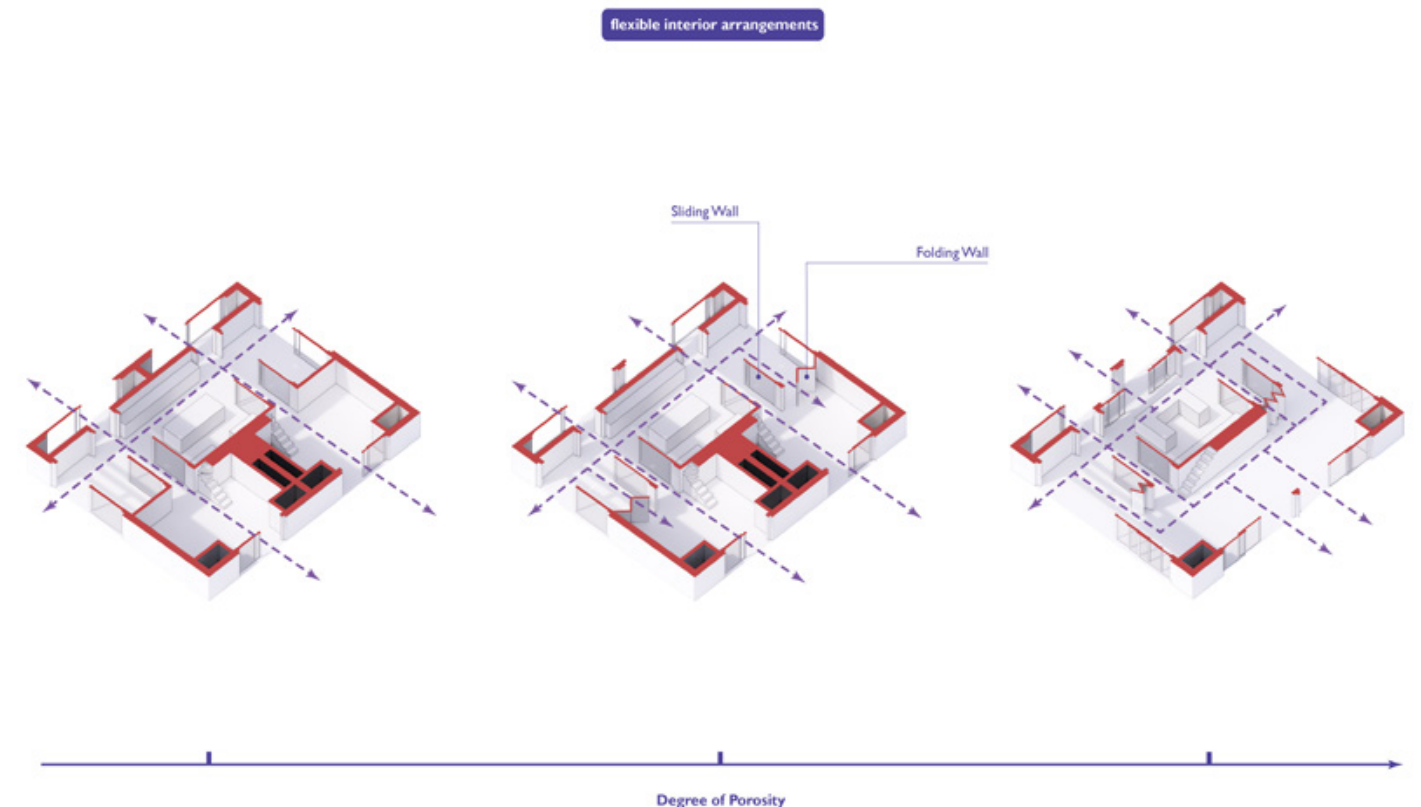
For the transformation and extension of the porch, we categorize them into three groups: foldable and flexible porches; porches that expand to the interior of the house and exterior; vertical expansion of the porch to higher levels of the house.

Interior Analysis

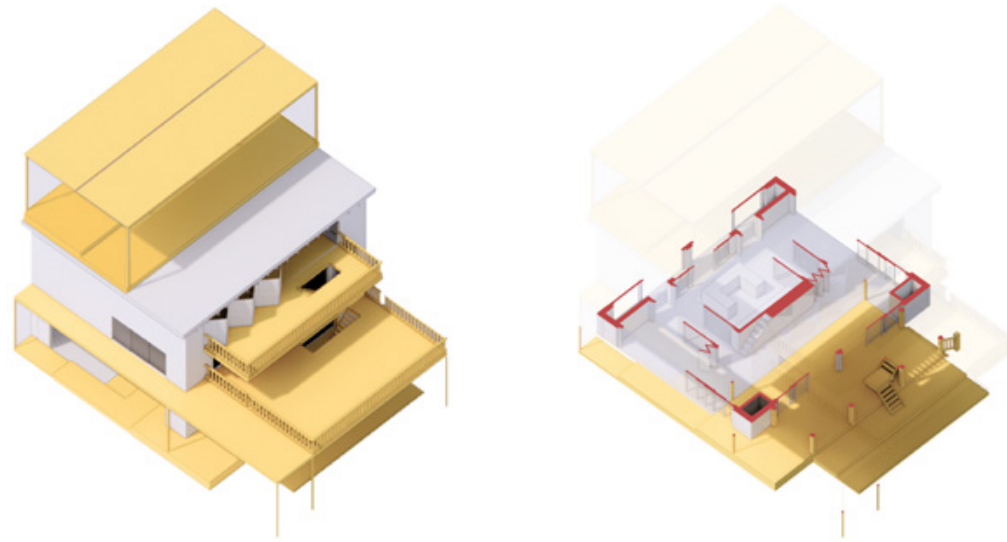


Adaptation and transformation of the typical shotgun house floor plan allow different uses of the space and various degrees of openness. With sliding doors placed at the facade and interior wall, a fluid circulation can be created from front to the back, from alley to alley.

The flexible interior organization created by the sliding and folding walls generate different degrees of porosity, and these interior arrangements can be determined by the spatial needs for the occupants.

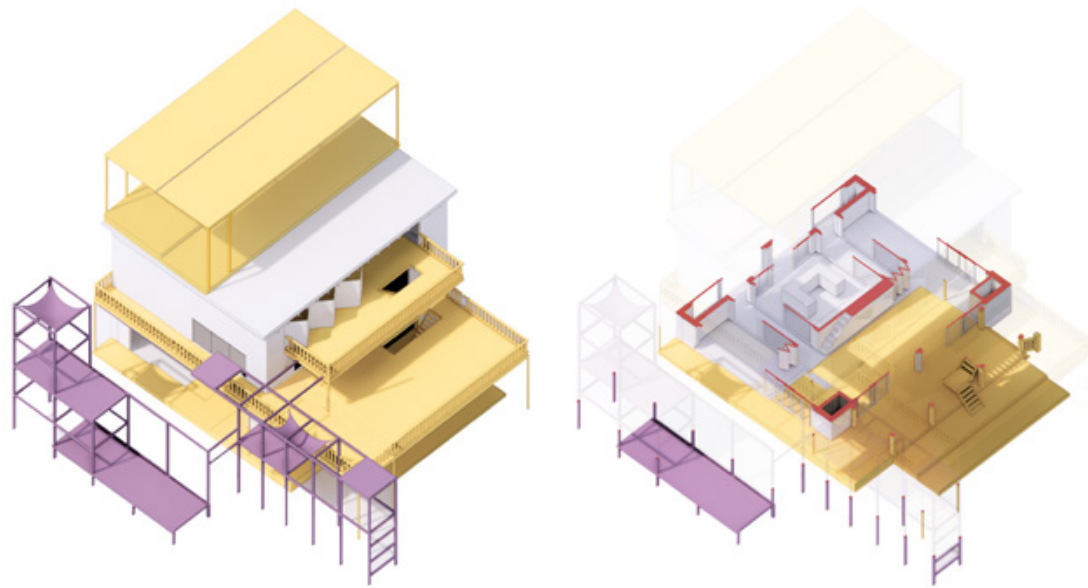


flexible interior arrangement + extended porches



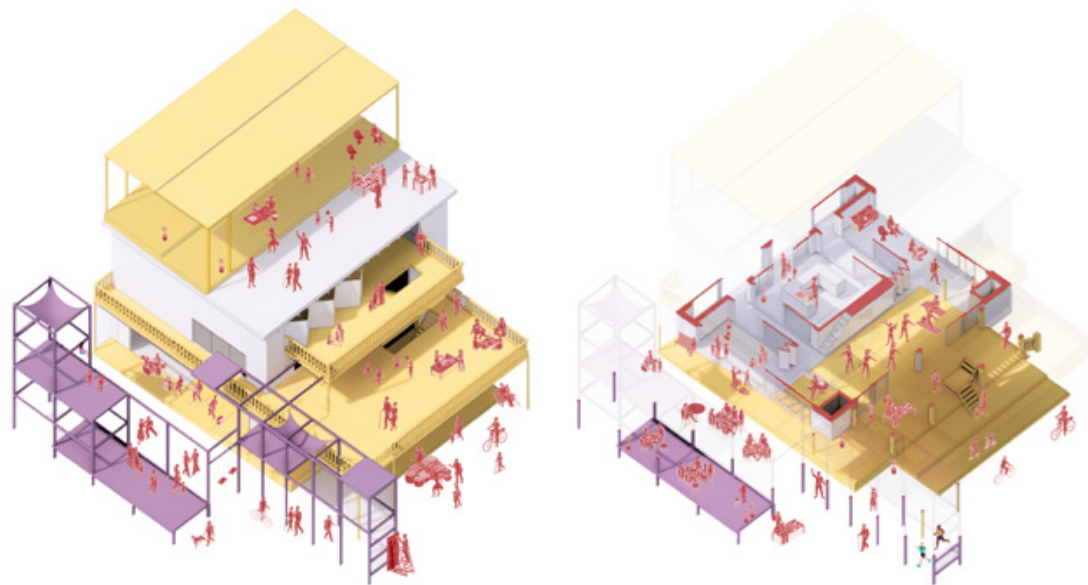
Flexible interior organization combined with the extended porch further blurred the boundary between interior and exterior.

flexible interior arrangement + extended porches + lilong



Spaces created by the Lilong elements extend the interior space to the alleyway between the houses, making a communal corridor that allows the indoor activities to spill to the outside of the house.

flexible interior arrangement + extended porches + lilong

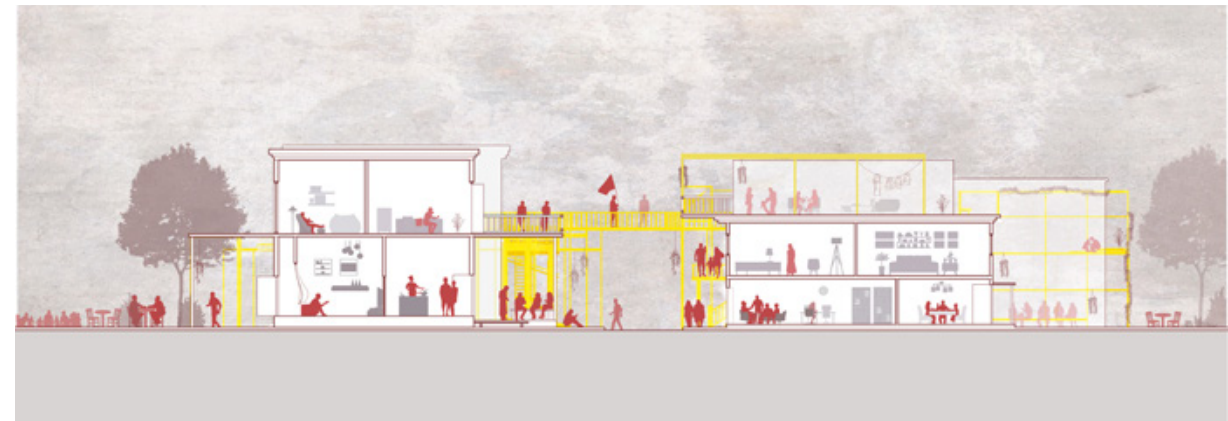


All together, the lilong and extended porches connect the street, houses, and backyards, encouraging diversity in activities and interactions as well as a semi-nomadic lifestyle.

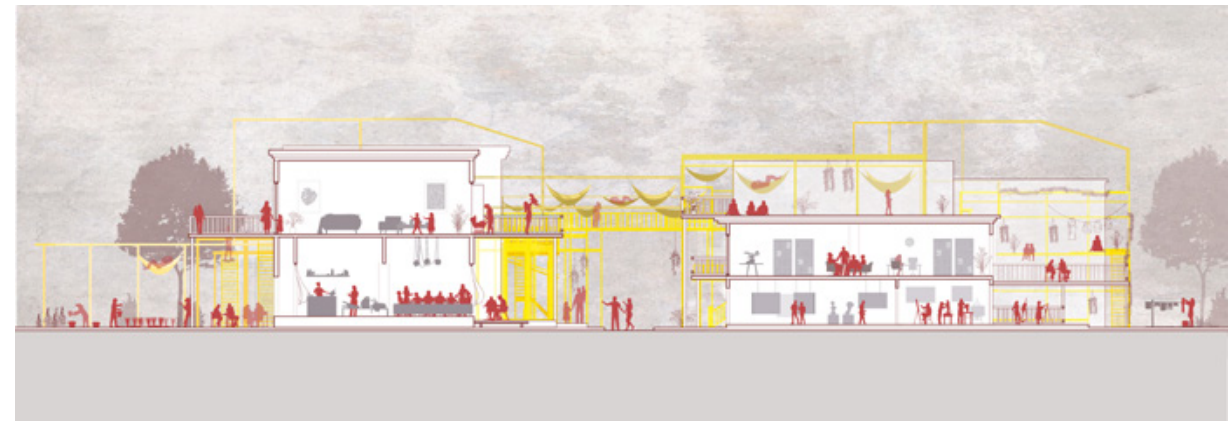
Interior Analysis



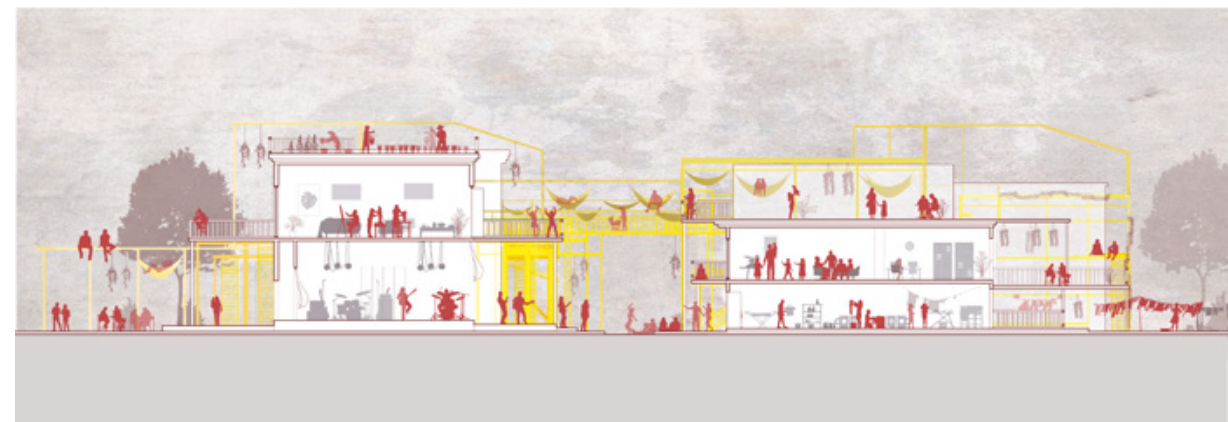
The porches are used to create different levels of connections and expansion to both the public realm and domestic sphere, generating a series of interweaving platforms that blur the boundary between domestic and public spaces



Self-constructed, flexible communal spaces would be created in between houses, becoming a series of connecting tissues across the street and backyard for more fluid movement and circulation.

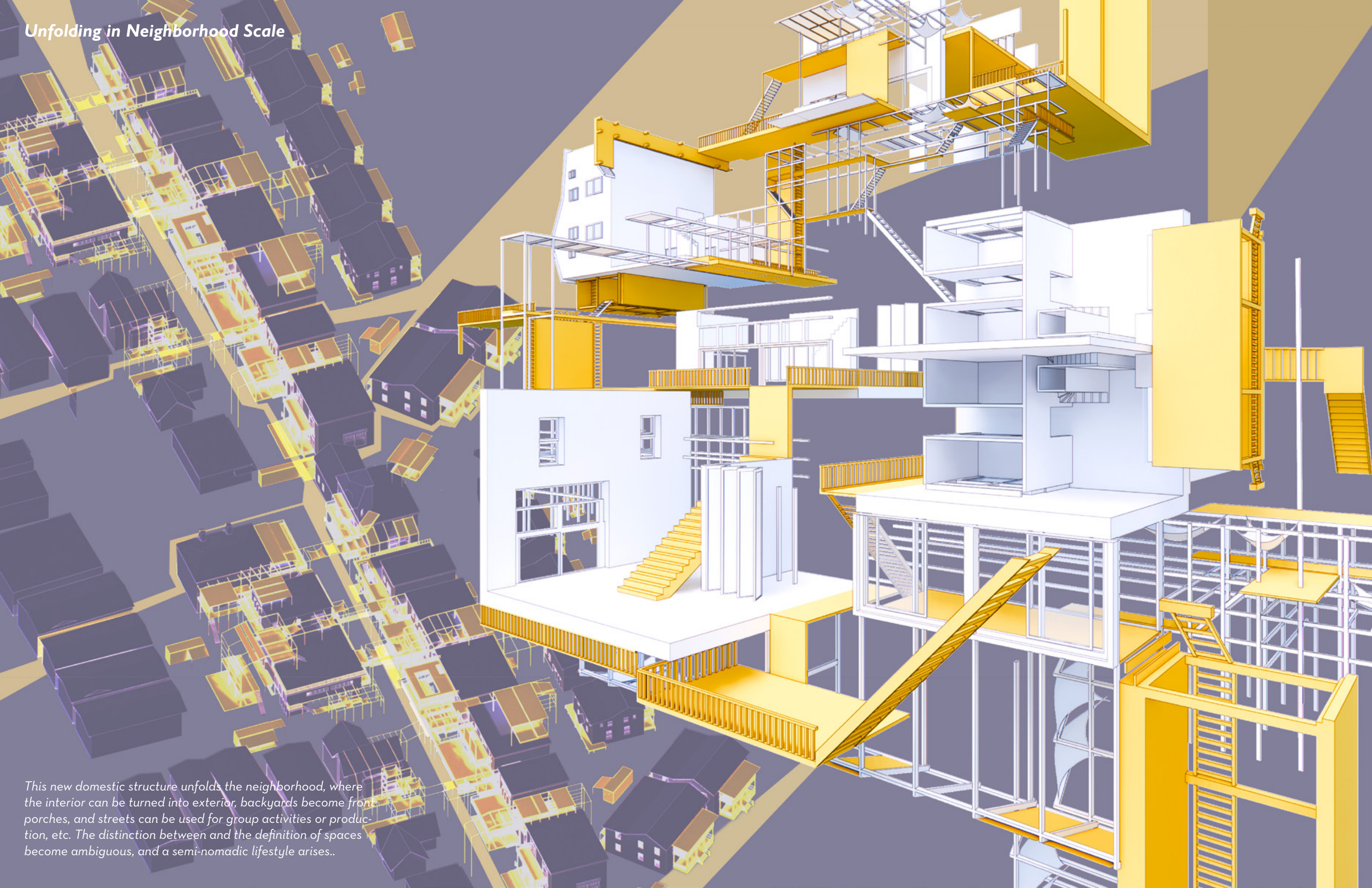


The occupation and construction are based on what people need. The semi-nomadic lifestyle leads the community to expand the domestic beyond property and blood relations.





Unfolding in Neighborhood Scale



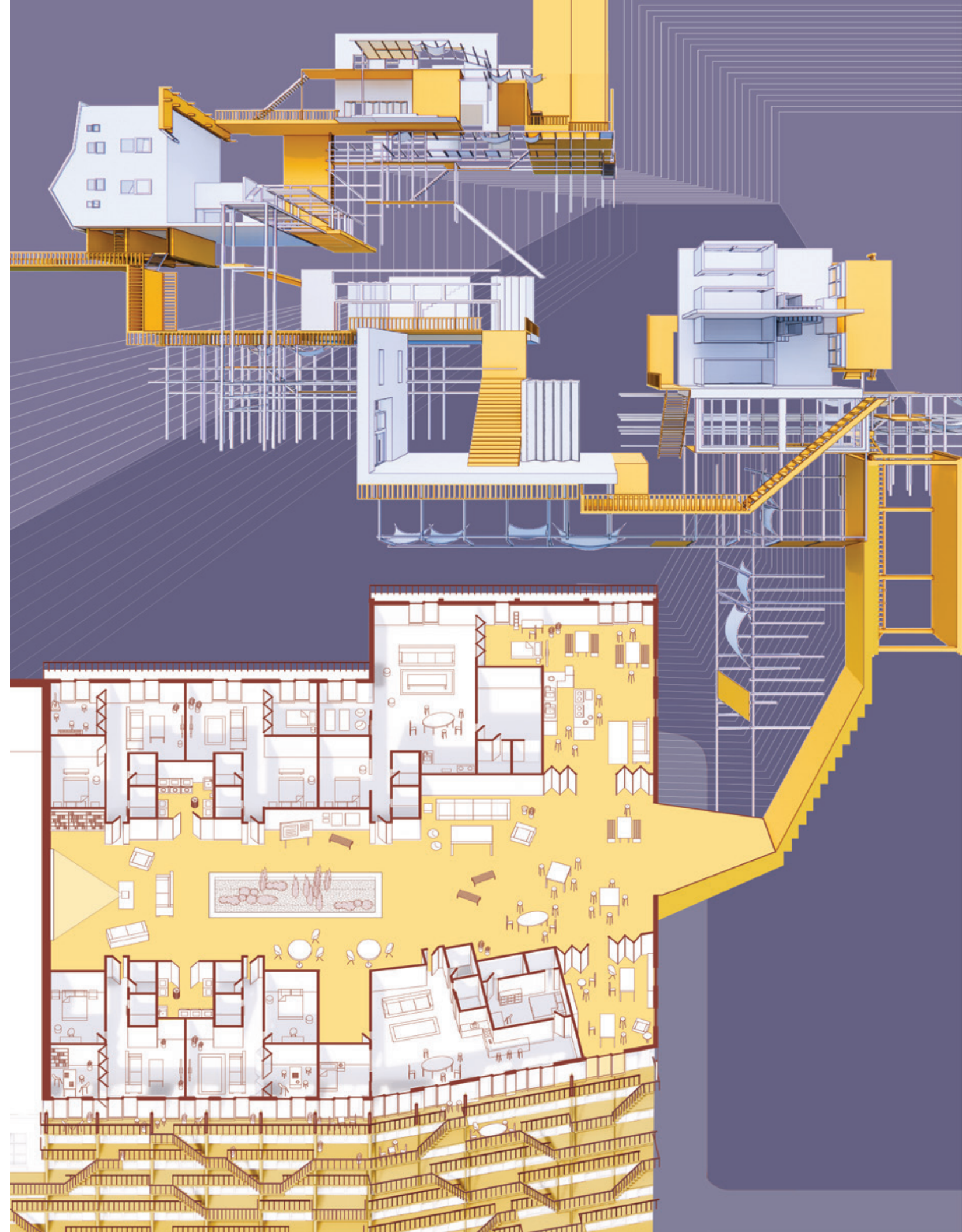
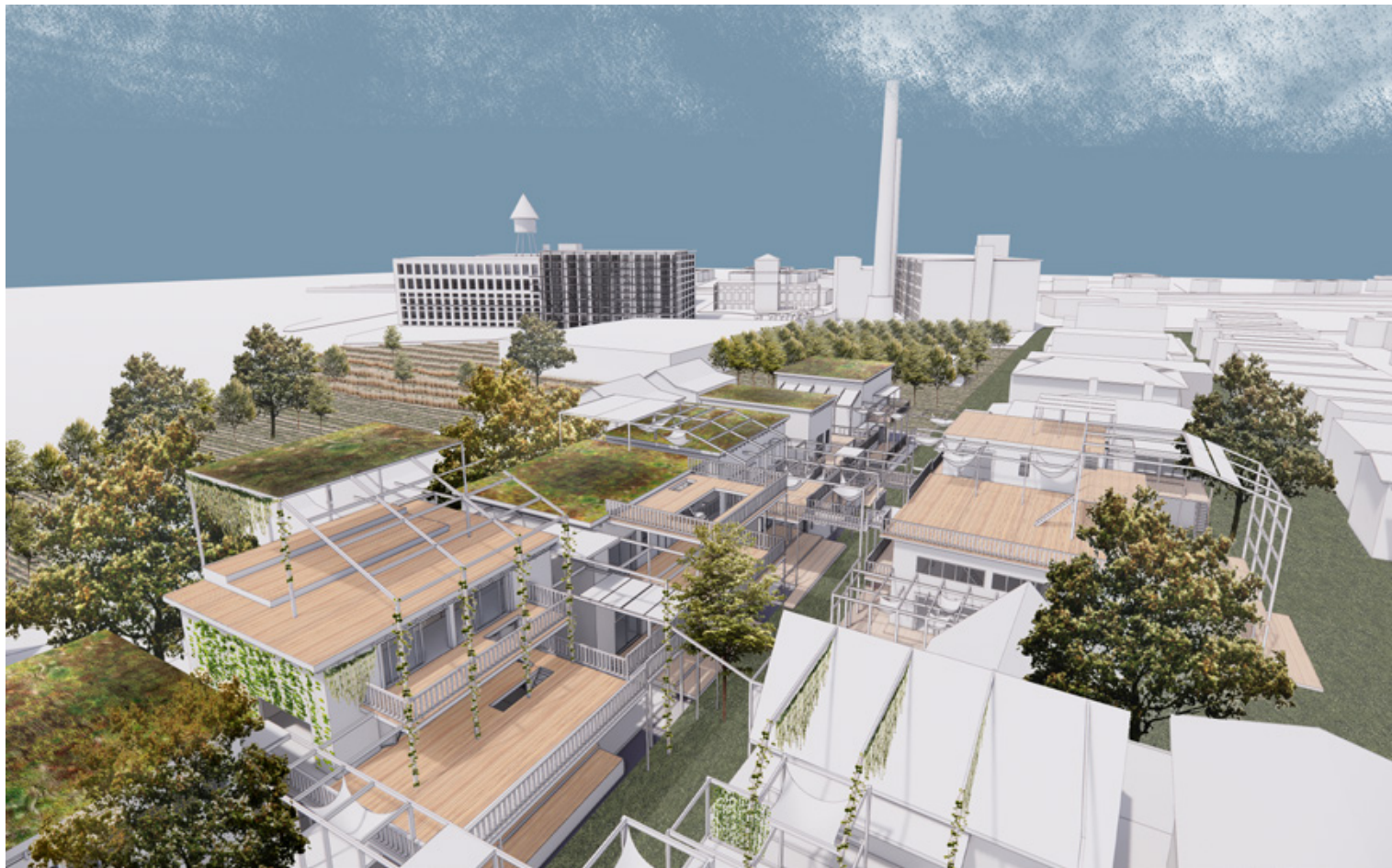
This new domestic structure unfolds the neighborhood, where the interior can be turned into exterior, backyards become front porches, and streets can be used for group activities or production, etc. The distinction between and the definition of spaces become ambiguous, and a semi-nomadic lifestyle arises..

From Neighborhood to Mill

The notion of the street and porch continues to evolve inside the mill. Balconies on the mill become like the porch, while the hallways become the backyards.

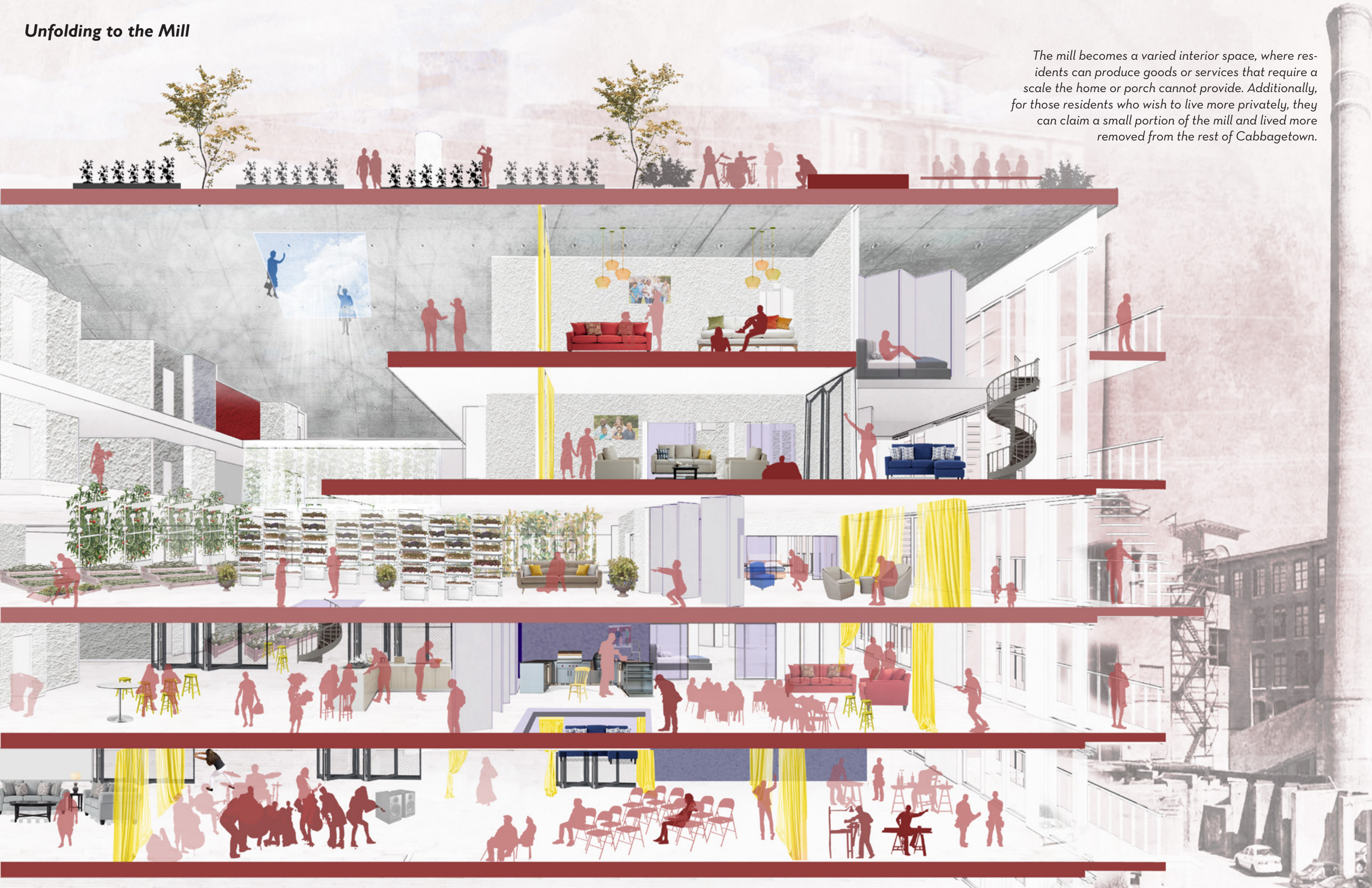


The folding and sliding walls at each floor also give the space flexibility that breaks the traditional apartment floor layout to create fluidity that allows for single resident occupation or production.



Unfolding to the Mill

The mill becomes a varied interior space, where residents can produce goods or services that require a scale the home or porch cannot provide. Additionally, for those residents who wish to live more privately, they can claim a small portion of the mill and lived more removed from the rest of Cabbagetown.





We envision a future for Cabbagetown where property is not the central pillar of domesticity. Legacy residents can return, while also inviting those who are in need of homes. Semi-nomadic occupation of houses will expand domesticity beyond property and blood relations to the community at large. At the end, we imagine this semi-nomadic lifestyle in Cabbagetown is going to thrive and spread out to other communities in Atlanta

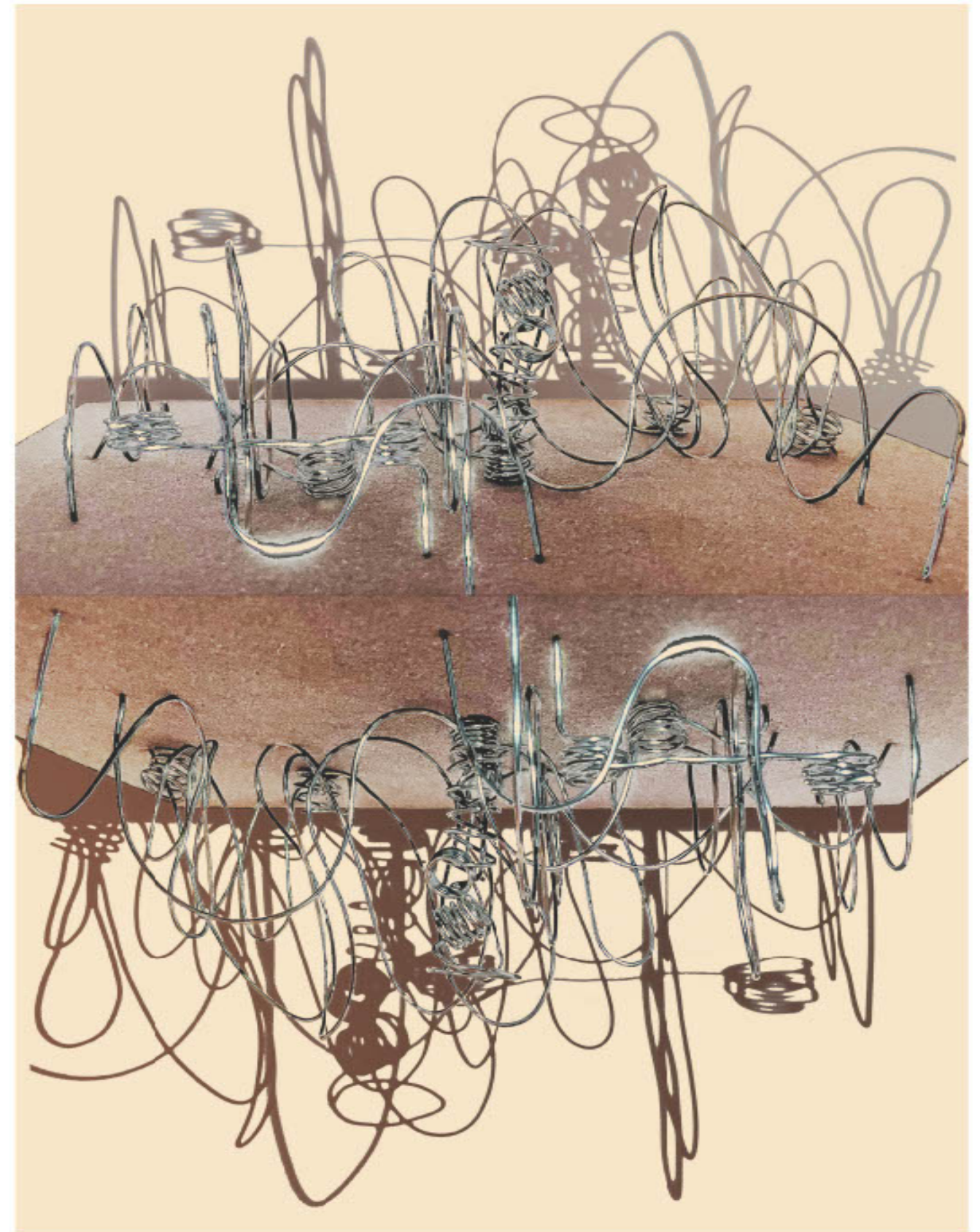
LINES NOT SPLINES

WORKS SELECTION

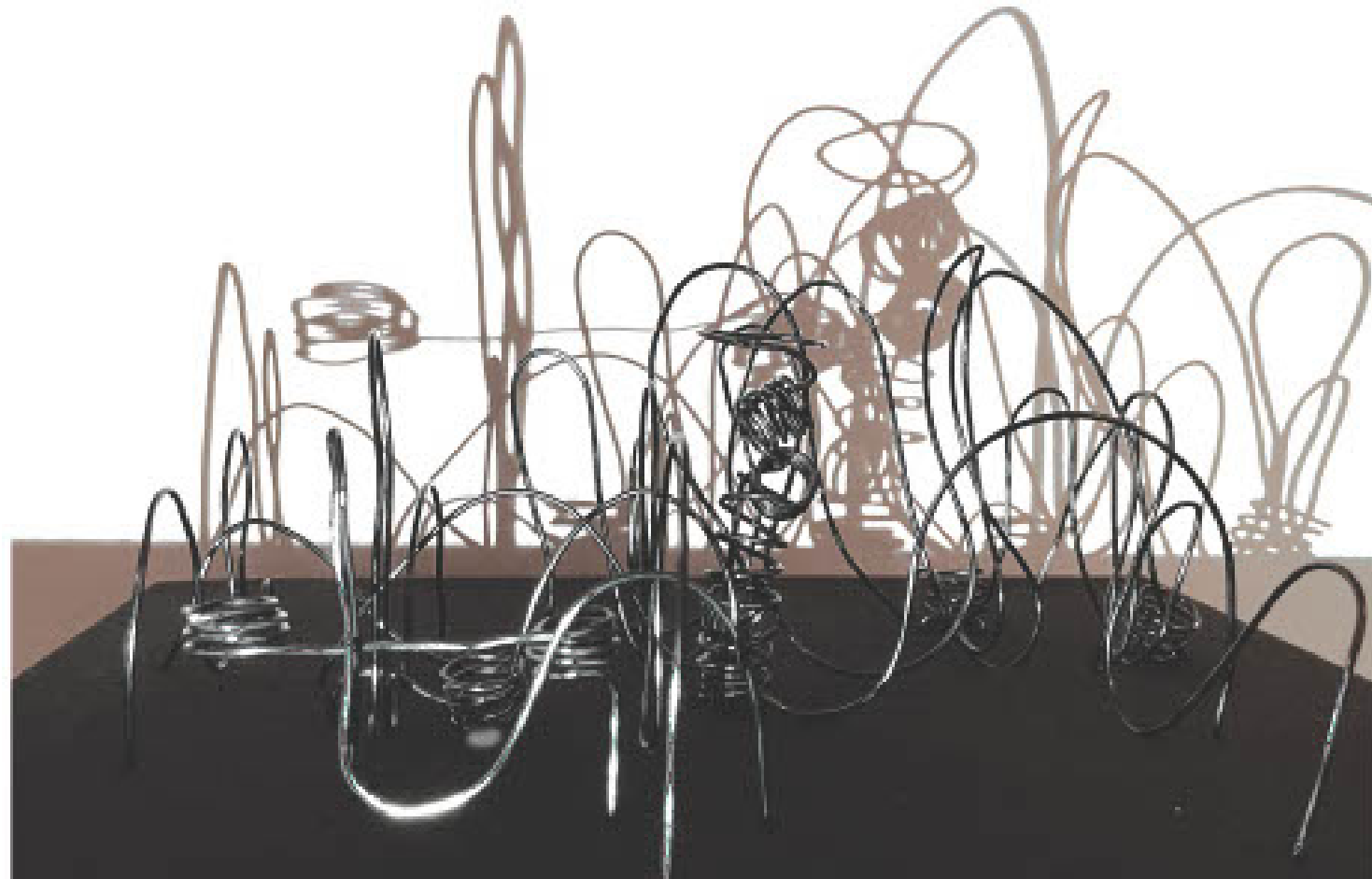
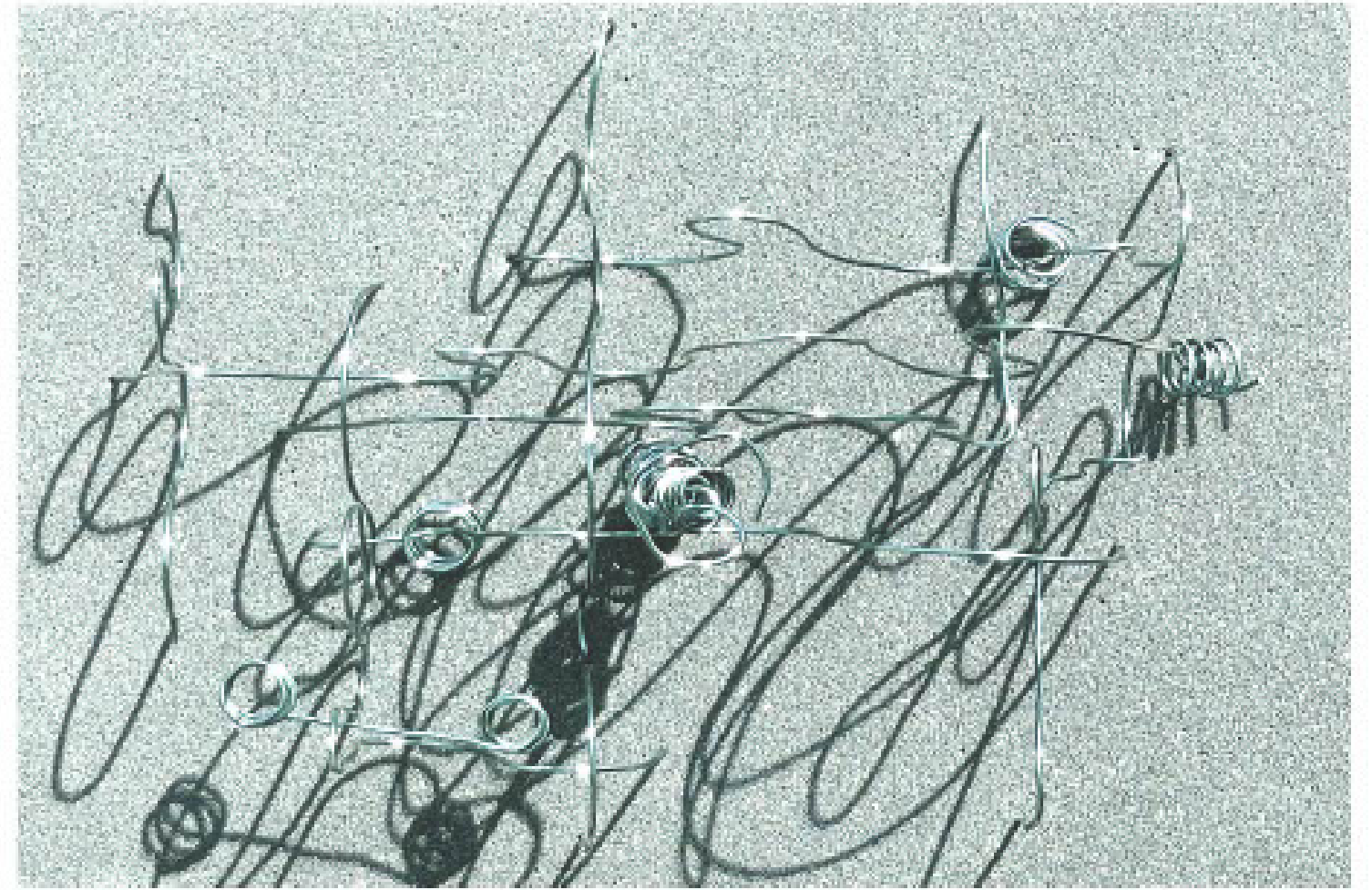
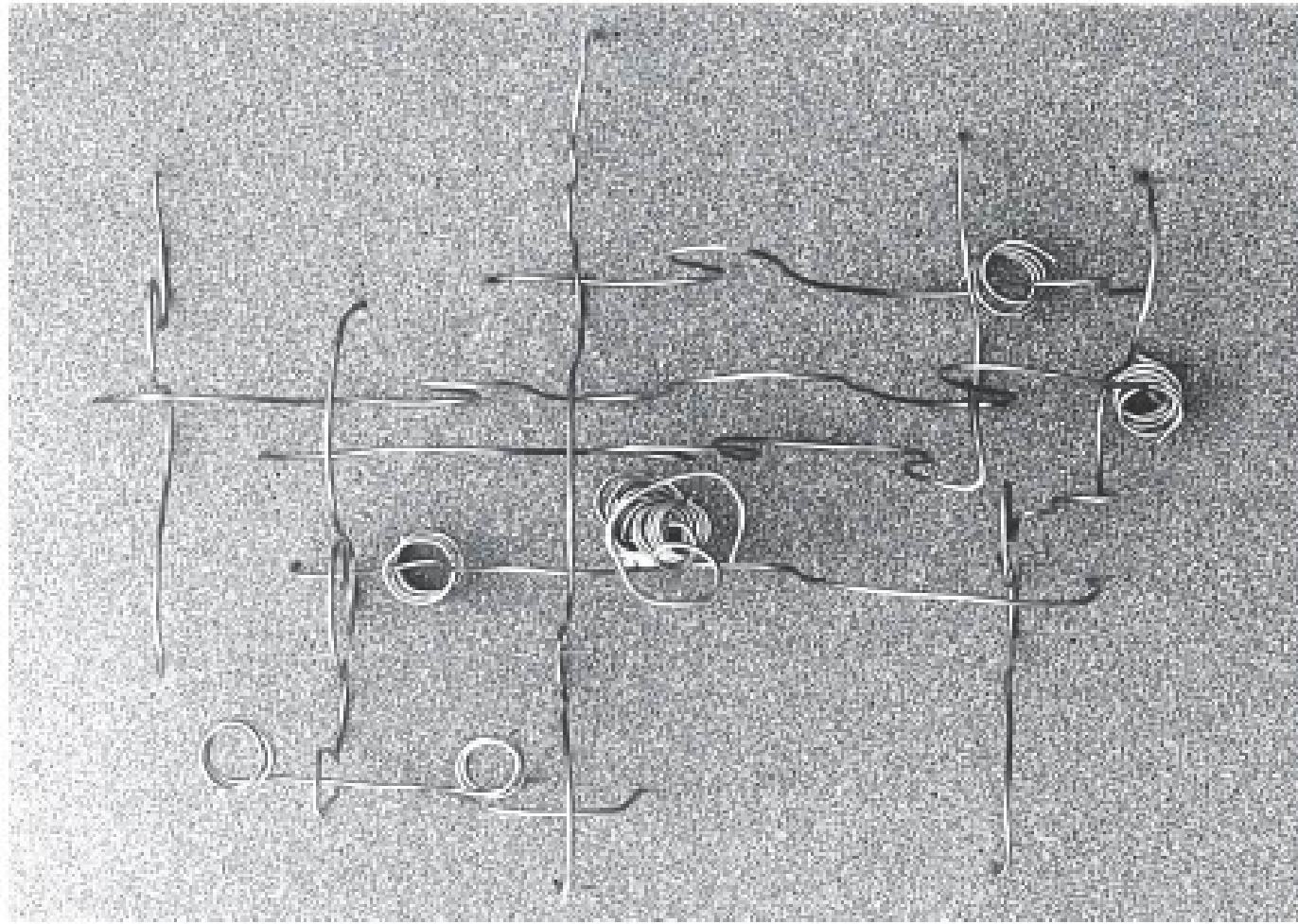
DRAWING-MODEL

FACULTY: *Christoph a. Kumpusch, PhD - Professor*

INDIVIDUAL WORK



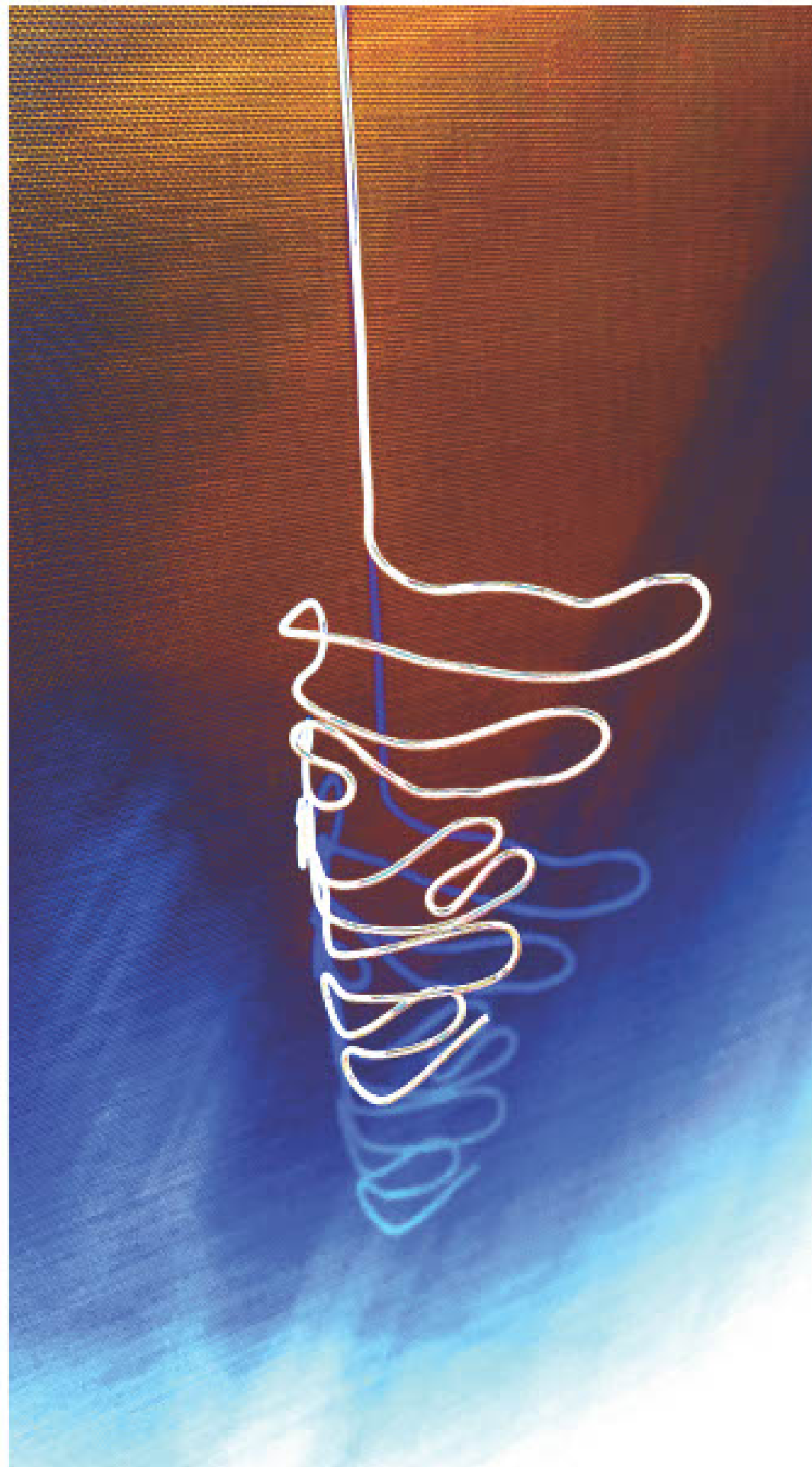
**SHADOW
SHADOW**



“ IT CHANGES RANDOMLY
WITH THE PASSAGE OF TIME
AND THE POSITION OF THE
OBJECT ”



The shadow may be illusory. It appears and disappears from time to time, there is no entity that can be touched, and it changes randomly with the passage of time and the position of the object. Where there is shadow, there is light. When we exposed ourselves to light, the light will illuminate the deep corners, casting shadows in the dimensions we can see. Shadow is the carrier and medium. It magnifies everything, the true personality, the reason for action, the twists and turns of the heart; what we can see and what we cannot see, what can be touched and what cannot be touched; what is brilliant, those who are brave enough to face it, and those who are declining, broken, and eager to avoid; self-denying, self-appreciating, self-deception, self-concealing, everything.



The shadow may be illusory. It appears and disappears from time to time, there is no entity that can be touched, and it changes randomly with the passage of time and the position of the object. Where there is shadow, there is light. When we exposed ourselves to light, the light will illuminate the deep corners, casting shadows in the dimensions we can see. Shadow is the carrier and medium. It magnifies everything, the true personality, the reason for action, the twists and turns of the heart; what we can see and what we cannot see, what can be touched and what cannot be touched; what is brilliant, those who are brave enough to face it, and those who are declining, broken, and eager to avoid; self-denying, self-appreciating, self-deception, self-concealing, everything.

Light and shadow can magnify an object, which means that the light source is not directly facing the object. The unrealistic scale it produces leads to bystanders who don't know the truth. But it still reflect what is real existing but hardly to see. People use light and shadow at night to entrust their thoughts, tell stories, and form a specific space. It carries human imagination and reflects inner thoughts and wishes. The shadows of trees swaying at night are projected on the bricks and tiles in the house. Some people see the soft and bright moonlight, while others see the dark shadows like ghosts. Some one then felt the gentle breeze and the rustle of trees, while others felt the bone cold and the bleak sound of the wind passing through the window. What we are perceiving usually just a few aspects of what we are front with, and from which we can take a glance inside our deeper mind, to learn about ourselves better.

The shadows and lights in design can play as vital media to produce atmosphere and express emotional feelings. People feeling the change of the seasons, passage of time through the simply shift of the weight of lights. The lights put the give different objects attentions, the shadow follows.

In paintings with strong chiaroscuro, light and shadow have very unique functions. Light describes flow, and shadow outlines stillness. They are two very different forces.

One of the functions of shadow as a simple shape is to maintain the position of the composition, similar to the role of bass in music. The shadow is quiet and static, conveying the weight of the painting object while holding the light. The light flows like water on the surface of the object, depicting movement, and guiding the viewer's sight through the composition. In presentation aspect, lights and shadows also provide great sense of weight and pace. The Dutch golden age painter Vermeer Johannes, his paintings are particularly good at expressing the sense of interior and space.

One of the functions of shadow as a simple shape is to maintain the position of the composition, similar to the role of bass in music. The shadow is quiet and static, conveying the weight of the painting object while holding the light. The light flows like water on the surface of the object, depicting movement, and guiding the viewer's sight through the composition. In presentation aspect, lights and shadows also provide great sense of weight and pace. The Dutch golden age painter Vermeer Johannes, his paintings are particularly good at expressing the sense of interior and space.

Representing "The Girl Wearing a Pearl Ring", the use of light and shadow making the pictures come to life. This kind of "real" action, in order to impress people, is the girl's utter desire, which seems to be sad, and the faint light forms a strong visual impact with the completely black background. Another artist, Rembrandt lived in a completely different era. It is almost impossible for his environment to make his education and influence to be equal to today's civilization. The influence he received was only a transmission from the present to civilization. Our nervous system is formed under today's living conditions which is completely different from that of Rembrandt. However, there is a connection that seems to be in common with Rembrandt—that is, we have deep sympathy for human beings and life. Both are not trying to capture the essence and core of life with the medium of choice.

At the same time, shadow could erase the actual appearance of the object and replaces it with a vague outline, which brings people into the illusion. Traditional Chinese shadow puppetry has a history of more than 2,000 years. The Emperor Wu of the Han Dynasty's wife Li died of an illness. Emperor Wu's thoughts were tranced, and he ignored the political affairs all day long. The minister Li Shaoweng arrived at the door one day, and when Lu met a child playing with a doll in his hand, the shadow reflected on the ground was vivid. Li Shaoweng's heart moved. He cut out an image of Mrs. Li from cotton and silk, painted it with colors, and installed wooden poles on his hands and feet. Enclose the square curtains at night, put up lights, and invite the emperor to sit down and watch. Emperor Wu looked at Long Yan Dayue and could not put it down. This story included in the "Hanshu" is considered to be the earliest origin of shadow puppetry.

COMMUNITY ENGAGEMENT

ENGAGEMENT PLAN

TOOLS TO ENGAGE WITH PARTNER STUDENT
FROM UNIVERSITY OF BELIZE

FACULTY: *Kaja Kuehl - Professor*

TEAM MEMBERS: *Jie Kong, Zhifan Li,
Galina Novikova, Sydnee Sampson*



BELIZE STUDIO

TOOLS TO ENGAGE WITH PARTNER STUDENT FROM UNIVERSITY OF BELIZE

ZHIFAN LI
GALINA NOVIKOVA

JIE KONG
SYDNEE SAMPSONW



CONTENTS



MANIFESTO	3
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SCOPE AND TIMELINE	4-5
ROLES AND STAKEHOLDERS	6-7
METHODS AND TOOLS USED	8-15



MANIFESTO

We seek to connect with Belize locals to co-facilitate ecological preservation and awareness, meanwhile advancing economic development with the consideration of coastal environmental value and residents' well-being. To

achieve this, we collaborate with partner students from the University of Belize to set up a comprehensive, interdisciplinary long-term communication network through the internet.

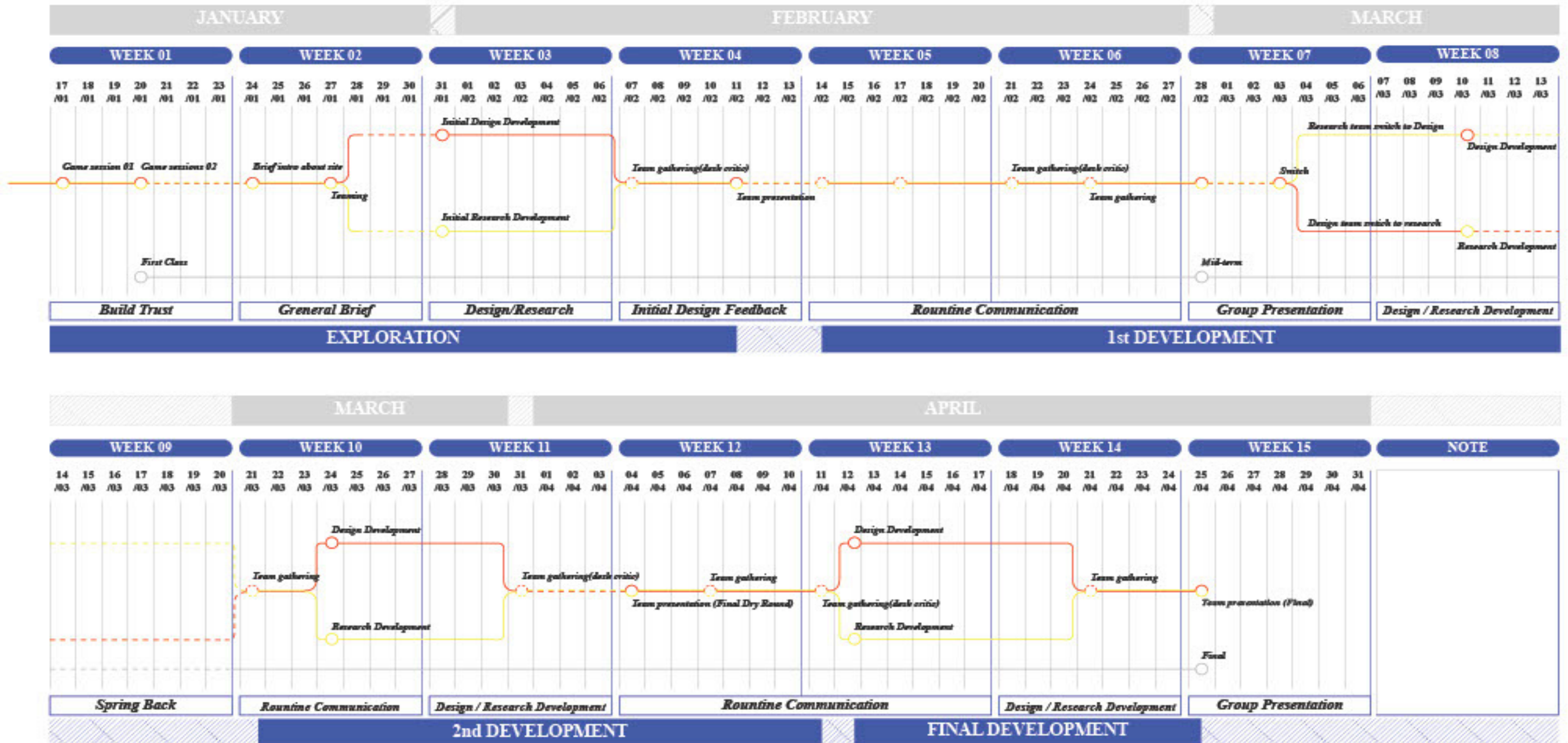
PROBLEMS & PURPOSE

To overcome the limitations caused by online site investigation and to have a profound understanding of the assigned location, we design both short-term and long-term engagement activities between Urban Design students and University of Belize students with the purpose of producing interdis-

ciplinary knowledge, accessing insight into local culture, and fostering long-term cultural exchange, meaningful friendships. Throughout the engagement, we will use both online and in-person tactics such as games, surveys, and social media to collaborate across disciplines.

SCOPE AND TIMELINE

COMMUNITY ENGAGEMENT TIMELINE GSAPP MSAUD 22' SPRING



Over the course of the Winter Break, the Weekshop, and the Semester both UD and Belize students will collaborate to produce knowledge and frame narratives for their Design, actively engaging urban ecological and cultural issues. Through shortterm and longterm engagement strategies are led by students. Session 1 and Session 2 aim to build trust and connect students outside of the research to dive deeper into daily experiences while also practising skills of storytelling from the very beginning of their projects.

PARTNERS AND COLLABORATIONS

- + Belize CZMAI
- + Belize Ministry of the Blue Economy
- + Belize Fisheries Department
- + Resilient Reefs Initiative, Great Barrier Reef Foundation
- + University of Belize
- + UNAM - Academic Unit of Coral Reef Systems
- + Columbia Climate School - Coastal Resilience Network

TBD

- + Columbia Business School / Tamer School Capstone
- + Columbia SIPA Masters of Sustainability Capstone

ENGAGEMENT OVERVIEW

STUDENT COLLABORATIONS



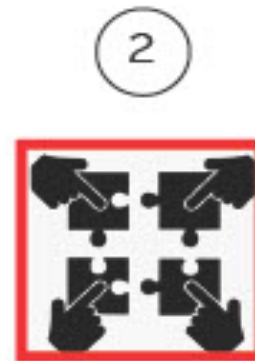
Columbia GSAPP MSAUD Students will be partnering with University of Belize students, with the purpose to exchange knowledge and collaborate across disciplines and territories.

METHODS AND TOOLS USED



SURVEY

In order to prepare for the upcoming January Weekshop with Stakeholders, UD students will be sending out a survey to the University of Belize students to kick start the engagement process. The survey will act as a catalyst to form an understanding about interests, preferences for communication, and environmental concerns within their communities. The other side of the survey will invite Belize students to ask UD students any questions they might have in return.



QUESTIONNAIRE GAME

Is a visual questionnaire that aims to share knowledge between both universities through the art of asking questions and storytelling over the course of 2 Sessions to take place during the Weekshop. This will be an online interactive dialogue that involves Zoom Break-out rooms and teams made up of both UD and Belize students and each team will have a designated Miro board where UD students will be the note takers.



SOCIAL MEDIA

Based on the survey responses, we will get a better understanding of communication preferences. We plan to create an Instagram and Facebook page for the group to interact with and share processes and events over the course of the semester. Weekly posts regarding design content and drawings will be mandatory for each team, serving as a collaborative post to inform the public and spread knowledge about coastal issues in Belize.

SHORTERM TIMELINE

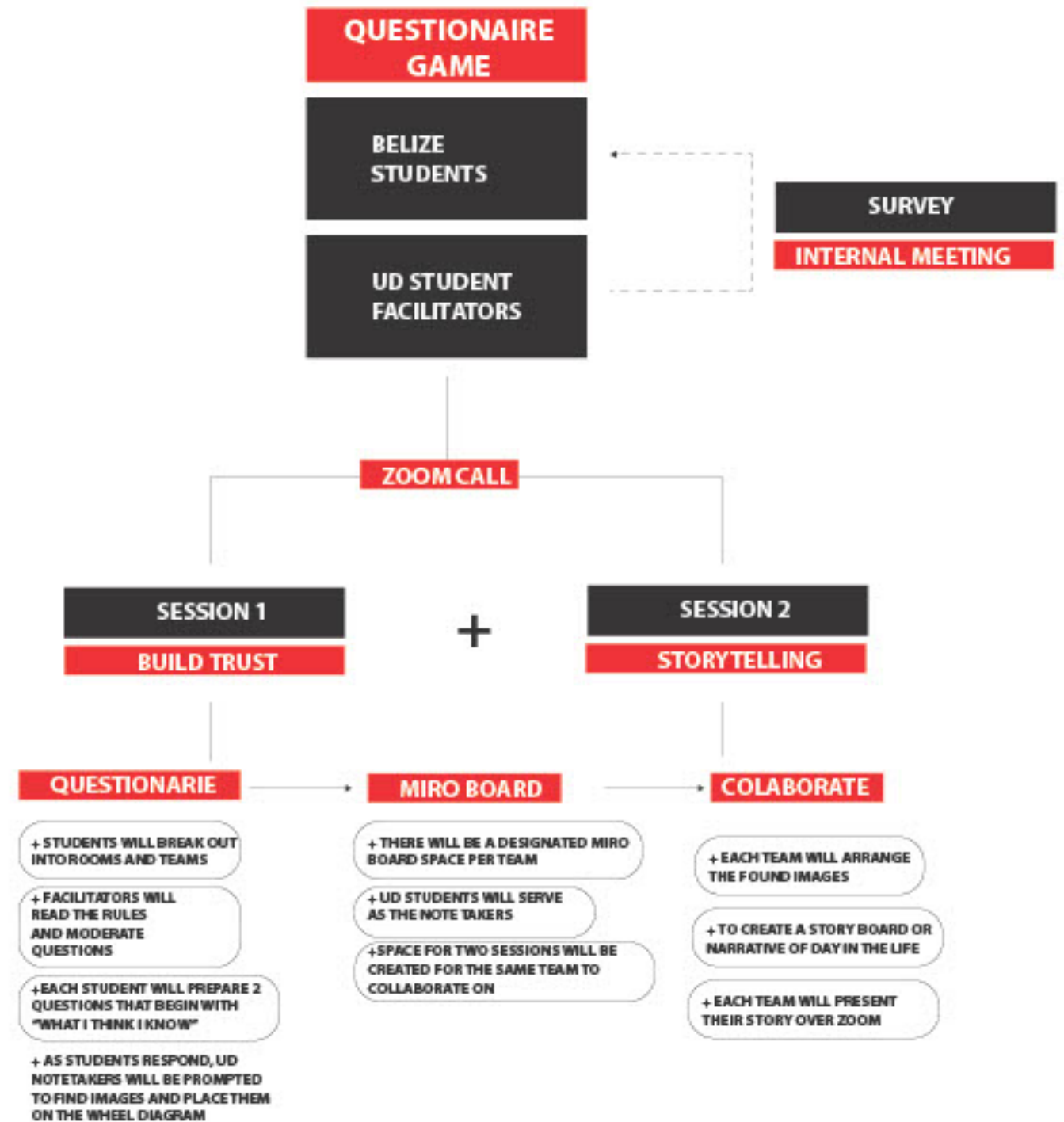


METHODS AND TOOLS USED

WEEKSHOP SCHEDULE

SESSIONS I + II

The first session will involve moderating “What I think I know Questions”, using found images to simulate visual readings of responses to be placed within a Photo Dictionary. The second session will involve collaboration to create a story using the found images from the previous session about Belize. This narrative will then be presented to the class.



METHODS AND TOOLS USED

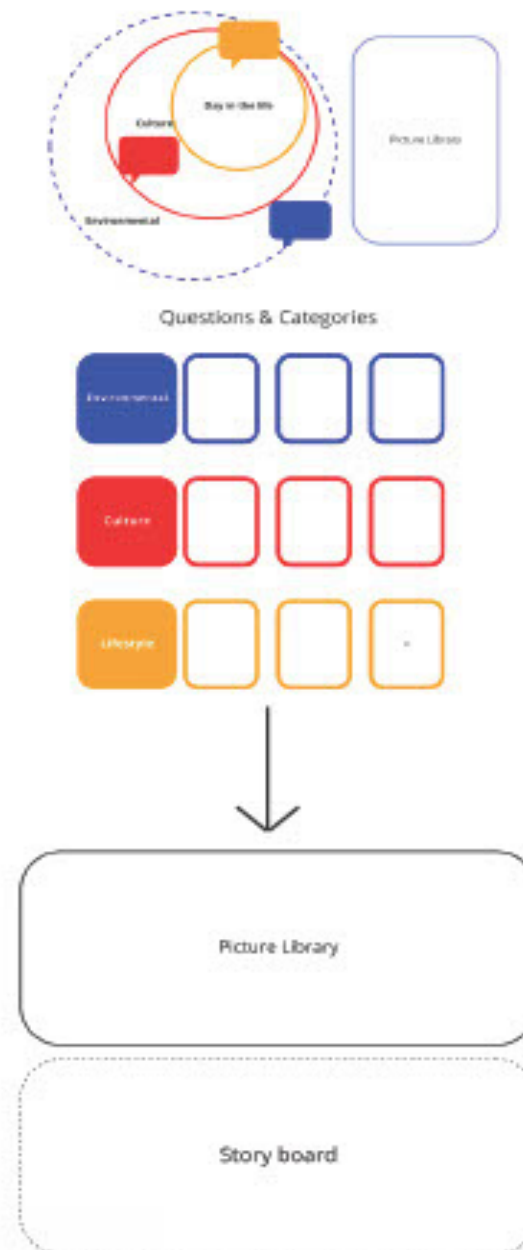
RULES OF THE GAME!

Step 1: A designated UD student will lead and communicate the rules of the game.

Step 2: Students from both universities will team up to gather questions and post them in each category ring.

Step 3: Once questions are gathered, students will take turn answering questions and posting photos to the picture library to visualize what students are sharing

Step 4: Students from UD & Belize will create a story from the selected photos from the picture library



SESSION 1



JANUARY 10-12

SURVEY
UD STUDENTS SURVEYS
SENT OUT BY EMAIL

JANUARY 24-28

SESSION 1
01/24 QUESTIONNAIRE GAME

SESSION 2
01/26 STORYTELLING + PRESENTATIONS

JANUARY 31

SOCIAL MEDIA + TEAMS
01/28 STORYTELLING + PRESENTATIONS

WINTER BREAK

WEEKSHOP

PHASE 1

PHASE 2

PHASE 3

METHODS AND TOOLS USED

SESSION 2

The image displays a digital workspace for creating a story board, organized into two main sections: a 'Picture Library' and a 'Story board'.

Picture Library: This section, outlined with a solid rounded border, contains a collection of 24 images. The images include: a white building with a balcony; a harbor with many sailboats; a coastal town with colorful buildings; a large grassy field with a tree; a group of people in traditional attire; a street view of a building; a street view of a town; a bowl of dumplings; a plate of fried food; a kitchen scene with people; a person cooking on a large pan; a floral lei; a person with a hat; a beach scene; an aerial view of a reef; a plate of food; a group of people in traditional dress; and another floral lei.

Story board: This section, outlined with a dashed rounded border, shows a sequence of images used in a story. It includes: an aerial view of a reef; a harbor with sailboats; a coastal town; a street view of a town; and a close-up of a plate of food. The text 'Story board' is placed between the reef and the town images. On the right side of the story board, there are two overlapping image thumbnails. The top one is labeled 'Sydnee Sampson' and the bottom one is labeled 'Sydnee'.

STUDIO III GLOBAL STUDIO

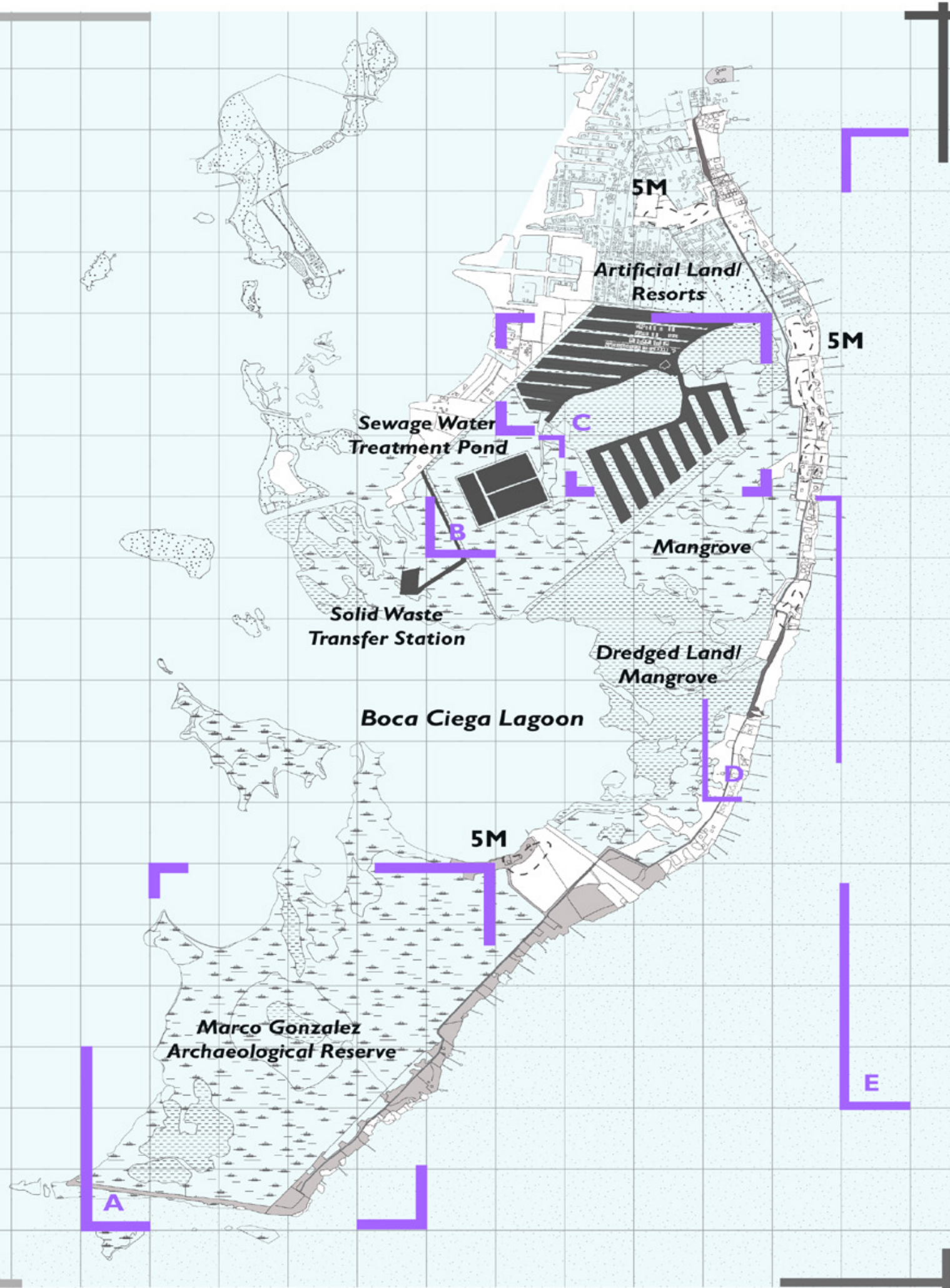
WATER URBANISM: BELIZE & YUCATAN ENVISIONING A RESILIENT MESOAMERICAN REEF & SUSTAINABLE DEVELOPMENT FRAMEWORKS FOR THE REGION

MAHOGANY BAY: SMART RELOCATION

FACULTY: *Kate Orff - Coordinator, Geeta Mehta, Adriana Chavez, Thad Pawlowski, Lorena Bello Gomez Kalene Eck, Chief Resilience Officer Belize Cecy Castillo, University of Belize*
W/ *Johanna Lovecchio, Center For Resilient Cities & Landscapes & Amy Armstrong, Resilient Reefs*
Tori Vuono - Teaching Associate

PARTNERS: *Resilient Reefs Program, | Great Barrier Reef Foundation*
Belize Coastal Zone Management Authority & Ministry of the Blue Economy & Civil Aviation, CZMAI
Columbia Climate School and Researchers from CCSR

TEAM MEMBERS: *Jie Kong, Zhifan Li, Siyu Lei, Kenny Zhou*



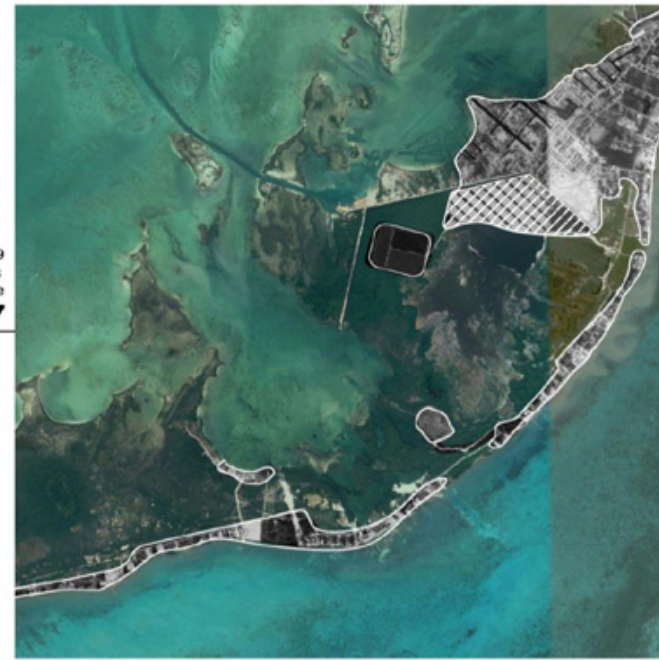
2003.05



Environmental Capacity

Urbanization

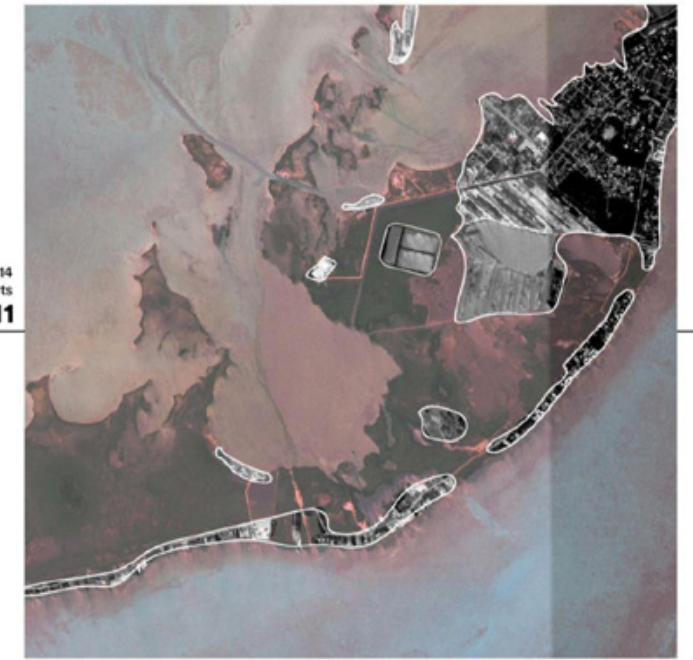
Between 2003 and 2009
421 housing units
were proposed for local people
2009.07



Environmental Capacity

Urbanization

Between 2009 and 2014
Housing units became Resorts
2014.11



Environmental Capacity

Urbanization

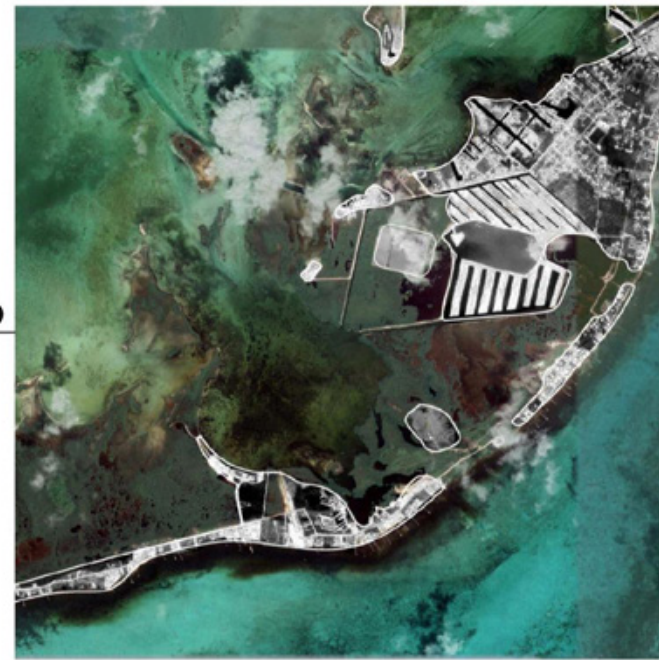
2016.07



Environmental Capacity

Urbanization

2018.09



Environmental Capacity

Urbanization

PRESENT



Environmental Capacity

Urbanization



Segregation



Irresponsible Consumerism



Dredge Urbanism



Foreign Ownership



Unchecked Development



Unjust Labor



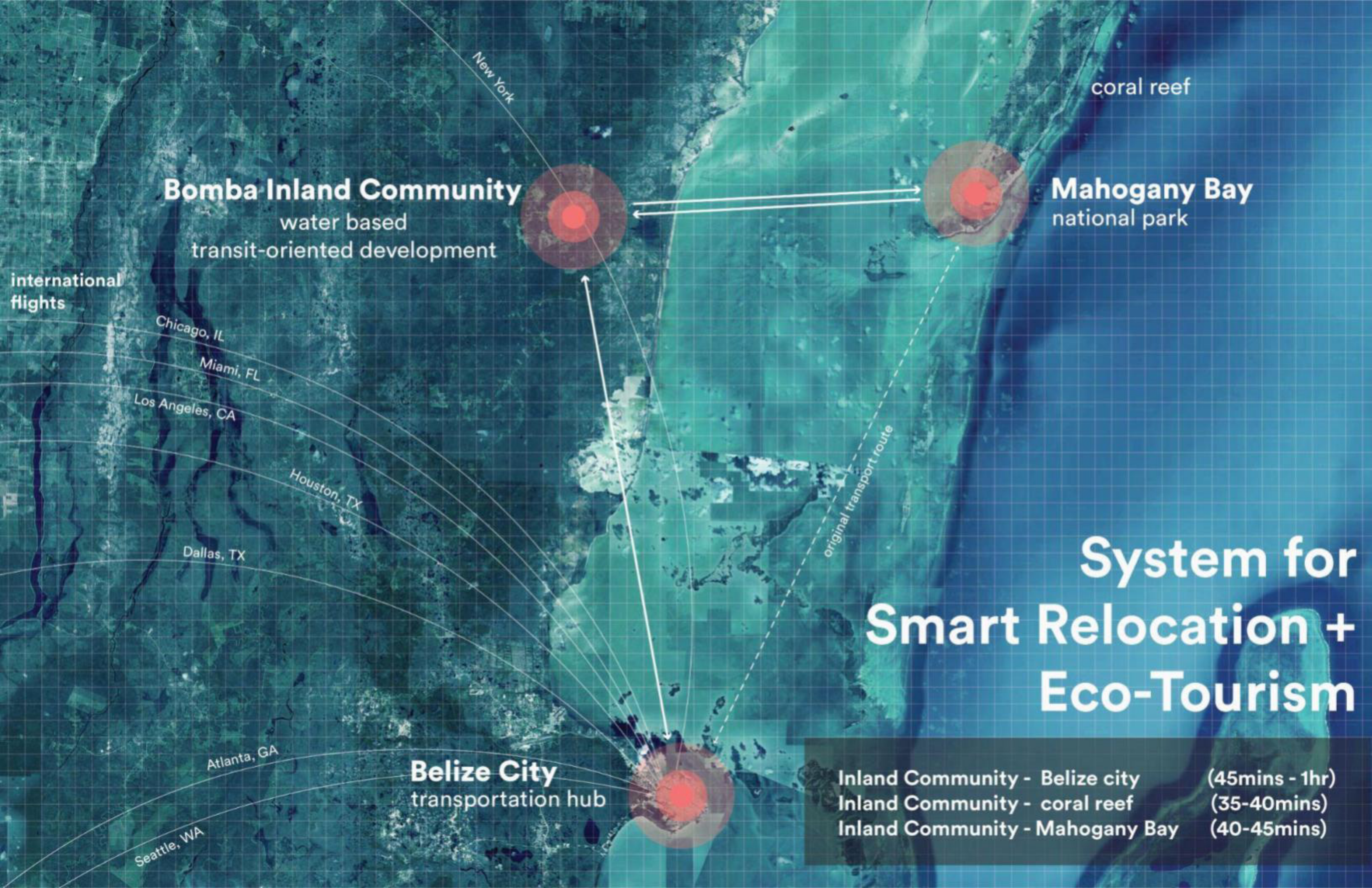
Flooding/ Sea level rise



Edge Erosion

- San Pedro's current model of consumer-based tourism and unchecked development is unsustainable for the future. Unjust land ownership and increasing climate threats further exacerbates these issues.

In order to preserve locals' livelihoods and to sustain the strong tourism economy, we propose to the Belize government a pilot to develop a long-term smart relocation and eco-tourism initiative. -



Bomba Inland Community
water based
transit-oriented development

Mahogany Bay
national park

coral reef

international
flights

Chicago, IL

Miami, FL

Los Angeles, CA

Houston, TX

Dallas, TX

Atlanta, GA

Seattle, WA

Belize City
transportation hub

original transport route

System for Smart Relocation + Eco-Tourism

- Inland Community - Belize city (45mins - 1hr)
- Inland Community - coral reef (35-40mins)
- Inland Community - Mahogany Bay (40-45mins)

Project Framework

Sustainable Tourism

for economy

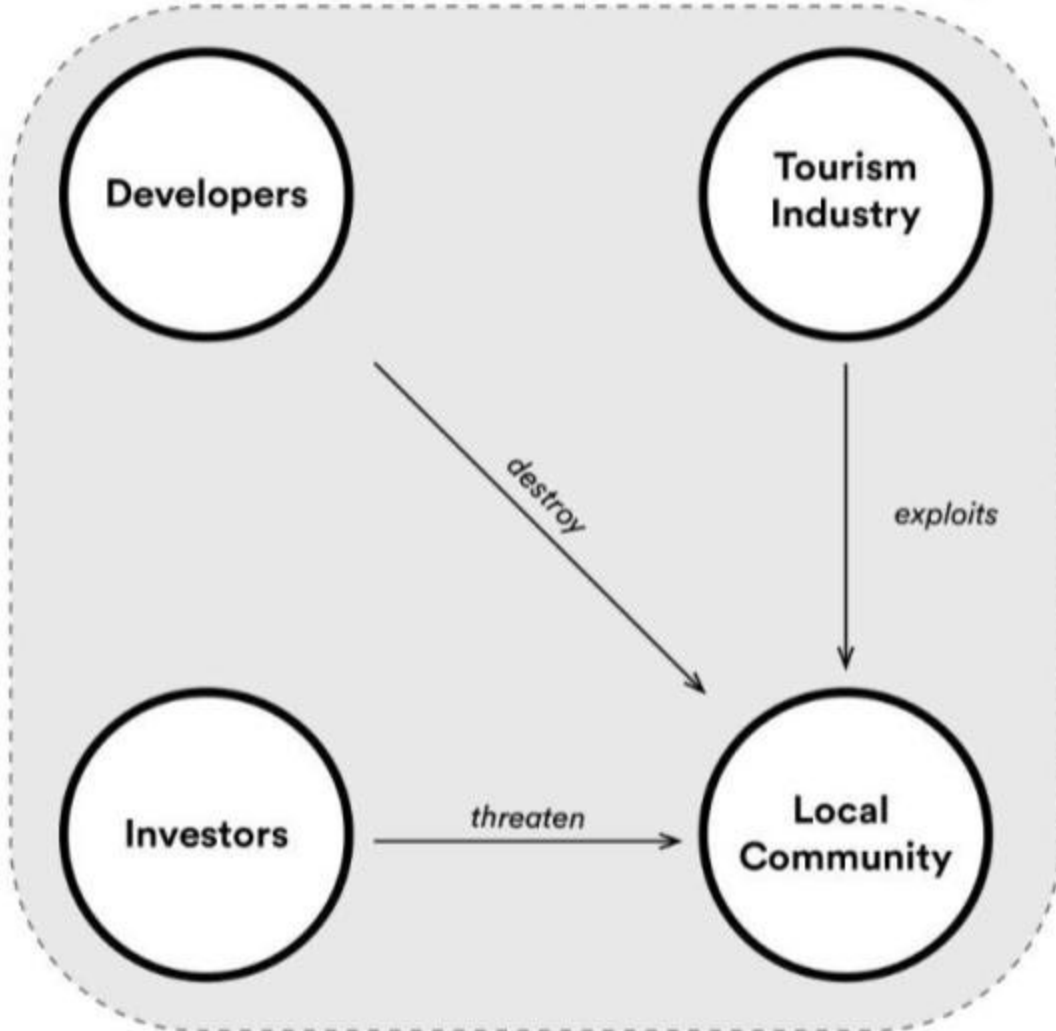
Re-naturing Mahogany Bay

for ecology

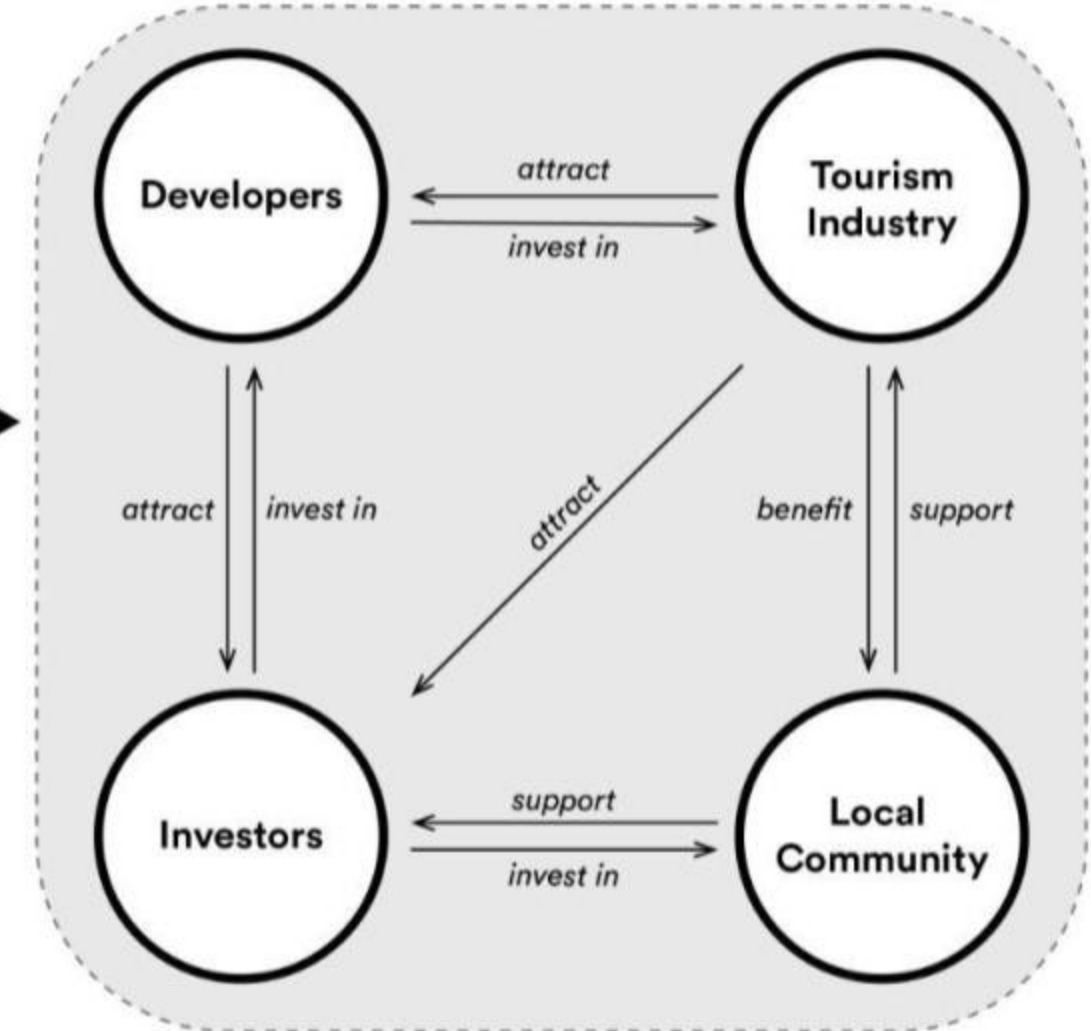
Smart Relocation Inland

for local community

Current Stakeholder Relationship



Future Stakeholder Relationship



Extractive **Change to...** Sustainable

By following...

New Policy

 Limit tourism capacity by not clearing/dredging land

 Invest in local community for better economic mobility

 Implement infrastructure for eco-tourism

 Establish water-based transportation community inland

	Phase 1 Preparation	Phase 2 Construction+Relocation	Phase 3 Growth	Phase 4 Regional Smart Relocation
--	------------------------	------------------------------------	-------------------	--------------------------------------

Policy

- Implement Infrastructure for eco-tourism 
- Establish water-based TOD inland 
- Invest in local community for better economic mobility 
- Limit tourism capacity by not clearing/dredging land 

		<ul style="list-style-type: none"> Tourists only stay temporarily at Mahogany Bay Tourists only stay temporarily at national park 		
	<ul style="list-style-type: none"> No rebuilding after climate disaster No more land clearing/dredging 	<ul style="list-style-type: none"> Relocate most vulnerable local population Foreign owned land: voluntary 1:1 land swap 	<ul style="list-style-type: none"> Relocate rest of local population Foreign owned land: mandatory relocation 	<ul style="list-style-type: none"> Continued building+infrastructure maintenance Regional smart relocation initiative
	<ul style="list-style-type: none"> Invest in inland affordable housing Invest in inland community Infrastructure Introduce property+tourist tax 20%+ of all new investment goes toward helping locals 	<ul style="list-style-type: none"> Establish connection with Maskall town Invest in community public amenities 		<ul style="list-style-type: none"> Promote collaboration with Mennonite community in Neuland
	<ul style="list-style-type: none"> Reduce tourism capacity to only what the land + infrastructure can handle 			

Inland Community

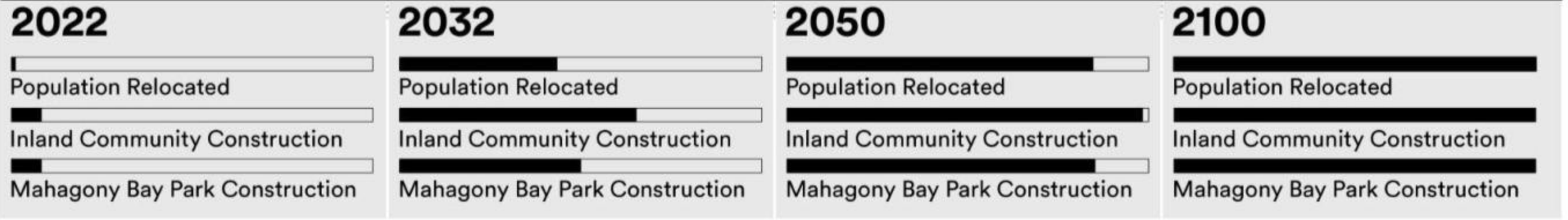
- Implement Infrastructure for eco-tourism 
- Establish water-based TOD inland 

	<ul style="list-style-type: none"> Establish ferry system 	<ul style="list-style-type: none"> Eco-tourism activities implementation 		
	<ul style="list-style-type: none"> Prepare farm co-op for future food source Road+infrastructure construction 	<ul style="list-style-type: none"> Settle shipped Mahogany Bay houses Tourist + local housing construction Public amenities construction 	<ul style="list-style-type: none"> Residential + commercial densification 	

Mahogany Bay

- Implement Infrastructure for eco-tourism 
- Establish water-based TOD inland 

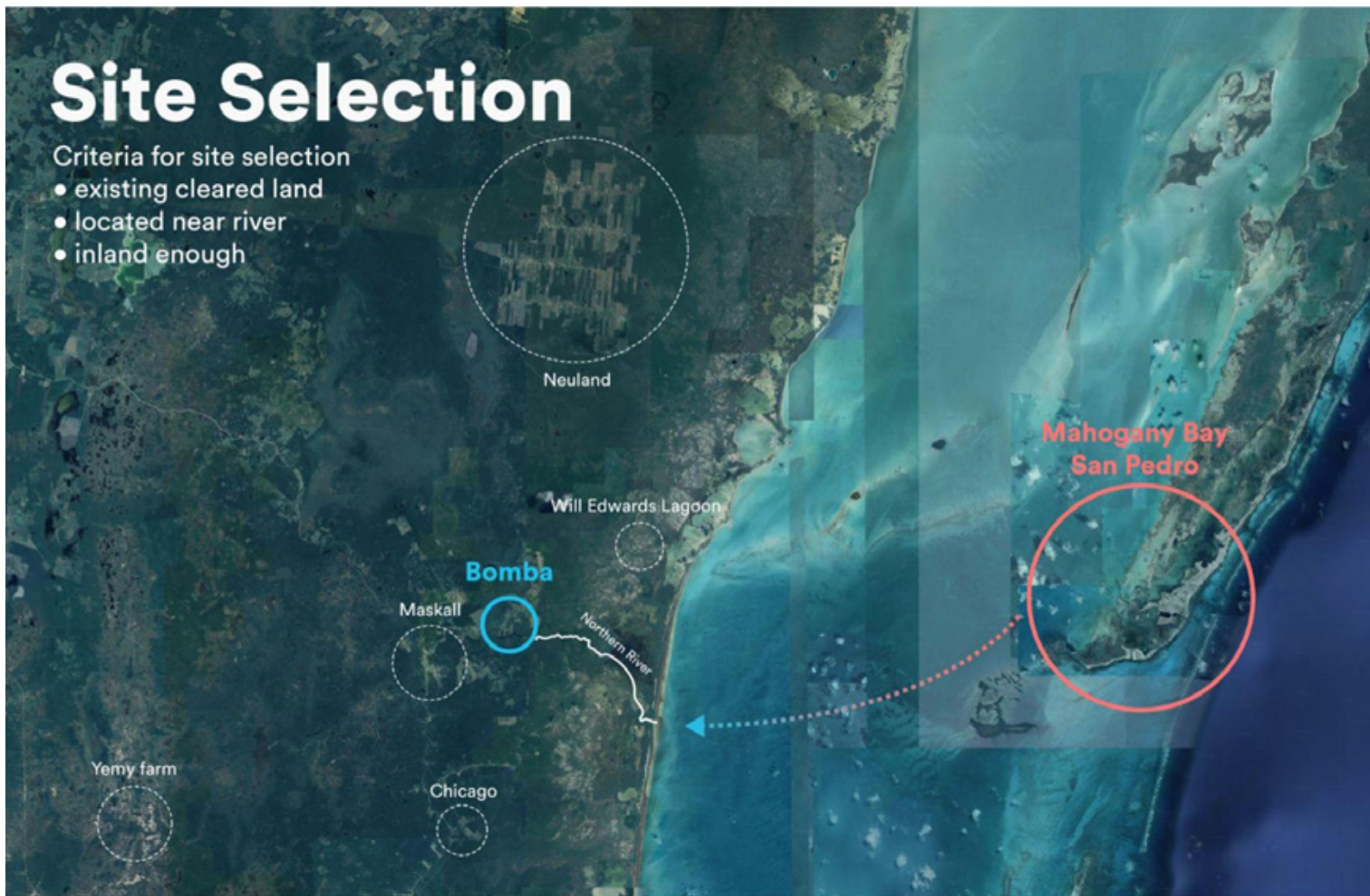
	<ul style="list-style-type: none"> Light touch eco-lodge construction off-site Waste infrastructure maintenance Environmental restoration 	<ul style="list-style-type: none"> Light touch eco-lodge implementation National park infrastructure construction 	<ul style="list-style-type: none"> Continued environmental maintenance 	<ul style="list-style-type: none"> Regional environmental restoration initiative Expand eco-tourism to entire M. Bay area
	<ul style="list-style-type: none"> Ship houses to inland Move residents to San Pedro town first 	<ul style="list-style-type: none"> Move residents in San Pedro town to inland 		



Site Selection

Criteria for site selection

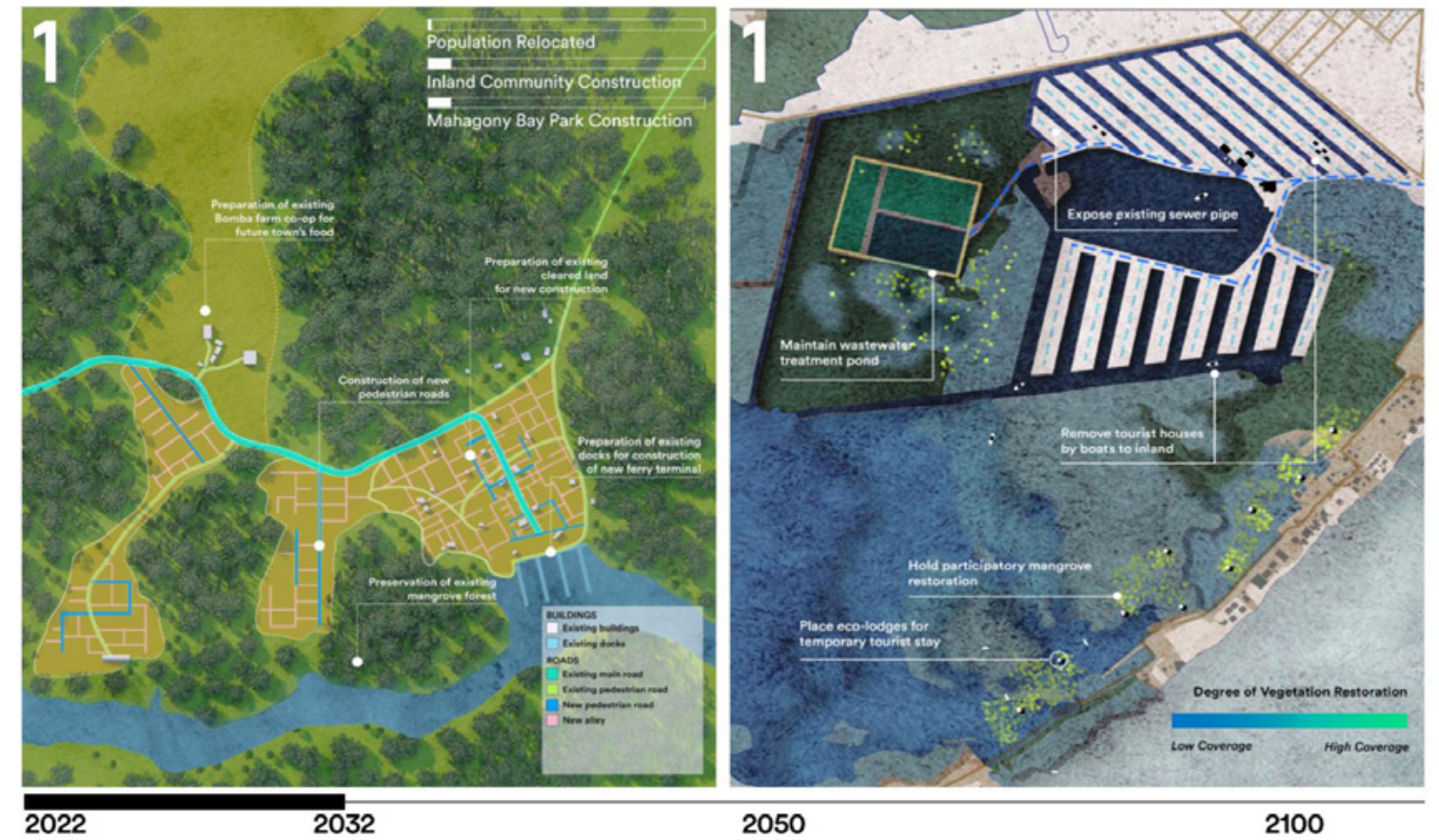
- existing cleared land
- located near river
- inland enough



Phase 1 Preparation

Create a sustainable stakeholder relationship, begin infrastructure work to prepare for relocation

- POLICY**
- Reduce tourism capacity
 - Invest in inland housing + infrastructure
 - Introduce property + tourist tax
 - 20%+ investment to help locals move
 - No rebuilding after climate disaster
 - No more land clearing/dredging
 - Foreign owned: voluntary 1:1 land swap



Farm Co-op



Bomba Dock



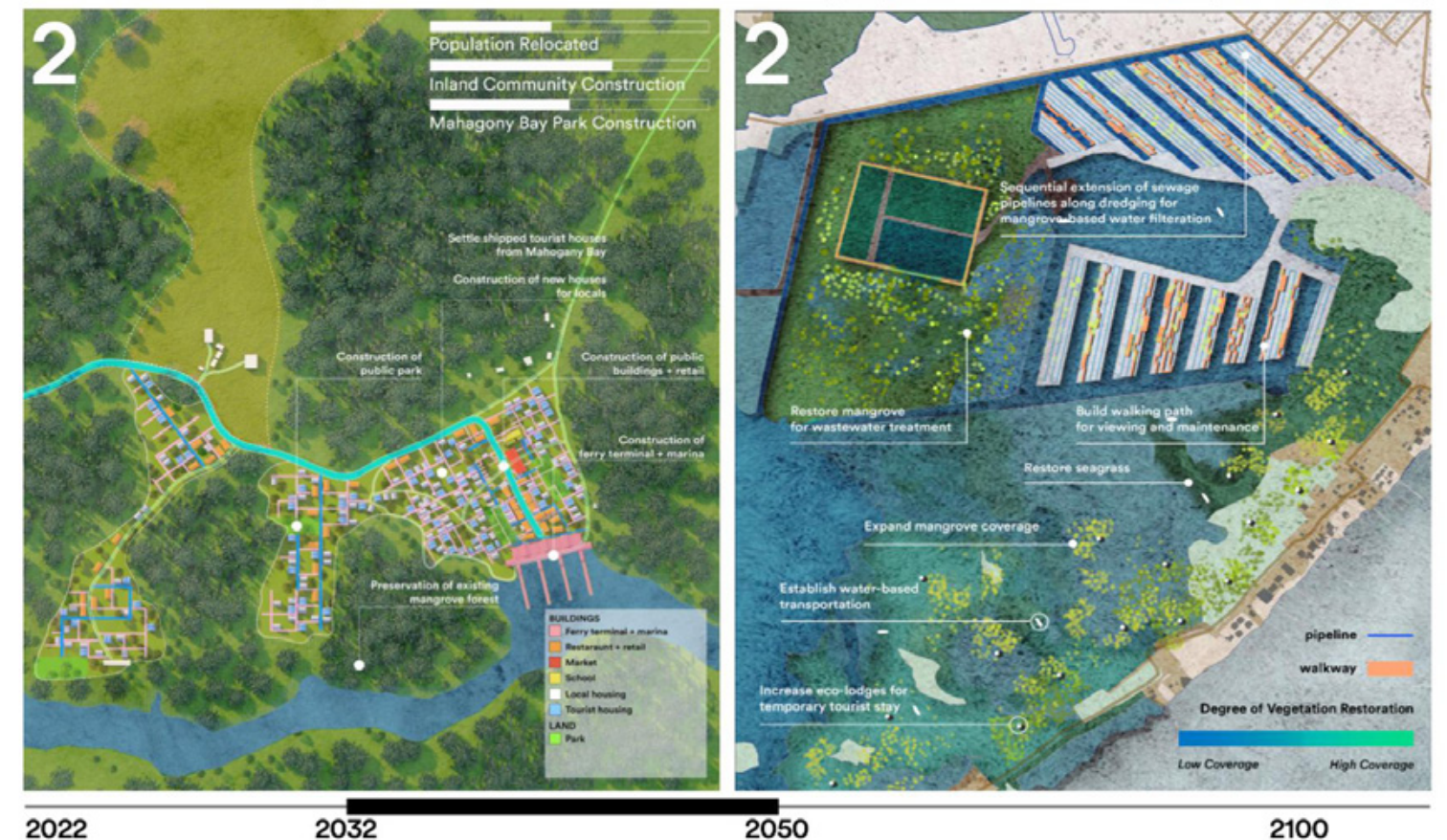
Local Community



Phase 2 Construction+relocation

Interim residential and tourism model while construction + relocation are in progress

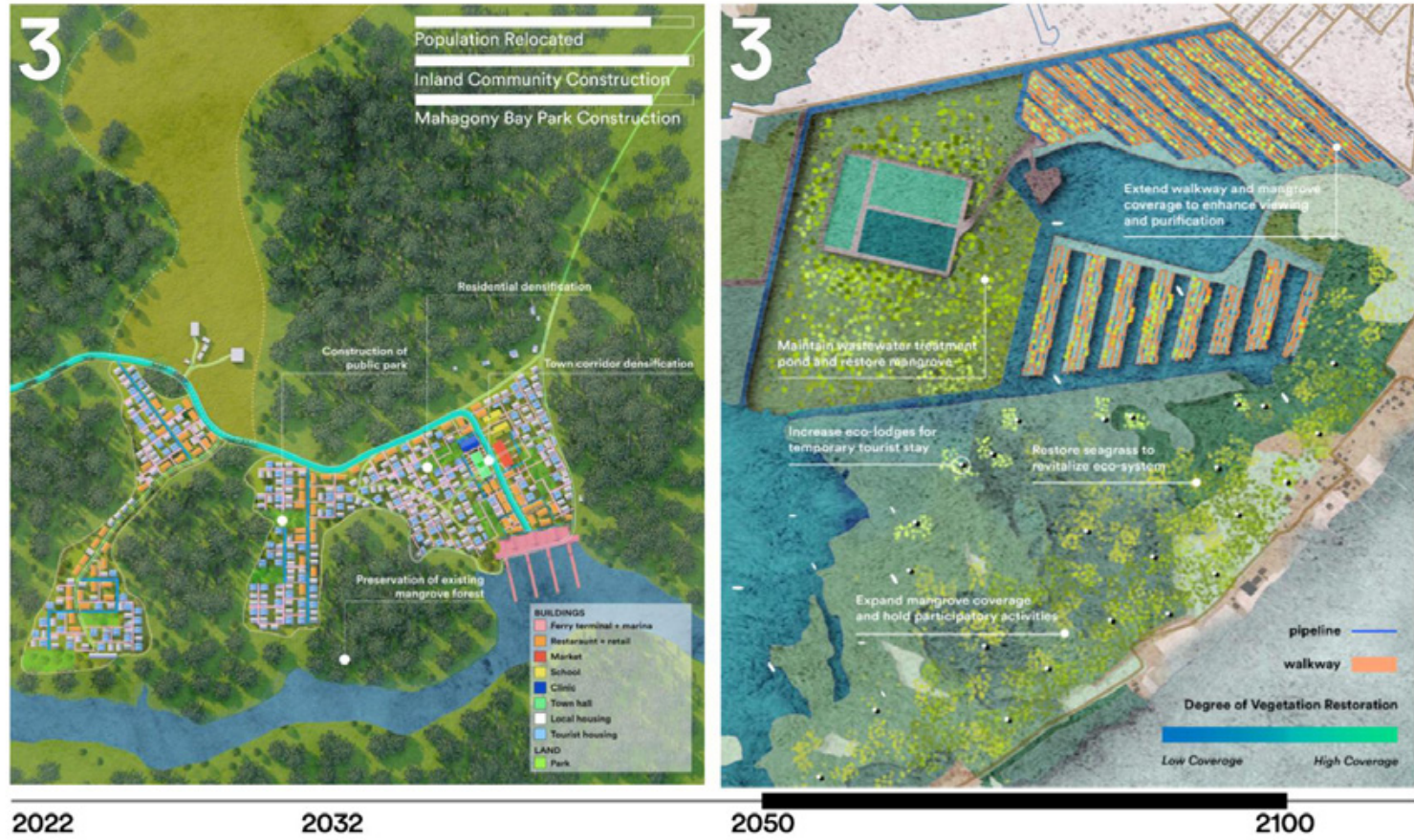
- POLICY**
- Establish connection with Maskall town
 - Invest in community public amenities
 - Introduce property + tourist tax
 - 20%+ investment to help locals move
 - Tourists stay temporarily at Mahogany Bay
 - Promote eco-tourism
 - Relocate most vulnerable local population
 - Foreign owned: voluntary 1:1 land swap



**Phase 3
Growth**

Debut of fully operational inland community and Mahogany Bay national park

- POLICY**
- Promote Eco-tourism
 - Tourists stay temporarily at national park
 - Foreign owned: mandatory relocation
 - Relocate rest of local population
 - Continued investment in inland community
 - Promote collaboration with Mennonites



Bomba Town Core Overview

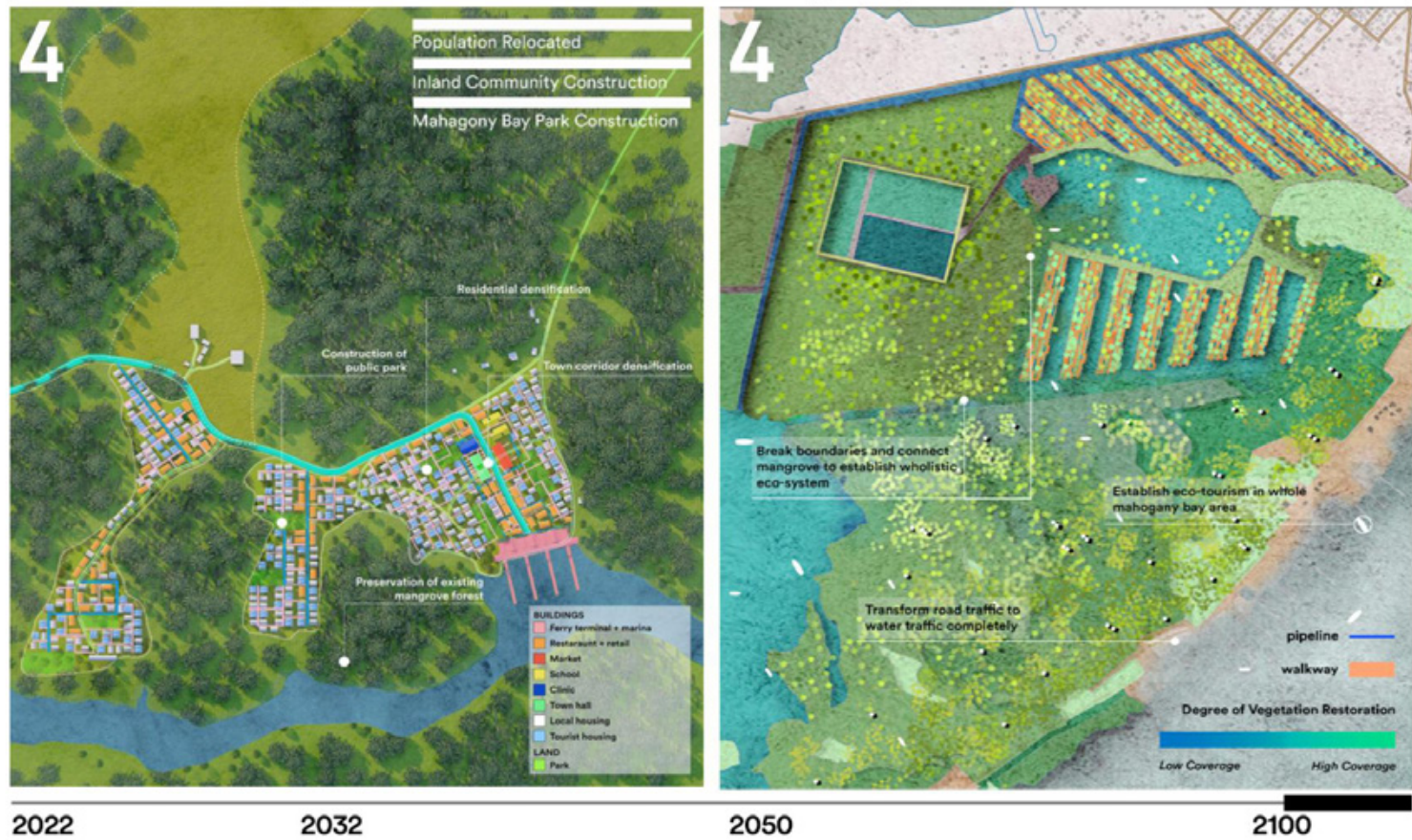
Inland Community



**Phase 4
Regional Expansion**

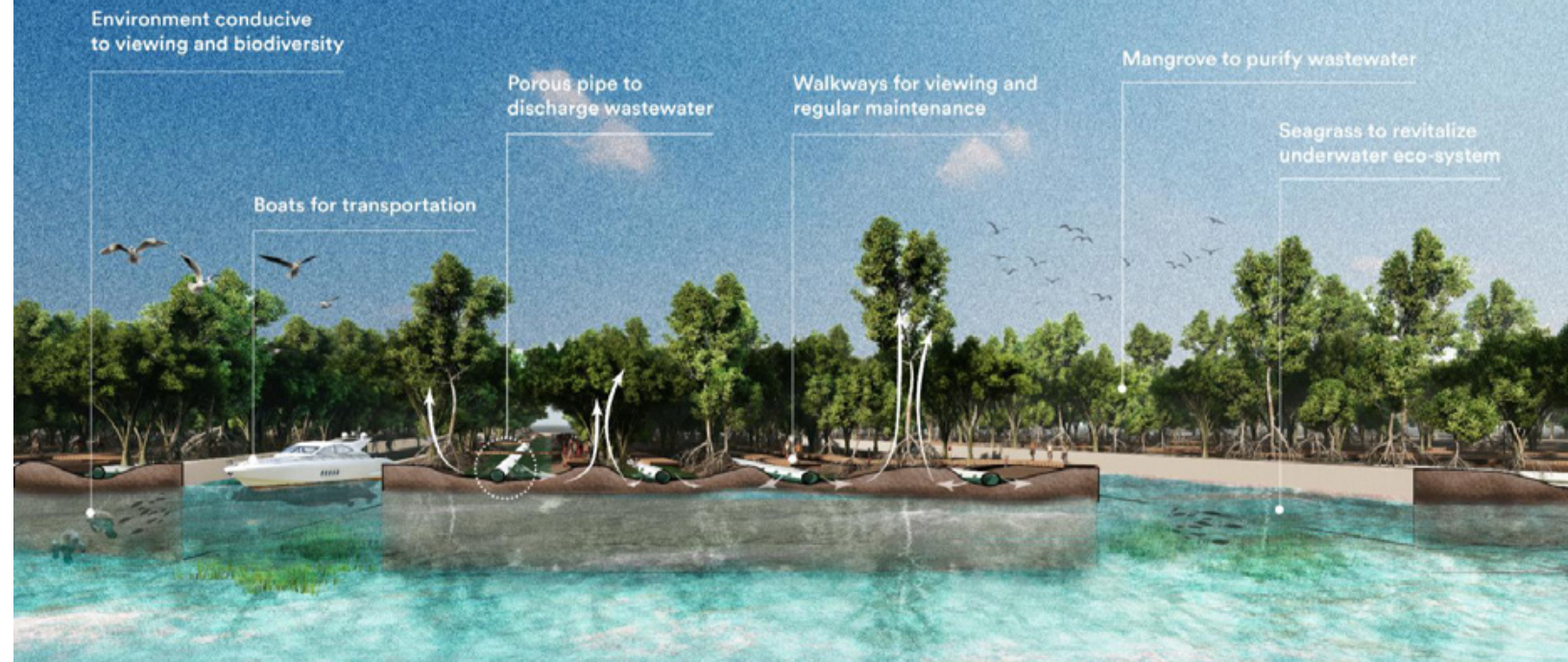
Belize will set a global standard for regional smart relocation + eco-tourism initiatives

- POLICY**
- Continued national park maintenance
 - Regional environmental restoration + eco-tourism initiative
 - Continued building+infrastructure maintenance
 - Regional smart relocation initiative



Ecological Restoration

Mahogany Bay National Park





Ferry Terminal+Marina, Bomba
Inland Community



Mangrove Kayaking
Mahogany Bay National Park



Main Street, Bomba
Inland Community



Sewage treatment
Mahogany Bay National Park



Public Plaza, Bomba
Inland Community



Light-Touch Eco-lodge
Mahogany Bay National Park

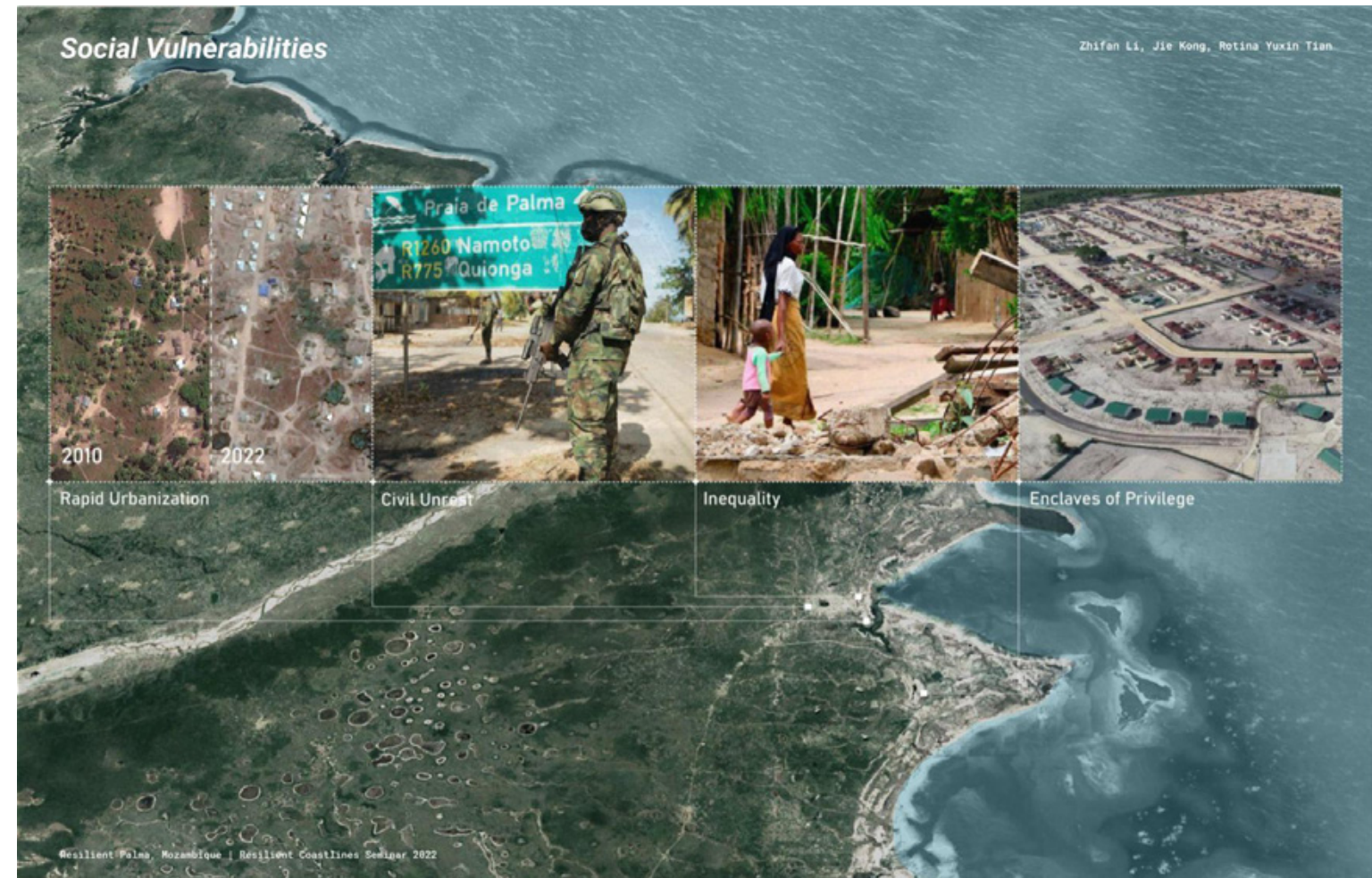
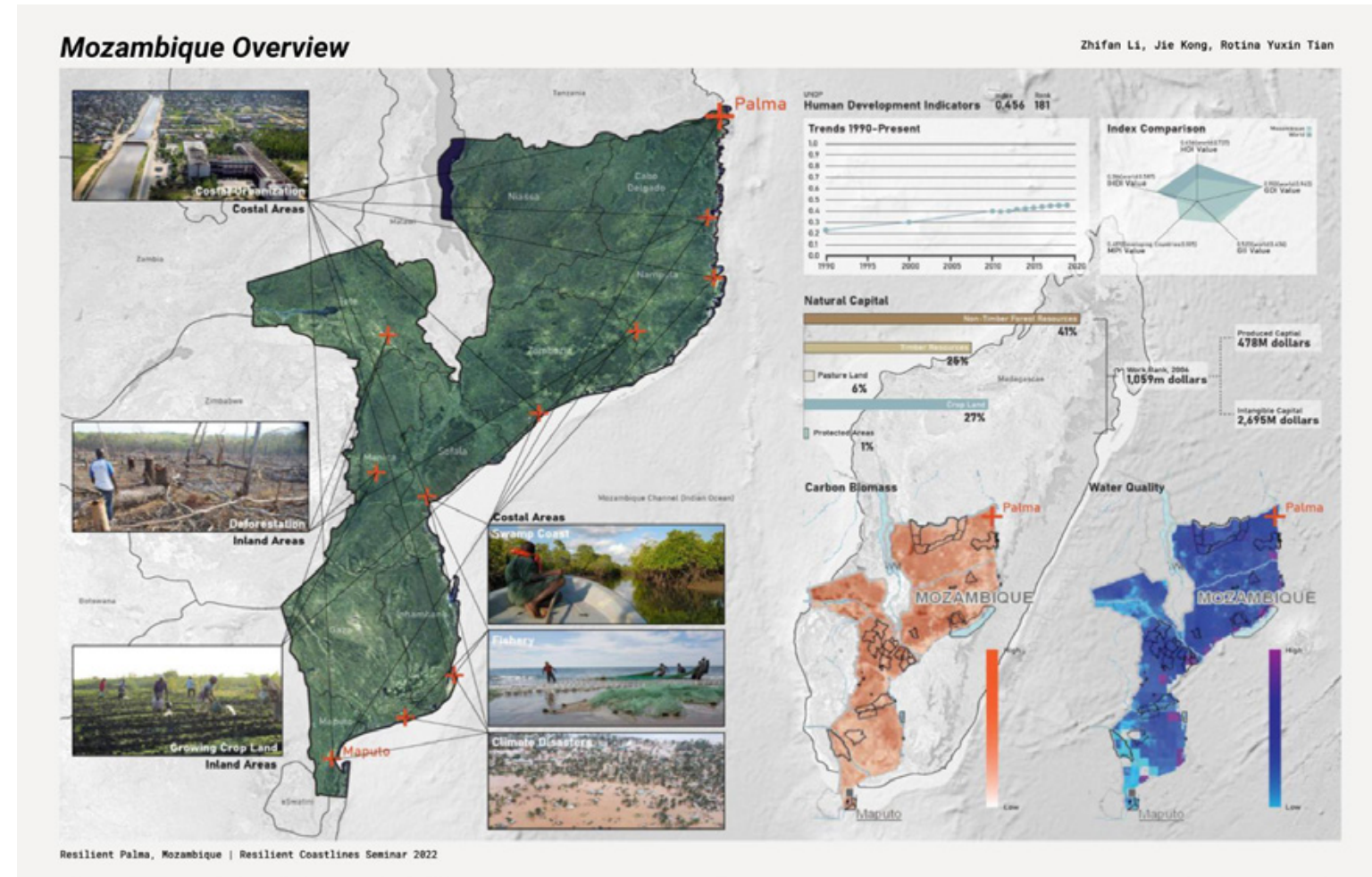
RESILIENT COASTLINES

CASE STUDY

RESILIENT PALMA

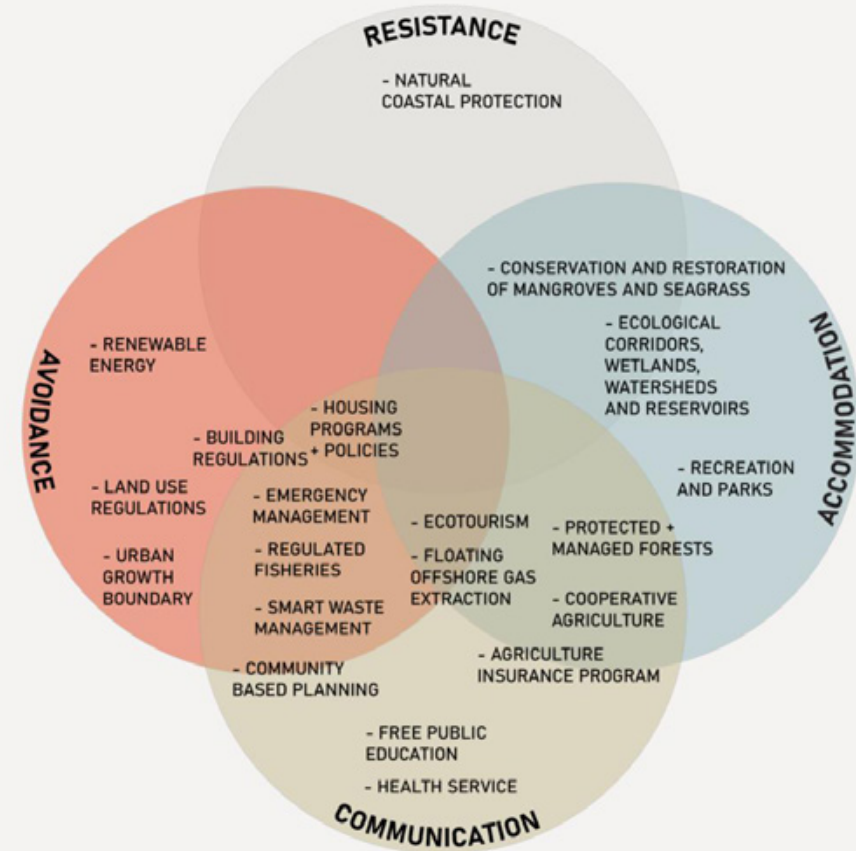
FACULTY: *Kate Orff - Professor*

TEAM MEMBERS: *Jie Kong, Zhifan Li, Rotina Tian*



Solution Conclusion – Coastal Adaptation: Disaster Protection

Zhifan Li, Jie Kong, Rotina Yuxin Tian



Resilient Palma, Mozambique | Resilient Coastlines Seminar 2022

Resilient Palma

Zhifan Li, Jie Kong, Yuxin Tian

Palma's Battle Against Climate Change

Subject to constant coastal floodings and future sea-level rise, the city of Palma is under increasing threats of climate change. With the lack of financial capability and a lack of infrastructure to protect the communities, recoveries from storms have become more and more difficult. The local people rely heavily on fishing and marine resources. As climate change makes a direct impact on the fish stocks and other marine-reliant ecosystems, the livelihoods of local people become very unstable, leaving them even less money to rebuild after storms.

Unsustainable Resource Extraction in the Region

In 2011 one of the world's largest gas reserves was found in the province of Cabo Delgado, which led to a total of 60 billion dollars in investment, including Africa's three largest liquid natural gas (LNG) projects. The international companies established large-size campuses and gated communities to serve the extraction activities. During the process, local communities are displaced to make room for their expansion, and the promised jobs and economic compensations are never been realized.

"Resource Curse", a term used to describe how the long-term health and prosperity of societies and ecosystem can be compromised for short-term profits that usually ends up in the hands of a lucky few, is the best way to describe the current situation of Palma (Columbia Center for Resilient Cities and Landscapes, 2019).

What accompanies the poverty and disputes caused by exploitation in Cabo Delgado are long-term neglects and political marginalization from the Mozambique government, partially due to its remote geographic location. As a result, extreme groups started an armed strike against the campus of one LNG project, forcing them to pause the operation in the region. The strike was exacerbated and turned into a regional conflict, imposing violence and instability which make the situation even worse. According to the Armed Conflict Location and Event Data Project (ACLED), which monitors political violence globally, there have been more than 570 violent incidents from January to December 2020 in Cabo Delgado (BBC, 2022).

Solution Conclusion – Urban Sustainability

Zhifan Li, Jie Kong, Rotina Yuxin Tian



SOURCE: Engineering With Nature: Moving Towards Sustainable Practices



Resilient Palma, Mozambique | Resilient Coastlines Seminar 2022

Challenge of the "Business-as-Usual" Model

In her book *Rising*, Elizabeth Rush spoke up about the environmental inequality in the coastal communities, where under-served communities are more prone to climate change: "A small seaside community split down the middle between those who came from centuries of money and those who worked in the industries the weather residents controlled" (Elizabeth, 2018).

When we look at the country as a whole, Mozambique is an economically struggling country, yet it owns enormous nature capital. According to the UNDP Human Development Indicators, is a financially poor and inequitable country with a large gap between genders and social classes. In contrast, according to the World Bank report, Mozambique has a natural capital worth 1,059 million dollars while its priced capital is 478 million dollars.

Most of Mozambique's major cities are along the coast, where swampy mangroves and wetlands are the predominant geological characters. Climate threats and coastal urbanization are the biggest conflicts. Moving inland, forests had been cut down to grow crops which caused serious deforestation, undermining the country's wonderful natural resources.

Transitioning to a more regenerative growth model from the business-as-usual mindset is necessary to overturn the future of the country. The report from the Climate School lists a series of issues under the current "business-as-usual" scenario. We can't stop but wonder, what is at risk when we don't prioritize natural capital?

Resources extraction, rapid urbanization, and climate change can combine in ways far outside any imagination. Profit-driven investors continually benefit from the extraction of natural resources, expand urban boundaries by filling wetlands to make level ground, and create urban enclaves which exacerbate social inequality. In the meantime, people who lived on farming and fishing were left with barren land and scarce natural resources. Floodings, cyclones and constantly eating up their living space. The entire community is at risk when natural resources are exploited and stripped.

Palma is a mirror that reflects all the issues that are happening across the country. The endless consumption of natural resources without limit and the pursuit of economic profit at the price of long-term social welfare are making things worse for its coastal communities.

The existing policies prioritize short-term economic growth; the corruption at the government level only adds to the problem, leaving poverty and disasters to the people of Mozambique. From what we understand, policy and government regulation is necessary to turn the situation.

An Alternative Pathway toward a Resilient Future

On the bright side, the situation can be improved with a change of mindset that preserves and restores its natural assets with a combination of proactive planning and proper implementation.

The country had developed a National Nature Capital Program to guide the transition. According to this, the critical step Palma should take right now is to institutionalize natural capital to prevent further damage. Secondly, a dynamic regional resilient eco-infrastructure network needs to be set up to protect the area from natural disasters. Institutionalization means the government or other organizations should provide education programs to teach people that natural resources are more than just money, they mean the future for their children and the grandchildren of their children. What should happen is the proper mindset and sustainable practices that are centered on natural resources and incorporate both economic growth and community stewardship into the picture.

The regional resilient eco-infrastructure network will provide a regional collaboration among governments, NGOs, residents, and other stakeholders, who can make a joint effort to better understand the needs of each other and cultivate a more dynamic, sustainable eco-infrastructure that can support future growth.

The Resilient Palam report also provides a list for a resilient future in Palma, including nature-based infrastructure, capacity building, community planning and new building codes as shown in the above image. The critical features include the living infrastructure along the coast to mitigate storm surges, development and implement regulations for marine resource management to help local fisherman groups, waste management, and ecological resource protection around urban areas.

The proposed scenario also includes an urban growth boundary to prohibit unregulated development; eco-tourism to generate revenue for the protection of Palma's coral reefs, seagrass beds, coastal beaches, dunes, mangroves, and marine forests; natural coastal protection, to protect against more frequent and damaging coastal storms with vegetated dunes; floating off-shore gas extraction to protect coral reefs and reduce the LNG footprint in the ecologically sensitive coastal zone, and allow a reduced presence in less vulnerable deep water, also reducing costs of shipping and pipeline; protected and managed forests to provide carbon sequestration, aquifer recharging, sustainable forestry, flood risk reduction, soil conservation, and biodiversity habitat; increased mobility to provide inter-city high-speed transportation options to link Cabo Delgado to the other fast-growing economic centers in the region and reduce the demand for private car ownership. Last but not least, providing adequate health service to serve Palma's current and future population with up-to-date medical technology and expertise.

On top of that, the fisherman villages along the coastal zone need specific attention. Fully exposed to the climate pressure, they can be wiped out by coastal storms and cyclones. The resilient strategy for the community should include a coastal buffer, and an option for climate retreat.

With the efforts described above, we imagine the future Palma to be a resilient and thriving coastal city.

Framework of Resiliency Strategies

We categorize all these efforts and scenarios into four quadrants to serve as a guiding principle for Palma's future coastal adaptation development. The four categories are resistance, avoidance, communication, and accommodation.

"Resistance" means the protection of coastal against climate disasters; "avoidance" means implementing new policies to regulate urban growth and natural-resources-based industries; "communications" indicates policymakers and organizations understand the need of people and provide corresponding programs or infrastructures; "accommodation" refers to build an eco-friendly city that can accommodate, conserve, restore natural land, such as mangrove forests, seagrass beds, wetlands.

A good framework should include factors from environmental, economic, and social aspects. From the environmental aspect, other precedents from Ethiopia and Mozambique, as well as the Nature Capital Program from Stanford University, all suggest that technology innovation and collaboration of the local community and actors can promote healthier long-term growth. From the economic perspective, the goal is to diversify industries and improve regulations that value their natural capital. Learning through other case studies, renewable energy is a potential industry to attract international investment which can reduce the reliance on the current extractive energy industry but also

can provide job opportunities and economic benefits. The social welfare of the communities largely depends on the environment and the economy. With a more equitable environment and more sustainable industries, the government can invest more in infrastructures, creating more job opportunities, and education programs to restore Palma and make it a more desirable place for people to live.

In a nutshell, the strategies function together as a holistic resilient urban development plan for Palma. By implementing new policies, the government can regulate the ways how different entities use natural resources and establish a new sustainable economic development that leads to resiliency; this new economic structure can steer Palma towards sustainable development and a positive economic cycle.

The document "A Blueprint for Coastal Adaptation" emphasizes the importance of political power in transitioning to a resilient "We have lots of plans, perhaps too many, and not enough political will. Moving from reports to implementation has been a challenge - one we aim to address."

Coastal communities around the globe are facing similar challenges as Palma. It is important to act proactively and establish a resilient framework anticipating the pre-collapse scenario by allocating the existing resources and activating local players in the social, economic, and environmental aspects.

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VIRTUAL ARCHITECTURE: WORLD BUILDING AND VIRTUAL REALITY WORKSHOP

UNREAL ENGINE PROJECT

LABYRINTH

FACULTY: *Nitzan Bartov*

TEAM MEMBERS: *Jie Kong, Shannon Li,
Praditi Singh*

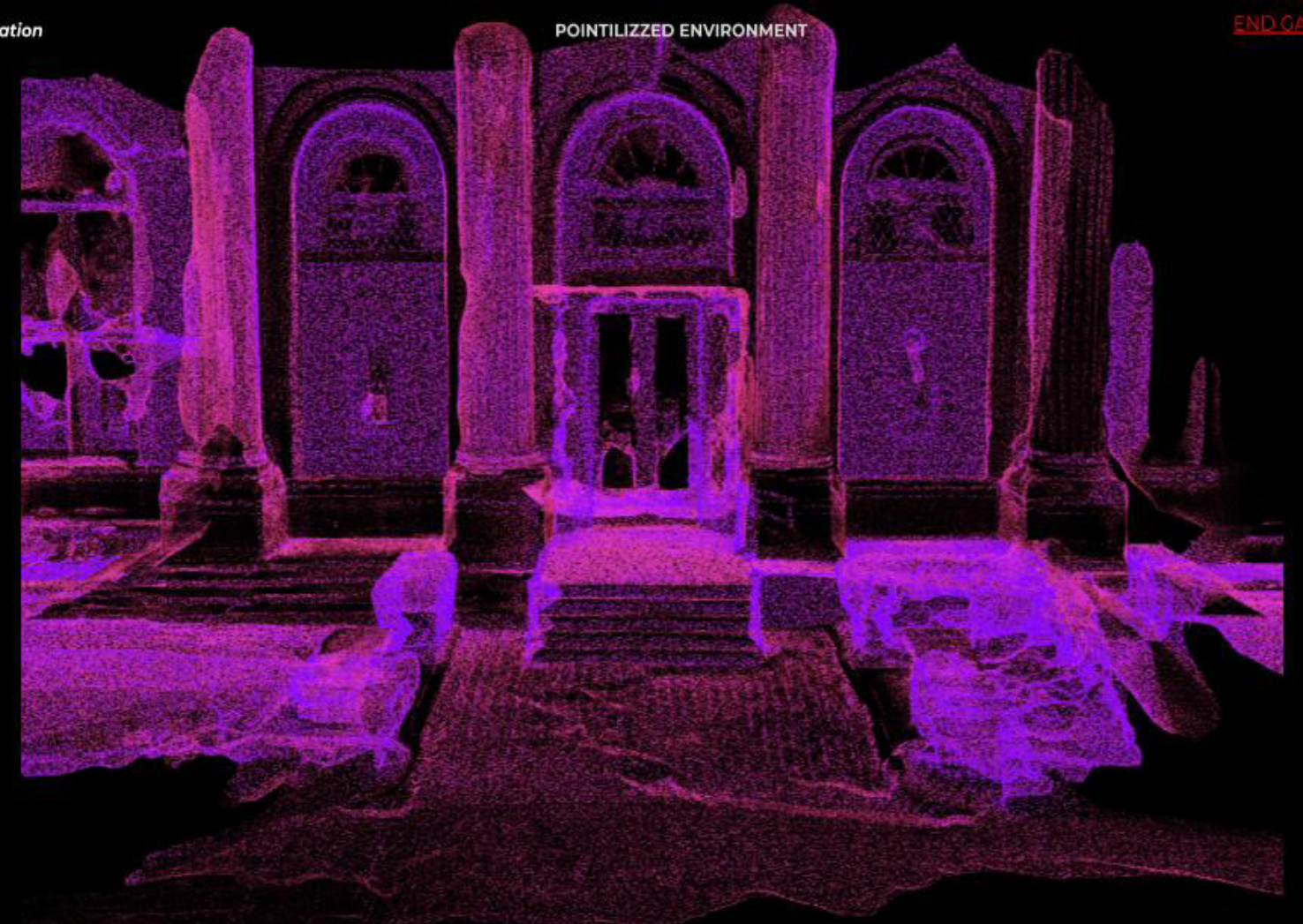
LABYRINTH

Praditi Singh, Jie Kong, Shuhua Li

Inspiration

POINTILIZED ENVIRONMENT

END GAME



Inspiration

A TIMED MAZE

BEGIN GAME



INDOORS



OUTDOORS

Inspiration

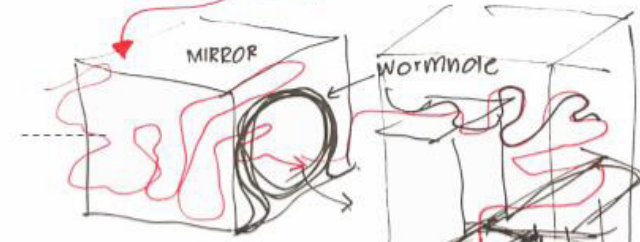
LEVELS OF INTERACTION

THE GAME STRATEGY

START GAME>

LEVEL 0

REAL WORLD -> WORMHOLE



LEVEL 02

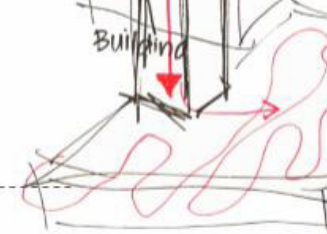
Building

Wormhole

REAL WORLD

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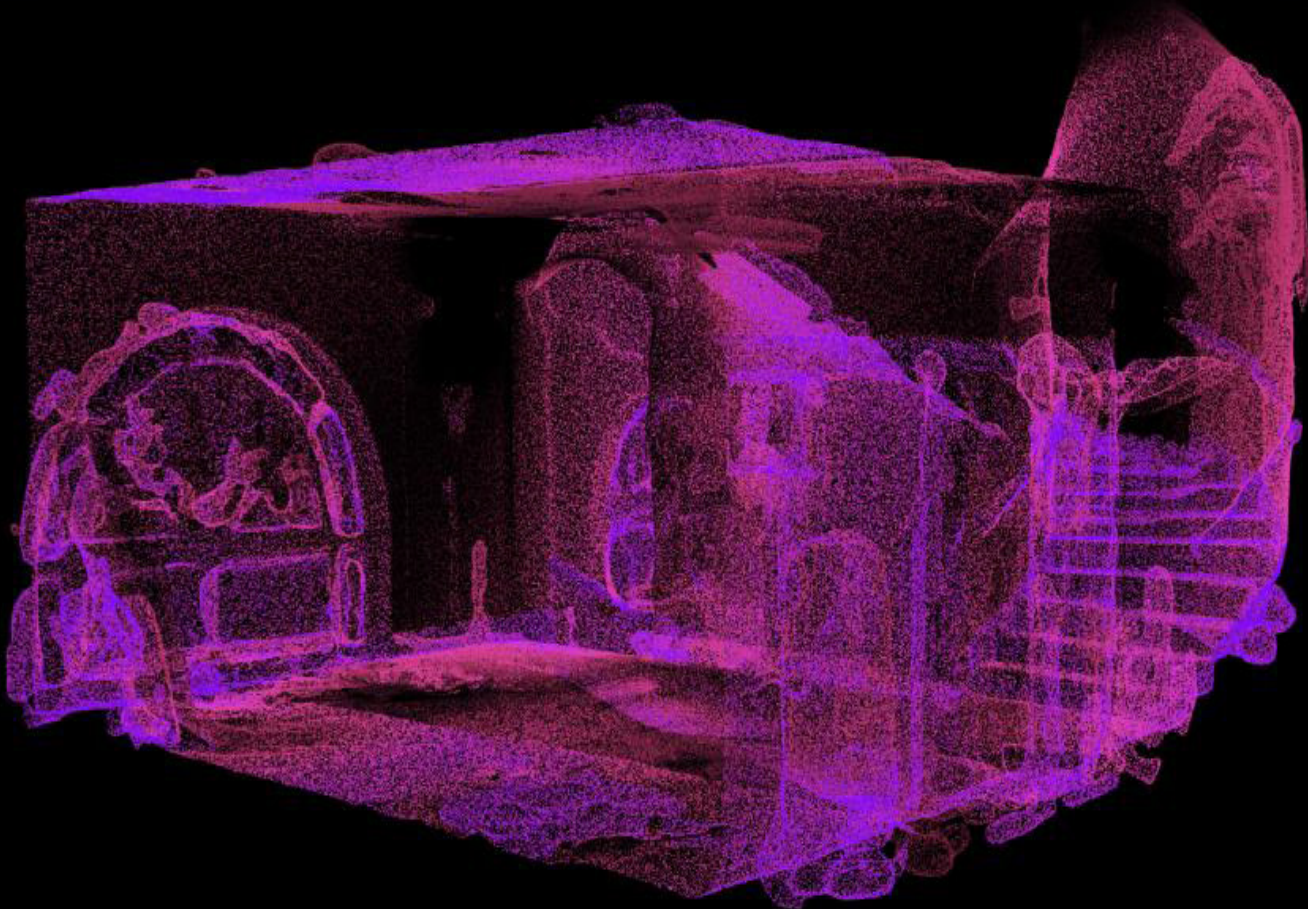
LEVEL 03



Inspiration

POINTILIZED ENVIRONMENT

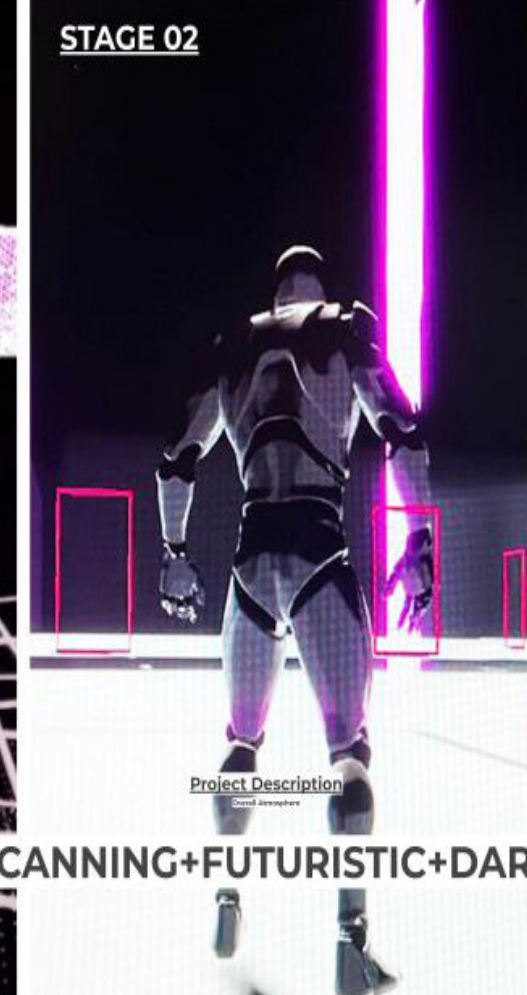
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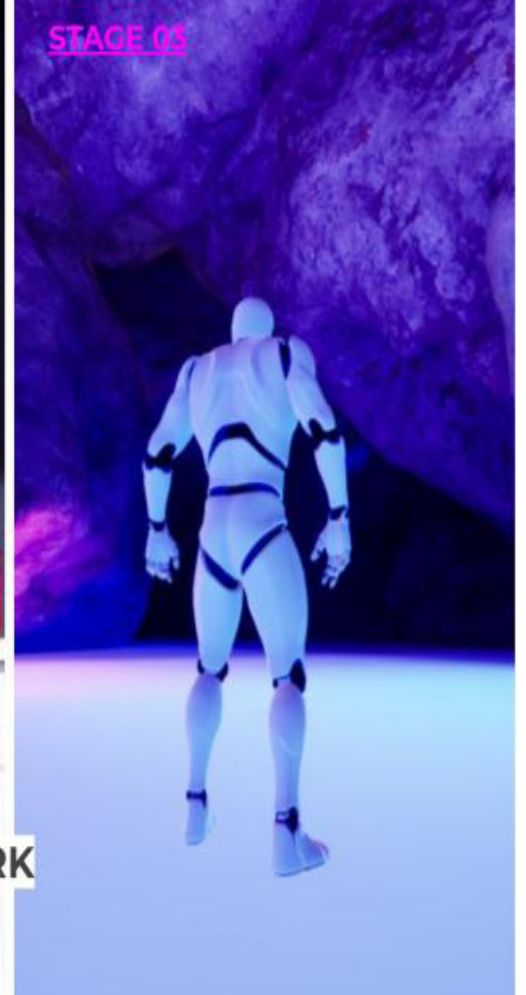
STAGE 01



STAGE 02



STAGE 03



Project Description
Coral Architecture
SCANNING+FUTURISTIC+DARK

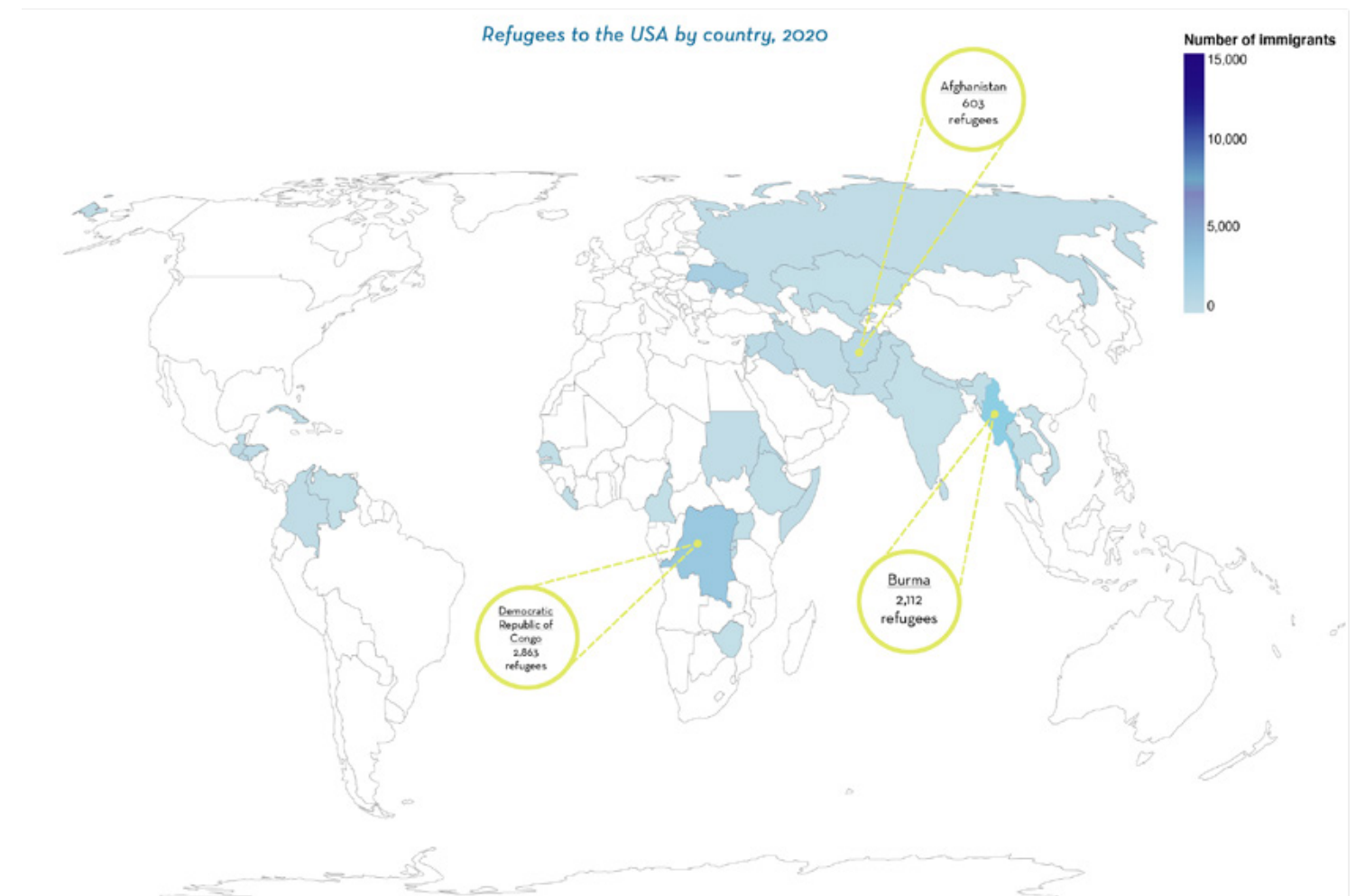
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STORY MAP

THE RECENT REFUGEE RENAISSANCE IN BUFFALO HAS TOTALLY CHANGED THE CITY'S STREETScape. HERE IS HOW.

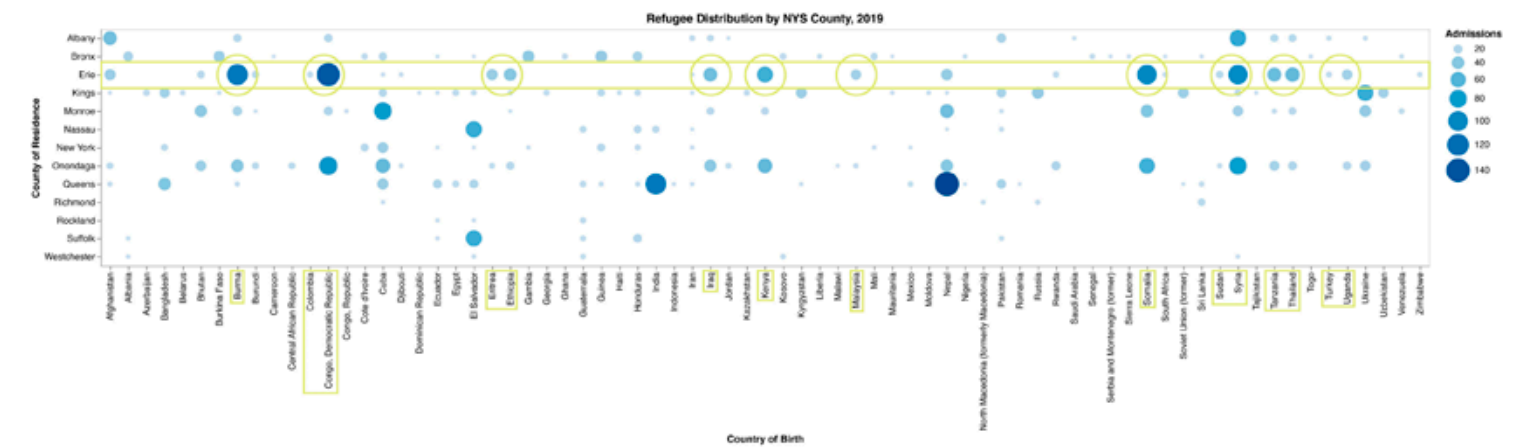
FACULTY: Michael Krisch,
Juan Saldarriaga

TEAM MEMBERS: Jie Kong, Ruonan Du,
Polina Stepanova



Refugee Distribution in NYS

Erie county, which is home to the city of Buffalo, has been resettling the most refugees out of all counties in New York State, according to the Making Buffalo Home digital engagement project. This non-profit claims that 16,098 refugees have arrived in Western New York state since 2002, and that immigrants in Buffalo and Syracuse contribute over two million dollars spending power to these regions. The organization also says that refugees mostly arrive from Burma, Somalia, Bhutan, Iraq, Democratic Republic of Congo, and others. While researching this topic, we also established that Buffalo has recently started welcoming a lot of evacuees from Afghanistan.



In 2019, refugees from the following countries were mostly placed in Erie county: Burma, Colombia, Democratic Republic of Congo, Eritrea, Ethiopia, Iraq, Kenya, Malaysia, Somalia, Sudan, Syria, Tanzania, Thailand, Turkey, and Uganda. This has made Buffalo much more diverse and contributed to its economy right before the pandemic started.

Data Source: Department of Homeland Security, Asylum and Refugees

Refugee Renaissance

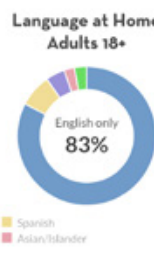
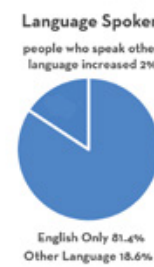
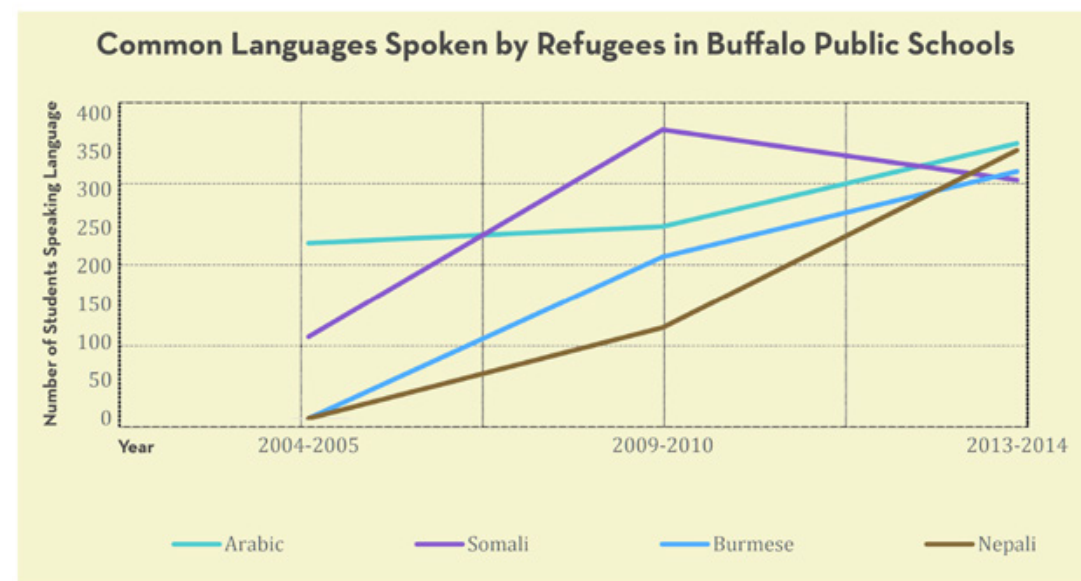
Not only have the refugees been changing the overall demographics in Buffalo, they also started contributing to the economy in a major way, which eventually led to them changing the streetscape of Buffalo. Marlene Schillinger, the president of Jewish Family Services, said: "Buffalo wouldn't be on the rise without refugees - they're a huge economic driver. We like to call it 'The Refugee Renaissance'."



- 7,734 - Number of refugees who resettled in the Buffalo metro area between 2009 and 2014.
 - \$3.1 billion - The amount foreign-born residents contributed to the Gross Domestic Product in the Buffalo area in 2014.
 - 9% - Percentage of foreign-born residents in Buffalo who started their own business, compared to 6.5% of the native-born residents.



Languages Spoke in Buffalo



Data Source: Immigrants, Refugees, and Languages Spoken in Buffalo (https://jppg.buffalo.org/files/documents/immigration_buffalo_brief_final.pdf) Census Reporter (https://censusreporter.org/profiles/10000US361000-buffalo-ny/)

Another noticeable change is the variety of languages now spoken in Buffalo. It is much more common than before to hear Arabic, Somali, Burmese, and Nepali on the streets of Buffalo and its public schools.



The stories of refugees that change Buffalo are stories of resilience and strength. Steven Sanyu, the founder and the president of Burmese Community Services, arrived in Buffalo in 2000 as a first Burmese refugee.

Now, he says, Burmese refugees' count in Buffalo has one up to 10,000. Ever since Steven's arrival, he adjusted to living in the United States and became a prosperous business owner. Burmese Community Services, Steven's non-profit organization, helps asylees from Burma to adjust to life in the United States. American government supports the refugees for the first three months, and the goal is to bring them to the point where they are self-sustaining. However, most refugees do not know English language at all, and some of them can not even write in the native language! Steven does an important community job by helping the refugees past the 3-month mark established by the Department of Homeland Security. We thank him for giving us an interview and helping so many people!

Refugee Renaissance Timeline



The city itself was established back in the 19th century. The arrival of refugees started happening in the beginning of 2000s, and now they comprise a considerable proportion of the Buffalo economy.



Five Points' Thriving Businesses

Steven Sanyu, the president and the founder of Burmese Community Services, has told us that he established his business in the Five Points area in order to help fellow refugees find their path in a new country. After arriving in 2000 from Burma, he eventually became an owner of multiple businesses. He shares that besides his Burmese Community Services company, he used to also own a sushi franchise which he ended up selling to his friend. Steven Sanyu has truly become a guiding compass for many of his fellow nationals who sometimes struggled with the language barrier or assimilation in the new country.

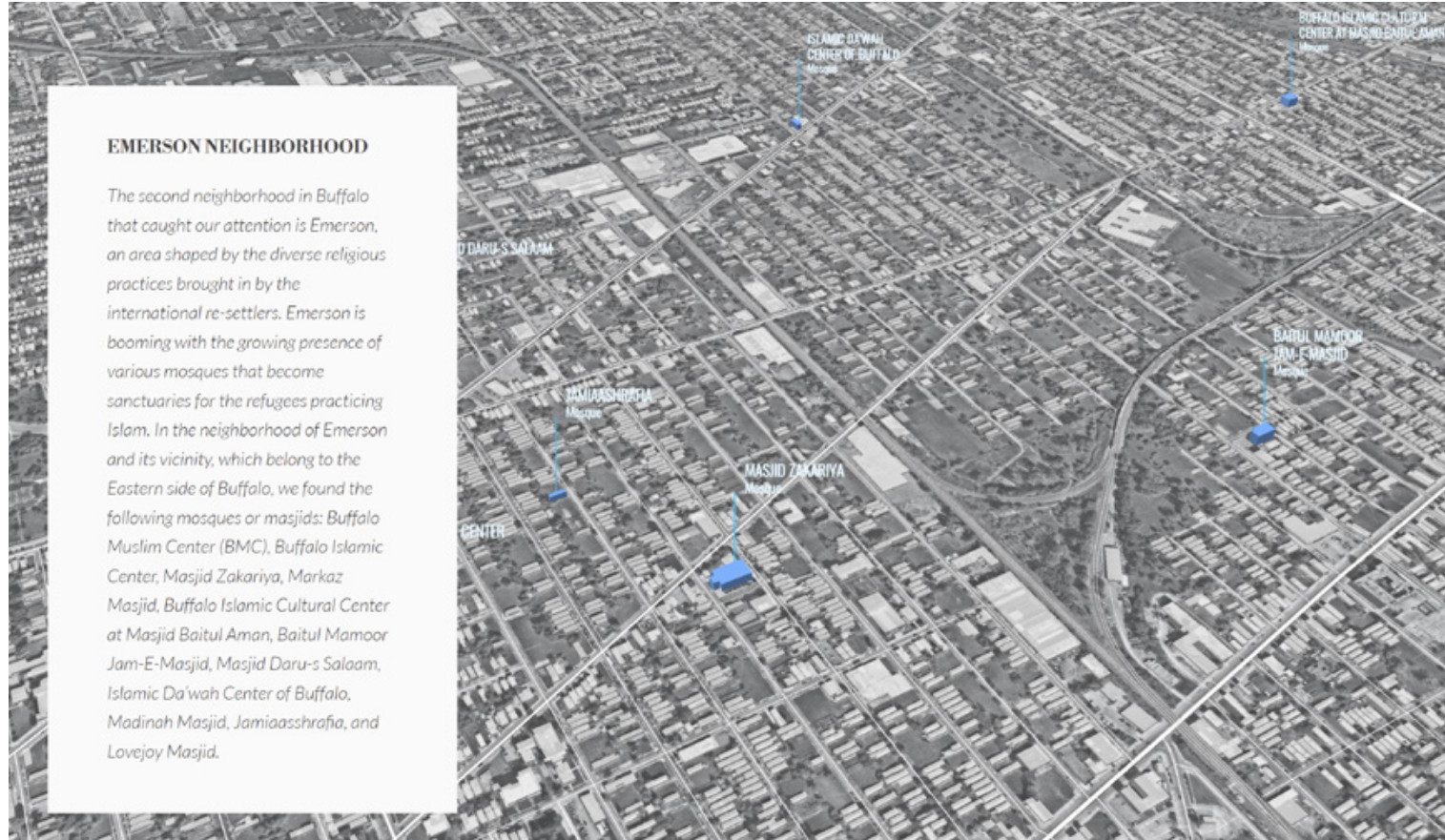
Abyssinia Ethiopian Cuisine is another thriving business that is refugee-owned. Opened by Zelalem Gemmeda, a refugee from Ethiopia who also lived in Yemen, the restaurant is a tribute to one's powerful culture and was established with the help of Westside Bazaar. Zelalem demonstrates an ability to bring her culture wherever she goes, and the residents of Buffalo enrich their lives with the experience of visiting Abyssinia restaurant. Before the refugee business boom, the streets of Five Points were lacking such ethnic diversity - now they thrive in it.

Burmese Community Services founded by Steven Sanyu
Photo Credit / Steven Sanyu, President of Burmese Community Services

Zelalem Gemmeda at Abyssinia Restaurant
Akec Aguer is the chef and owner of Nile River Restaurant
Photograph By Brendan George Ko

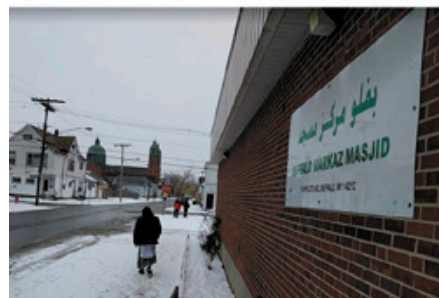
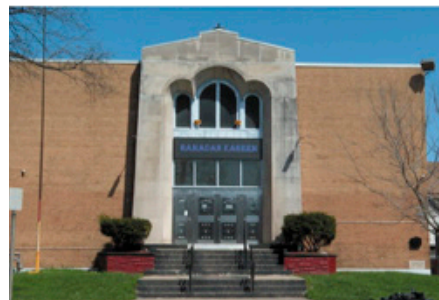
Photo Credits / Google Maps

NEIGHBORHOOD 2: Emerson Neighborhood



EMERSON NEIGHBORHOOD

The second neighborhood in Buffalo that caught our attention is Emerson, an area shaped by the diverse religious practices brought in by the international re-settlers. Emerson is booming with the growing presence of various mosques that become sanctuaries for the refugees practicing Islam. In the neighborhood of Emerson and its vicinity, which belong to the Eastern side of Buffalo, we found the following mosques or masjids: Buffalo Muslim Center (BMC), Buffalo Islamic Center, Masjid Zakariya, Markaz Masjid, Buffalo Islamic Cultural Center at Masjid Baitul Aman, Baitul Mamoor Jam-E-Masjid, Masjid Daru-s Saloam, Islamic Da'wah Center of Buffalo, Madinah Masjid, Jamiaasshrafiya, and Lovejoy Masjid.



Religious Influence in Emerson

Masjid Zakariya has celebrated its 30 year anniversary in 2022. One of the early mosques in Buffalo, it was established with the intention of building a strong and resilient community on Buffalo's East Side. Broadway Fillmore Alive quotes words of imam Asim Ahmad: "When I first came here, prostitution and drug dealers were rampant; many of the houses on Sobieski were crack houses. Muslims are traditionally very family-oriented, so as people began to move into the area, we were focused on building a neighborhood that would be safe for our kids." The area has undergone positive change due to the presence of a united society. Masjid Zakariya is open five times a day for prayer and is very packed for the Friday services. It is one of the many mosques that have opened in Emerson neighborhood of Buffalo and that shape the local streetscape.

How do refugees play a central role in nourishing the established Muslim community? Large proportion of refugees come from countries with a massive Muslim population - Somalia, Yemen, Afghanistan, Syria. After arriving in the United States and being placed in Buffalo, these asylees continue practicing their religion. It is probably one of the very few links that these immigrants have with their home. Thankfully, Buffalo already has an infrastructure in place to support Muslim places of worship and help those arriving adjust as best as they can. Erkin Orzay from University of Buffalo also mentions that with the influx of refugees, there has been a rise in the practice of Islam.

Photo Credits / Govinda Subedi and his son enjoy the festivities at November's Buffalo Without Borders event, organized by the International Institute and held at the Lafayette Hotel / KC Kraft 2015

Photo Credits / Google Maps

NEIGHBORHOOD 3: Broadway - Fillmore- Clinton Bailey Neighborhood



The past impression of the Broadway-Fillmore district might be full of crime scenes, accompanied by the bleak sight of empty houses and storefronts. However, when really walking into the streets, there are a lot of beautiful homes with fruit and vegetable gardens which are surrounded by many open spaces. Seniors relax on their porches with kids. The changes were realized by the Bangladeshis, the city's new immigrants. They used low prices to buy what other people thought as junk properties, and restore the house by themselves.

- With their settlement, the criminal rate of the neighborhood declined dramatically, and more and more retail stores and religious places have been opened since then, which adds to the vitality of the community.

- On a Manitoba Street, a residential street in Buffalo's Bailey-Clinton neighborhood, a refugee family of eight was settling down into the house with the help from Habitat for Humanity Buffalo and some local works from Buffalo Niagara Brewers Association. As a part of the resettlement program, the family bought their home through 500 working hours, which was called "sweet equity".

Source: Bangladeshis transforming Buffalo, one block at a time https://buffalonews.com/news/local/bangladeshis-transforming-buffalo-one-block-at-a-time/article_947bf3e3-8323-500a-9e0c-43c752f68f81.html
Refugee family settles into the house that beer built https://buffalonews.com/news/local/refugee-family-settles-into-the-house-that-beer-built/article_3840f65d-4b95-5400-b697-bf84305a07e6.html



In Wire Works Co, they either create a training video with subtitles for those refugees who don't fluent in English or develop a "buddy system," which by pairing a new hire with one who speaks the same native language but has been in the company longer and acquire advanced English-speaking skill. Further, by using the interpersonal network of refugees, the company can attract more workforce. "Their work ethic is second to none, really. We enjoy working with them as they grow with the community in Buffalo, whether it be working with them on their English skills, their math skills, their interactions with people, and our culture as well. Just helping them grow in the personal aspect is a great, rewarding thing for us to see." --- Max Davis, Buffalo Wire Works' president



**URBAN NETWORK
CONNECTING REFUGEE
COMMUNITY**

As a city economic development fund plan which aims at collectively and progressively improving economic conditions, it prioritizes the community, focusing on the development of community service, community education, walkability, and regional economic opportunities in each area. We can clearly see that these four planned corridors pass through many refugee communities and recognize the vital role of the financial and social institutions associated with these communities. Therefore, on a larger scale, the changes of refugees to the streetscape of the community and their impact on various social systems also guide the planning and decision-making of urban governments and organizations on the urban streetscape.

The conclusion is inevitable – streets of Buffalo are changing due to the influx of various cultures and the development of its economy due to these forces. Small restaurants, legal services, masjids, grocery stores – the refugees overcome their initial struggles and establish their own businesses, bravely venturing out into the unknown. They truly deserve an applaud: not only are they securing their own future but they are also driving Buffalo’s economy upwards. We want to thank them for working through their initial adjustment and language barrier in order to flourish in their new home.

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COLUMBIA
GSAPP

- THE END -