

LUCAS COELHO NETTO

lc3589 - portfolio

COLUMBIA
GSAPP

PROJECT	COURSE	FACULTY	THEME
Regenerative Flows	UD Studio I <i>Summer 21</i>	Nans Voron Sagi Golan Jae Shin Sean Gallagher	City Edges Managed Retreat Superfund Sites
Barra da Tijuca: A Map to Utopia	Urban Theory & Design Post-Industrial Age <i>Summer 21</i>	Noah Chasin Joseph Huennekens Charlette Caldwell	Modernism Masterplan
Collective Reparations	UD Studio II <i>Fall 21</i>	Emanuel Admassu Nina Cooke John Chat Travieso Lexi Tsien	Atlanta After Property Crime Reparations
Less is Enough: A Piece of Theory	The History of Arch. Theory <i>Fall 21</i>	Mark Wigley	How Does Theory Work?
NYCHA Frederick Douglass	Difference & Design <i>Fall 21</i>	Justin Moore	Abandoned Public Housing
Post Retired Lands	Man, Machine, Land <i>Fall 21</i>	Sean Gallagher	Renewable Energy Industrial Landscapes
Pomar Square and the Limits of Public Space	Public Space: Rhetorics & Practices <i>Spring 22</i>	David Smiley	Modernism Public Space
Empowering Belize	UD Studio III <i>Spring 22</i>	Kate Orff Geeta Mehta Thad Pawlowski Lorena Gomez	Water Urbanism Coastal Resilience
Taxing Tourism	Footprint: Carbon & Design <i>Spring 22</i>	David Benjamin	Tourism Footprint in Belize

REGENERATIVE FLOWS

Where the water is too contaminated and the air too polluted, land has been privileged for far too long. At this critical juncture amidst an escalating climate crisis, we must change this narrative. Echoing notions of destruction, deterioration, and dispossession, through the potentials and the pitfalls, water becomes the protagonist.

Situating ourselves within a network of regional and international solidarity, we acknowledge the power of collective awareness as a premise for action. In the prolonged process of design within contested territories, we work through seemingly rhizomatic architectures and their refusal. This body of work is an anti-formal and anti-hierarchical exploration of water returning to itself. It is both top-down and participatory.

Ruminating on resilience and hope, this is not a map to utopia nor a claim to sustainability funded by capitalist extractive regimes. This is not the greenwashing of aerial imagery nor the romanticization of a past before acts of environmental warfare. This is our reality ahead of natural hazards encompassing riverbank erosion, storm surges, and continued saline invasion.

While globally, we are no strangers to escalating climate pressures as they take form, our work centers on the urgencies and complexities within and beyond the Passaic and Hackensack watersheds.

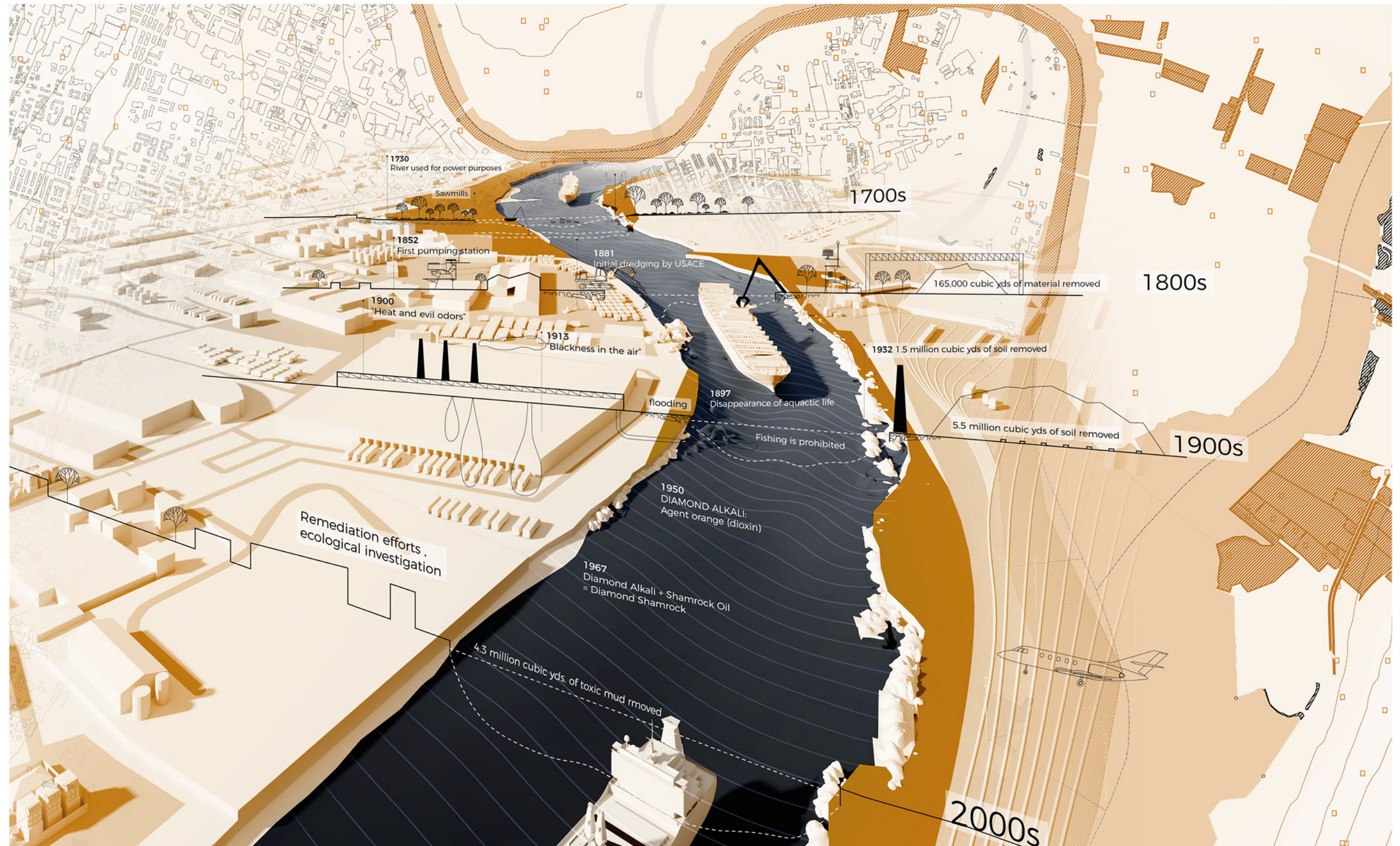
2021 Summer

Course:
UD Studio I

Faculty:
Nans Voron
Sagi Golan
Sean Gallagher
Jae Shin
Austin Seikong
Galen Pardee
Tami Bahn
Candelaria Mas
Tal Fuerst

Team Members:
Jiamin Huang
Jiayi Zhao
Yasmine Katkhuda

Location:
Newark, NJ - USA



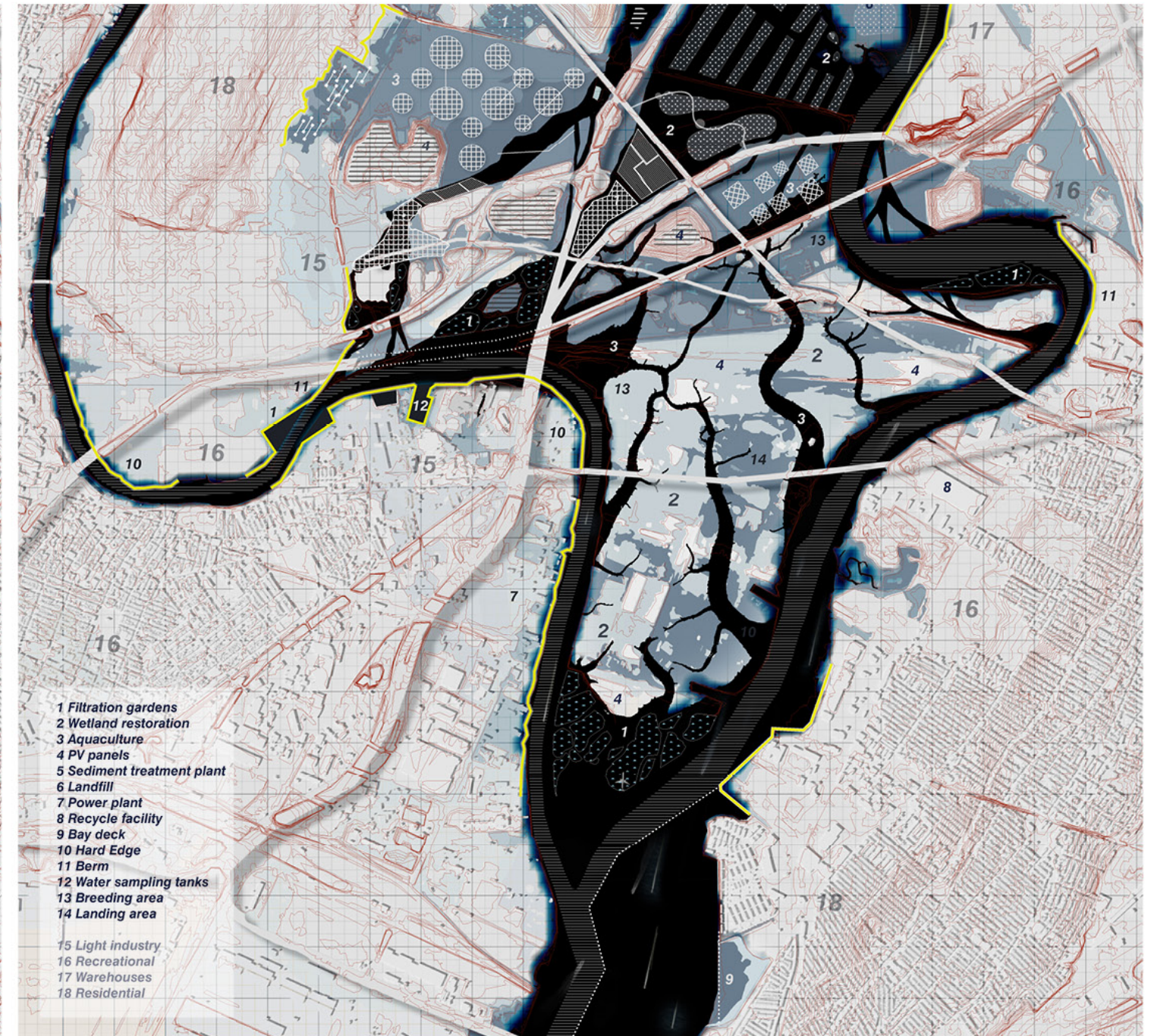
Right: Site Construction



SUPERFUND SITE

The landscape in Newark results from the dredging of river beds and the hardening of the edges. Pollution, health, and ecological devastation persist due to those interventions. With the river as its connecting agent - yet seemingly secondary within the urbanscape as we continue to destroy the soil beneath it all in the name of protecting our present industries - the entire region is at risk of severe flooding.

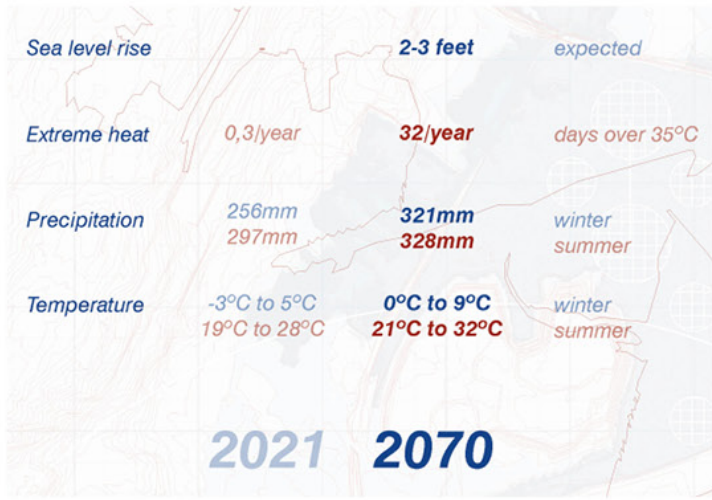
Left: Existing Siteplan
Right: Proposed Siteplan



LONG TERM RETREAT

In response, every component plugs into a large network, which over time transforms the entire region into a resilient ecosystem. While this calls for industries and existing infrastructures to be changed, these calculated and spontaneous interventions consider a calculated retreat where the new landscape needs to establish itself. It is less of a sudden move but a long-term process where some edges consolidate while others are let go, only preserving what is critical ahead of uncertain futures.





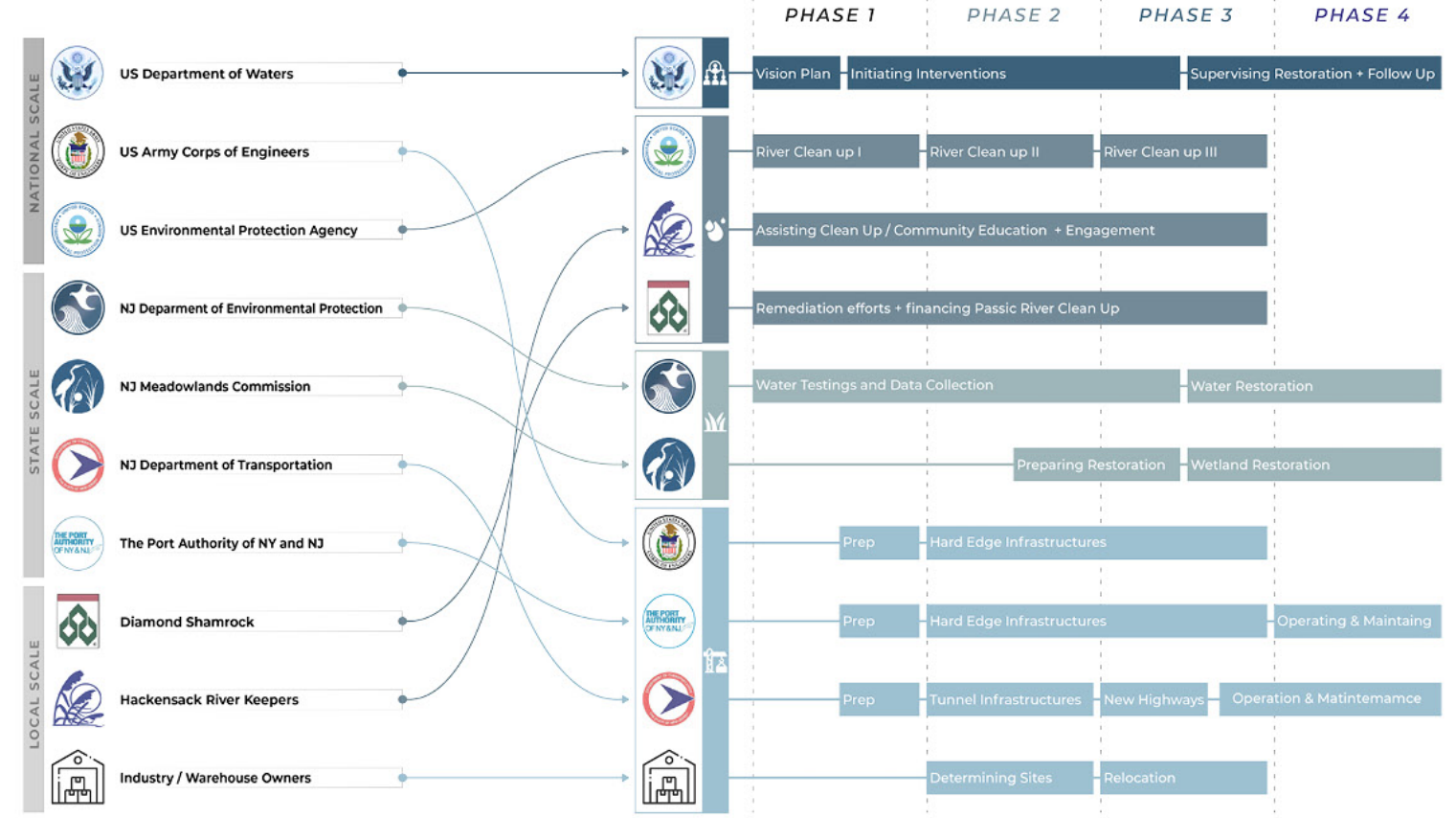
CLIMATE CRISIS

We are witnessing startling changes that continue to jeopardize our very cities and civilizations. Ahead of gradually rising sea levels, storm surges, and elevated temperatures, there is an urgent need for preventive measures.



NEW DELTA

Considering the two rivers and treating their waters not as a byproduct of a constructed, defined site but through a lens of material practice, the project allows for a physical metamorphosis where they merge into one large new delta for Newark.



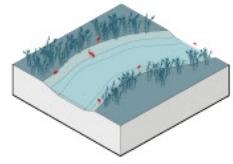
Existing Section at Superfund Site



Proposed Section

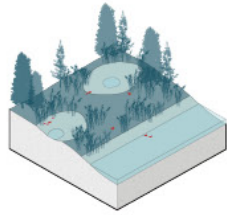
WATER FLOWS

Landing Area
Water Depth <2'



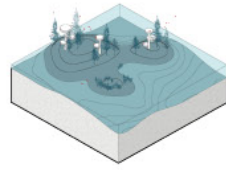
- Land Prey
- Reed Egret Heron Gull

Breeding Pools
Water Depth 2-5'



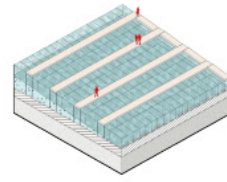
- Breed Prey
- Reed Metasequoia Cypress Duck

Bird Shelters
Water Depth 5-10'



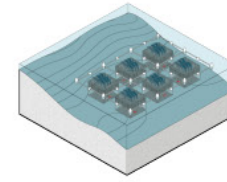
- stop launch Nest
- Birch Reed Metasequoia Gull Swallow Cormorant Kingfisher

Filters
With Activated Carbon



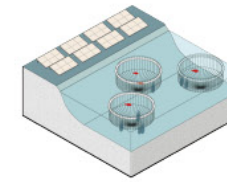
- Absorb Learn

Vertical Shrimp Farms
Water Depth 2-3'



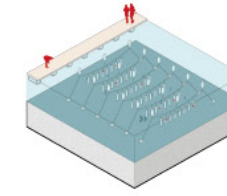
- Breed Cultivate
- Paddy Crayfish

Fish Farming
Water Depth > 4'



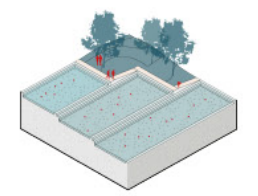
- Breed
- Hornwort Perch

Shellfish Farming
Water Depth 6-12'



- Breed Purification
- Oyster Stuckenia

Settling Tanks
For Large Particles

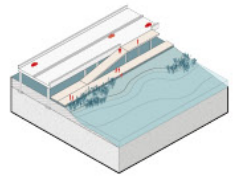


- Sink Learn
- Allanthurus

AQUACULTURE

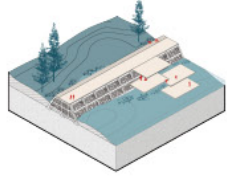
ACCESSIBLE EDGES

Highway Platforms
New Infrastructure



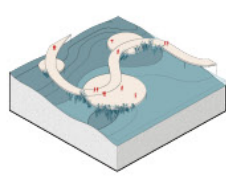
- Photograph View
- Reed Scirpus

Reinforced Dikes
Stone and Sand



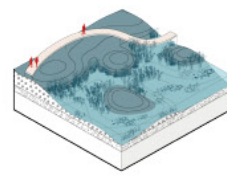
- Walk Bicycle Fishing
- Lythrum Duckweed Metasequoia

Waterborne Tracks
With Floating Platform



- Walk View Learn
- Reed Scirpus Typha

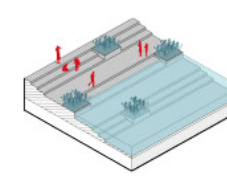
Plant Purification
Stone and Sand



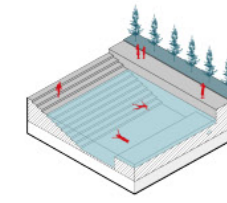
- Restore Learn
- Reed Scirpus Typha Calamus Duckweed Stuckenia

ACCESSIBLE HARD EDGES

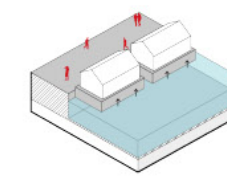
Waterfront Stairs
Near Housing



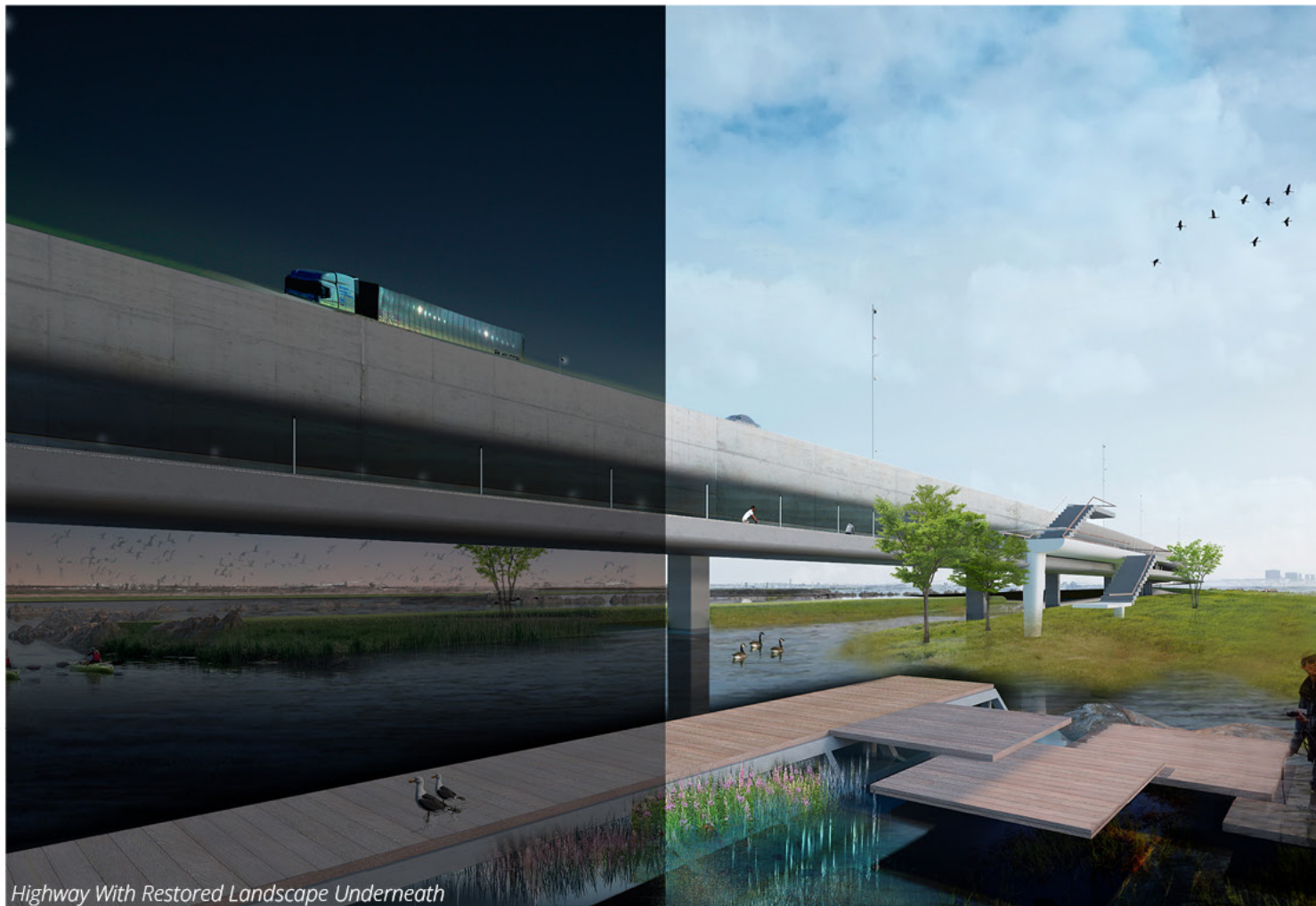
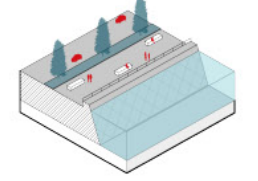
Tidal Pools
Near Housing and Industry



Floating Warehouses
Research Facilities



Bulkheads
Near Key Sites



Highway With Restored Landscape Underneath



Underground Train And New Delta

BARRA DA TIJUCA: A PLAN TO UTOPIA

2021 Summer

Course:
Ud Studio I

Faculty:
Noah Chasin
Joe Hunneckens
Charlette Caldwell

Considered a coastal and smaller version of Brasilia, Barra da Tijuca is the second large-scale modernist masterplan executed by Brazilian architect Lucio Costa: Two perpendicular intersecting axes set across the middle of a virgin territory as a response to economic growth, development of the car industry and real estate speculation. Barra was promoted as a new way of living, far from the chaos of the urbanized south zone of the city, and a promise of refuge and better quality of life for the upper classes. However, the neighborhood built in the second half of the 20th century is a failed utopian division of land that turned into a series of gated communities, lack of public spaces, social injustice, and has no flexibility. A place where order and efficiency turned into constant traffic and a hostile environment for pedestrians - who are now hardly seen - and where urban sprawl became unavoidable.

The two main axes are each composed of an average of sixteen car lanes. Weaved around them, shopping malls and gated communities privatized public space - driven by real estate speculation - and programmed the majority of the ground level. This necessity modern architects felt defining how space would be used reflects a post-war mentality of rationality and order. Drawing a parallel to the architectural scale, Brazilian late architect and FAU USP professor Flavio Motta argued for “meaningful and nameless spaces”: non-programmed places rich in experiences and unexpected events, which in opposition to common belief, should not be generic or empty. Architects and urban designers should provide those spaces from the scale of a building to the one of an entire neighborhood. After all, cities thrive where the unexpected occurs. Unfortunately, that is not the case with Barra da Tijuca. The lack of those spaces makes urban encounters and interactions rare, and access to leisure and entertainment restricted to those who can afford it. Therefore, social justice became a crucial issue in the “new south zone” - as Barra propaganda announced in the 70s.

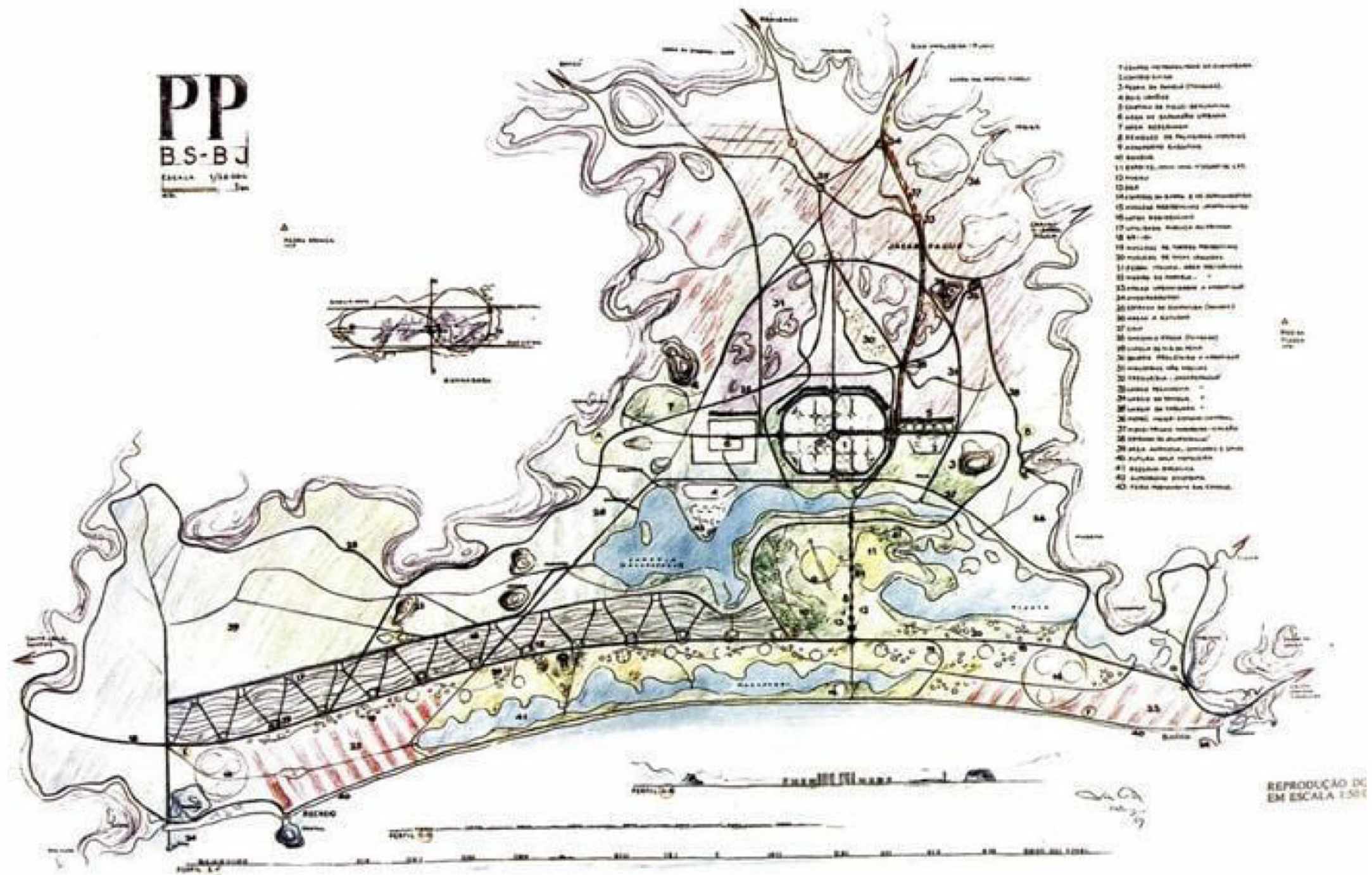
When the third reality - as Lacaton & Vassal would define these unexpected events - is not possible, consequences escalate. The lack of pedestrians, public spaces, and social interaction leads to fear, insecurity, and chaos. In a sequential turn of events, residential areas isolate themselves with walls, gates, and fences. One could see this as a vicious cycle where insecurity leads to walls and fences and vice-versa. The question is how to escape from this hostile environment. Would it require all buildings and condos to remove their gates simultaneously?

Appealing to utopia as a way to deal with one that went wrong would probably fail too. However, the current transportation system will likely be replaced a hundred years from now. Our highways and bridges will reach the end of their lifespan; the population within gated communities will reach a plateau, or disappear; shopping malls are already in decline, especially when COVID made us rethink indoor spaces as a go-to place for leisure

and entertainment. One way or the other, a lot will change in half a century, and what brought order and efficiency sixty years ago probably will not do so in a not-so-distant future. One could only expect - and hope - that car-driven urbanism will give place to new city dynamics and configurations: where pedestrians are the core of urban life, access to public space is not related to your income, and fear is not a constant feeling amongst residents.

Drawing back to the formal analysis of Barra, just as grids and patterns, its lines are easily extended. Considering the emptiness of the territory that stretched to the West of Barra da Tijuca, urban sprawl was expected and unavoidable. New residential high-rises puncture the landscape at an ever-growing pace, intertwined with mansions and exclusive leisure spaces. Relatable to American suburbs, the upper-class distancing from the city center is harmful to the entire urban fabric. Firstly, services and infrastructure can not follow the rhythm of private developments, so cars become even more essential. Secondly, the gated communities employ a whole network of workers: the distancing of these new developments to lower-income clusters results in long commuting distances and deteriorating life quality for this part of the population - or into the establishment of more informal settlements where commuting is easier. Last but not least, to meet real estate speculation and the housing market, green areas deteriorate where once was a preserved ecology.

Barra da Tijuca makes a great example of why architects and urban planners need to restrain their desires to control space and dictate uses. Projects will likely not live up to ideas and expectations, as societies are unpredictable. There is an urgent need for flexible public spaces, community engagement in design, and a rethinking of urban hierarchies. No matter the scale, projects should consider processes and change over time equal as - or more important than - the physical form. Lucio Costa’s master plan is the opposite: defined geometries and zones, infrastructure over citizens, and a utopian vision based on economic and political factors. And this is where the problem lies. After all, utopia, as an idea and a word, draws a fine line between a perfect place and a place that does not exist.



COLLECTIVE REPARATIONS

Our project for the Atlanta After Property studio revolves around the redefinition of crime as that enacted by the state towards marginalized communities. Identifying three crimes (defunding, forced settlement, and dispossession) the project address the consequences of it through modular additions, a new mutual aid network between legacy and current residents, from the urban scale to the detailing of cladding materiality.

A Series of failed urban policies and disinvestment in social infrastructure turned the Bowen neighborhood into an inaccessible area, where fast-food chains replaced locally owned businesses. In response to these issues, we envision a self-sufficient system for the community wherein production, distribution, and consumption of food can happen locally. Automotive repair and fast

food stop in conjunction with dense green areas become sites for collective caring. Pocket farms and local markets evolve additively while socio-economic ethos evolves as residents begin to grow these modules for self-sustenance and create learning experiences.

Our tactic reorganizes the communal and private nature of typical living units wherein private components flexibly intertwine with common spaces and ecology. A former gas station turns into an ecology-centered daycare and after-school. A catalyst for additional modules of mutual care: housing, transportation, and spaces for cultural and educational pop-ups expand based on inhabitants' needs.

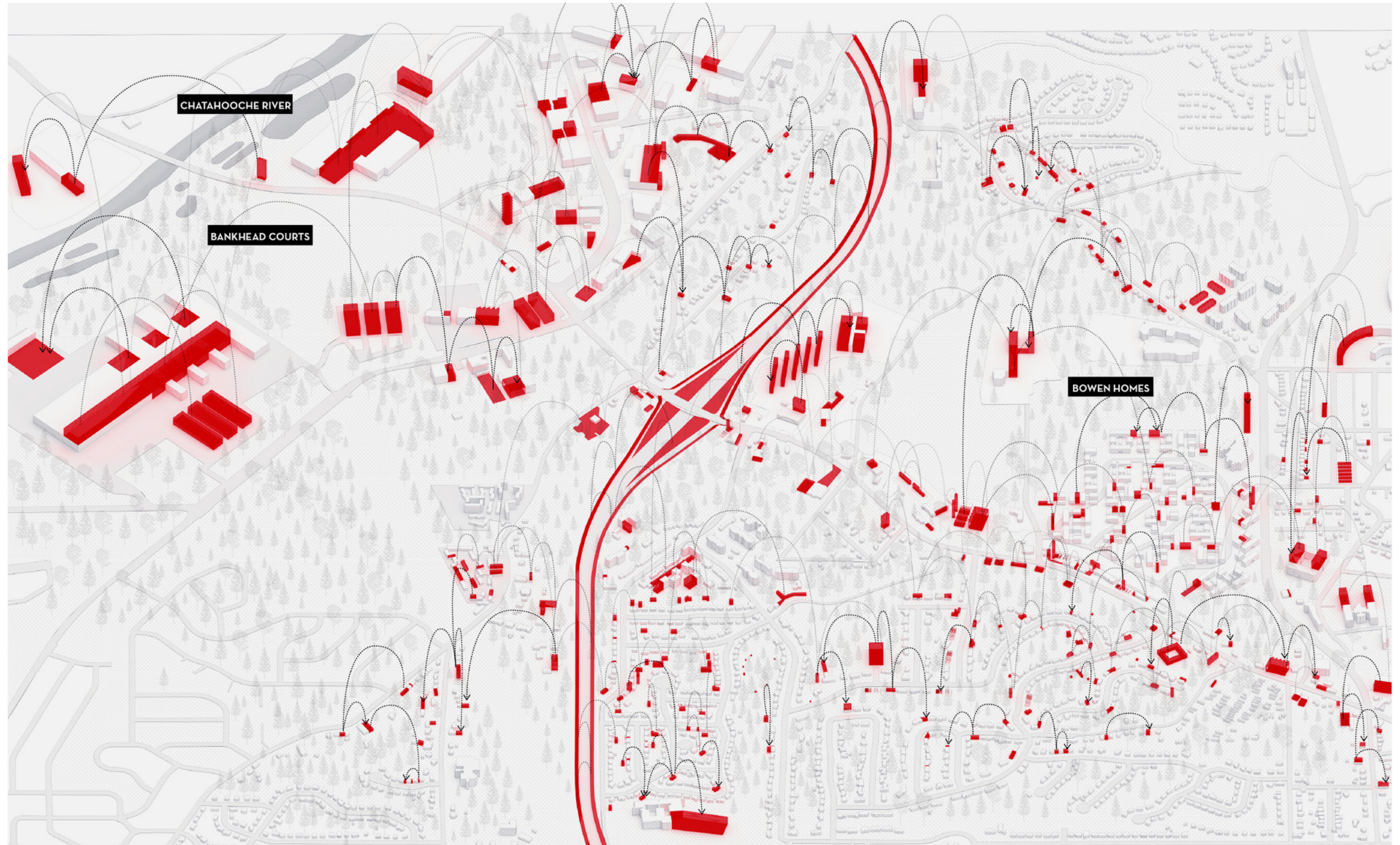
2022 Fall

Course:
UD Studio II

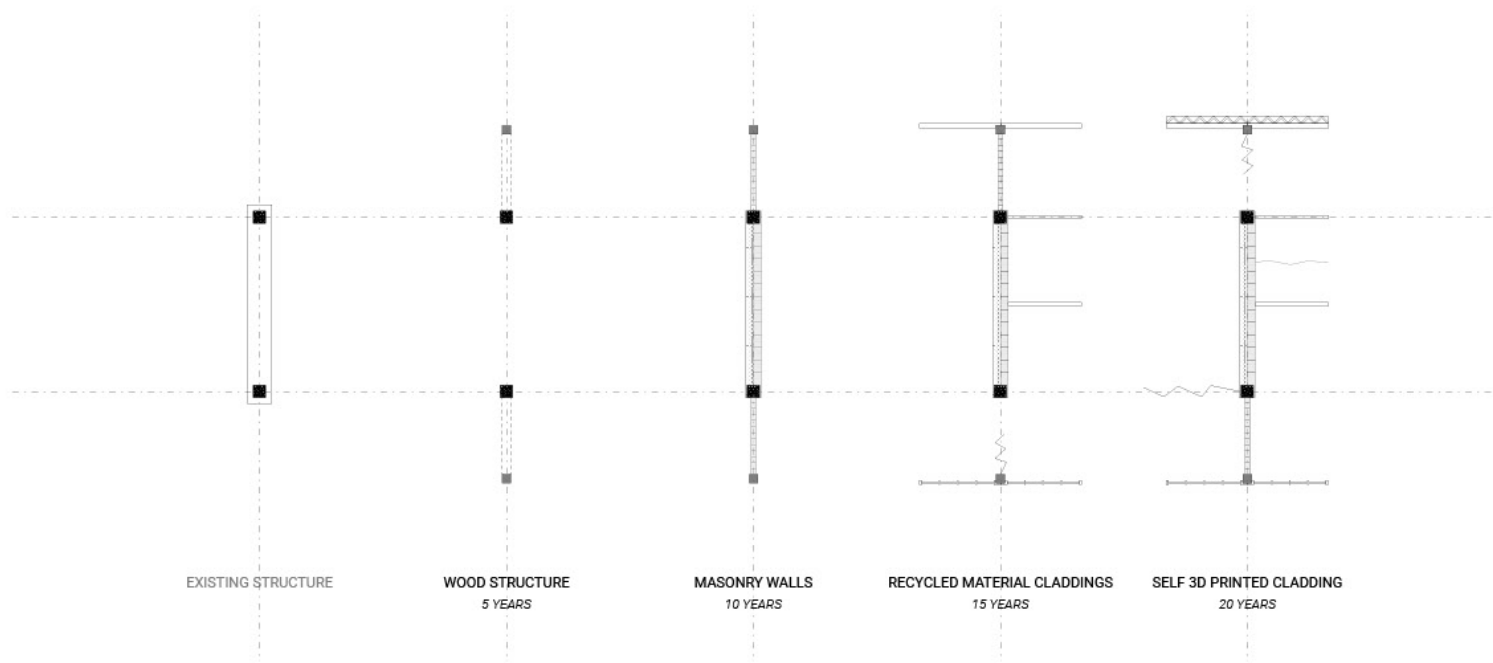
Faculty:
Emanuel Admassu
Nina Cooke John
Lexi Tsien
Chat Travieso
Nupur Roy

Team Members:
Cesar Delgado
Praditi Singh
Galina Novikova

Location:
Atlanta, GA - USA

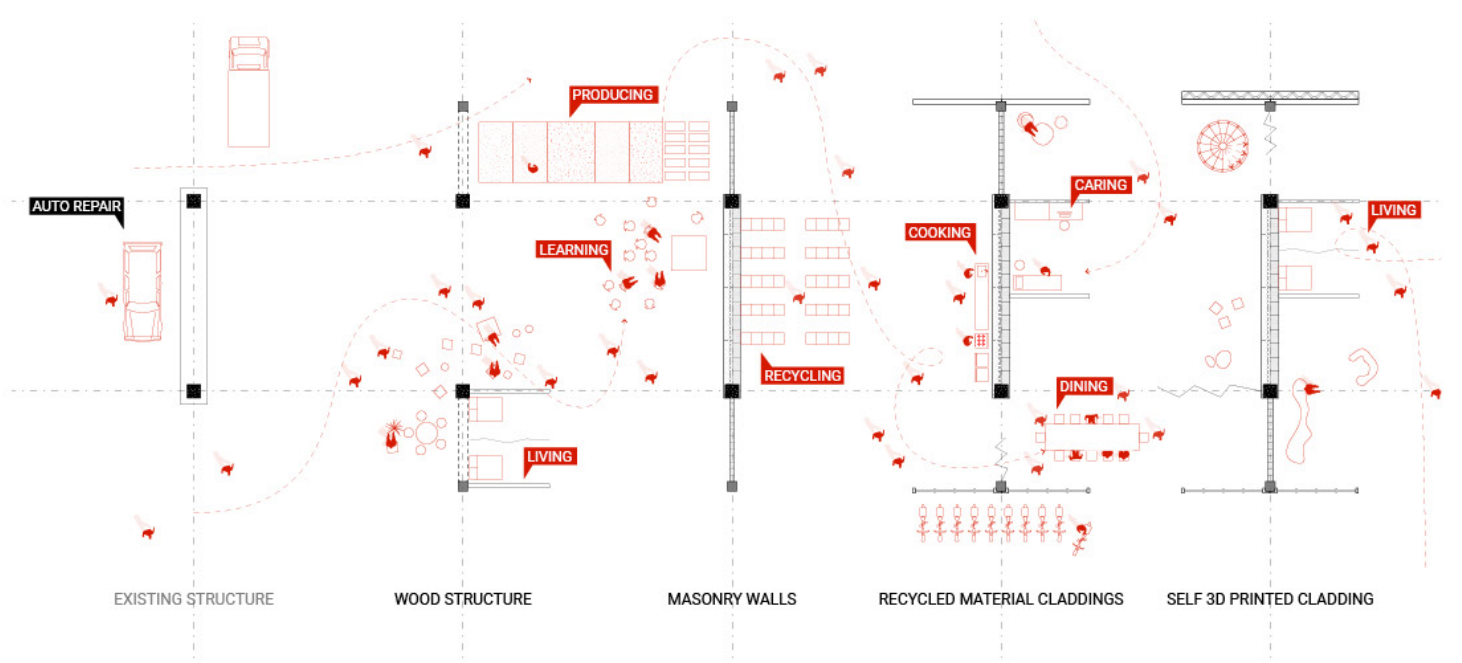


right: collective expansion



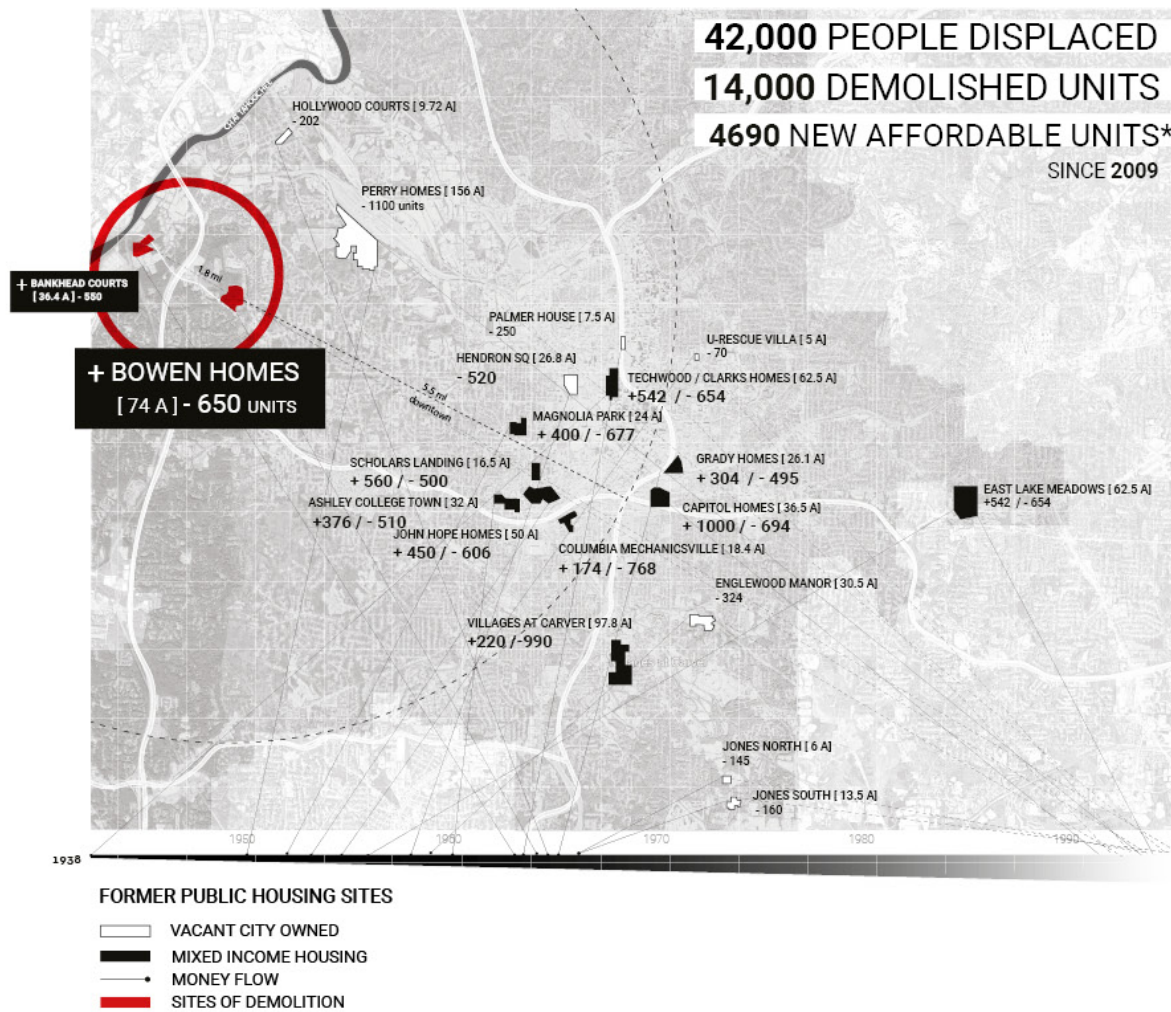
SPATIAL INFRASTRUCTURE

The overall spatial system can be explained through materiality and changes over time. From existing structures, the additions can be permanent or ephemeral, made out of opaque or translucent materials, recycled or 3d printed.

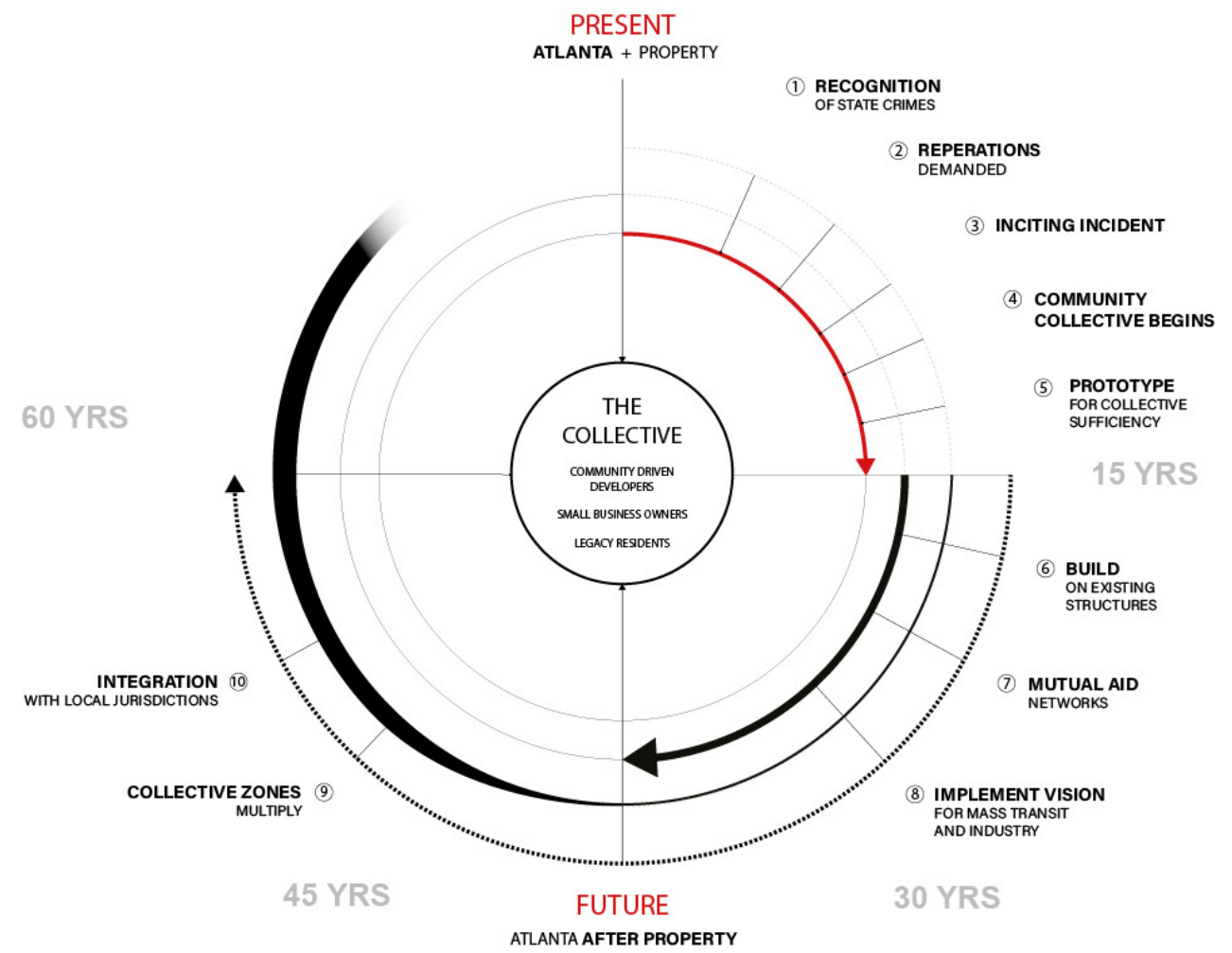


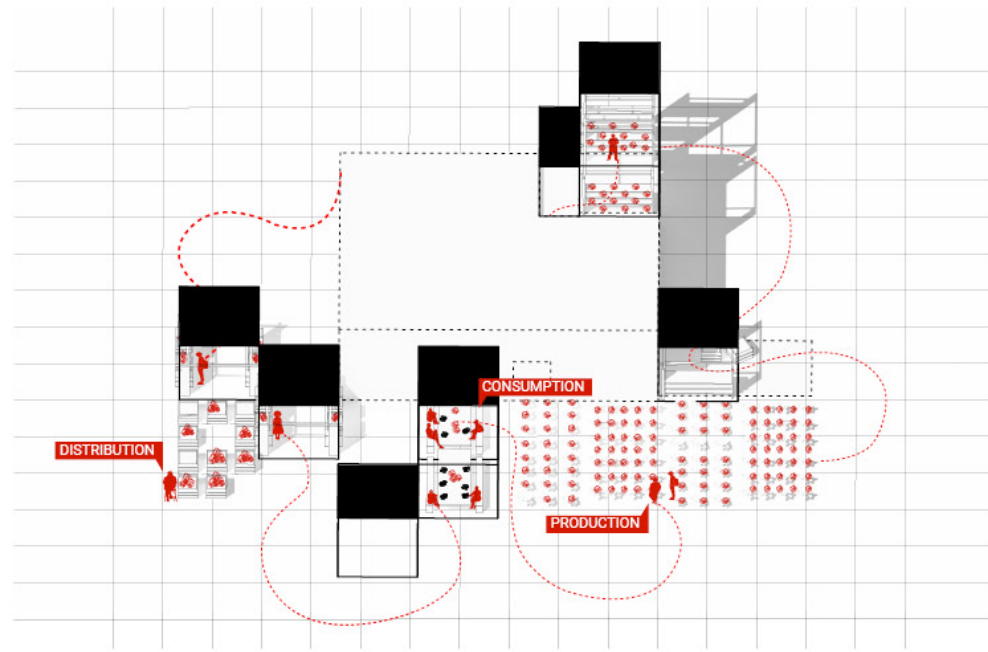
SOCIAL SYSTEMS

Spatial Interventions host activities of care and maintenance, production and consumption, privacy and gathering, where the temporary appropriation of both spaces, labor, and goods allow for self-sufficiency within the community.



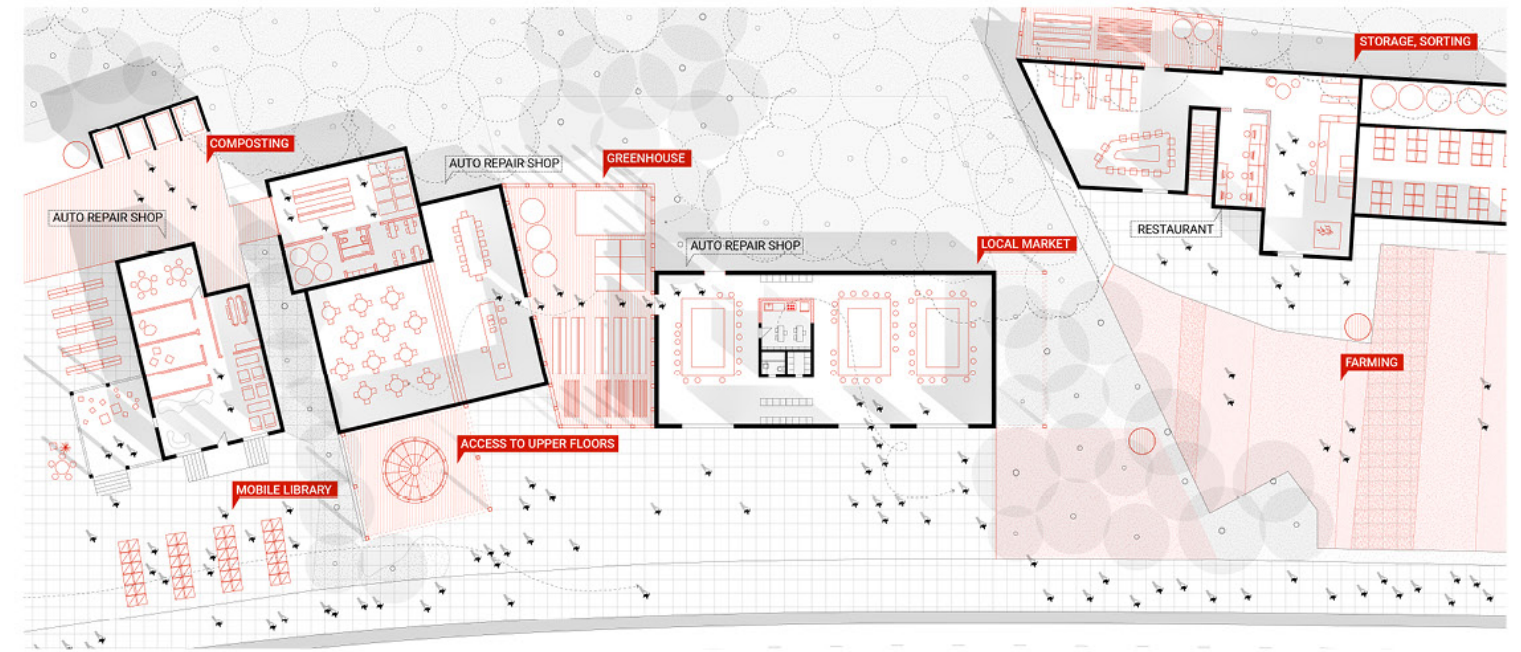
- HOPE IV PROGRAM**
\$250 Million Budget
2009 / Demolition of 96,200 units and produce only 56,800 affordable units.
- LOW INCOME TAX CREDITS**
\$328 million
2018 / 80 projects were awarded in tax credits. 2/3 of the went to projects north of I-20 within downtown.
- TAX BREAKS + PRIVATIZATION OF PUBLIC LAND**
99 West Paces
2021 / \$3.35 million tax break over 10 years. Developer pledged a few dozen units at rents affordable to households making \$100,000 to \$120,000 a year.





CRIME 1: DEFUNDING

A Series of failed urban policies and Disinvestment in social infrastructure created a ripple effect of conditions. It turned the neighborhood into an inaccessible area, an existing food desert, where Fast food chains replaced locally owned businesses, negatively impacting the health of the residents.



SELF SUFFICIENCY

We envision a self-sufficient system for the community where production, distribution and consumption of food can happen locally. The socio-economic ethos evolves as residents begin to grow modules for self sustenance, create learning experiences with the process.

POCKET FARMS
BALCONY + TERRACES

COLLECTIVE KITCHEN
SHARING RESOURCES

COMMUNAL SPACES
CULTURAL EXCHANGE

PRODUCE MARKET + MOBILE STREET VENDORS
SHARING & DISTRIBUTION OF FOOD

SURFACE + VERTICAL FARMS
LOCAL PRODUCTION OF FOOD

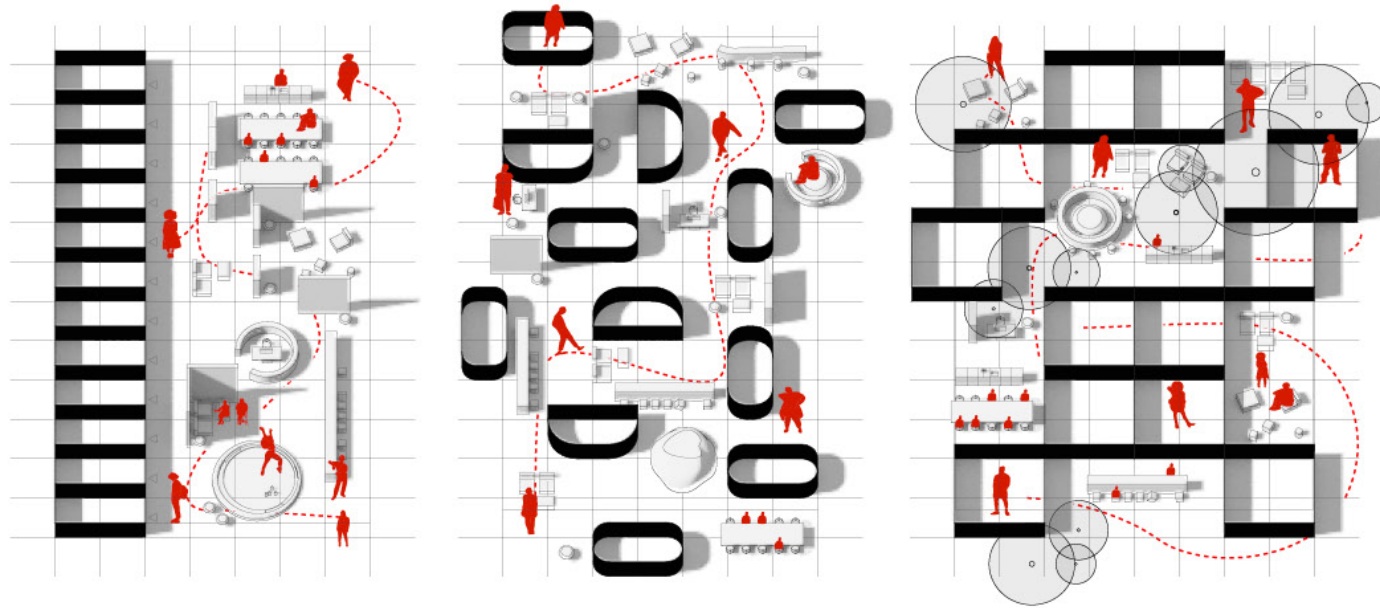
LEARNING WITH FOOD

SHARING + DISTRIBUTING RESOURCE

SORTING+COLLECTING PRODUCE



Auto Repair Shop Converted Into Food Center



CRIME 2: FORCED SETTLEMENT

Forced settlement meant to the inhabitants of Bowen homes a forced domesticity and mobility through repeated spatial expressions, gendered spaces and lack of access and connections. To the community, it meant power associated with movement.



MOBILITY

Questioning layouts of typical living units and the reorganization of what is common and private. We proposed small private components intertwined with common spaces and ecology in a porous flexible relation prone to expansion based on the inhabitants' needs.

COLLECTIVE LIVING

HEALTH CHECKUP

ECO - DAYCARE + AFTERSCHOOL

ENERGY + WATER CAPTURE

MEMORIES STORY RECORDING

MOBILE HOMEWORK SUPPORT

RECYCLING + BIOFUEL TRAIN STATION



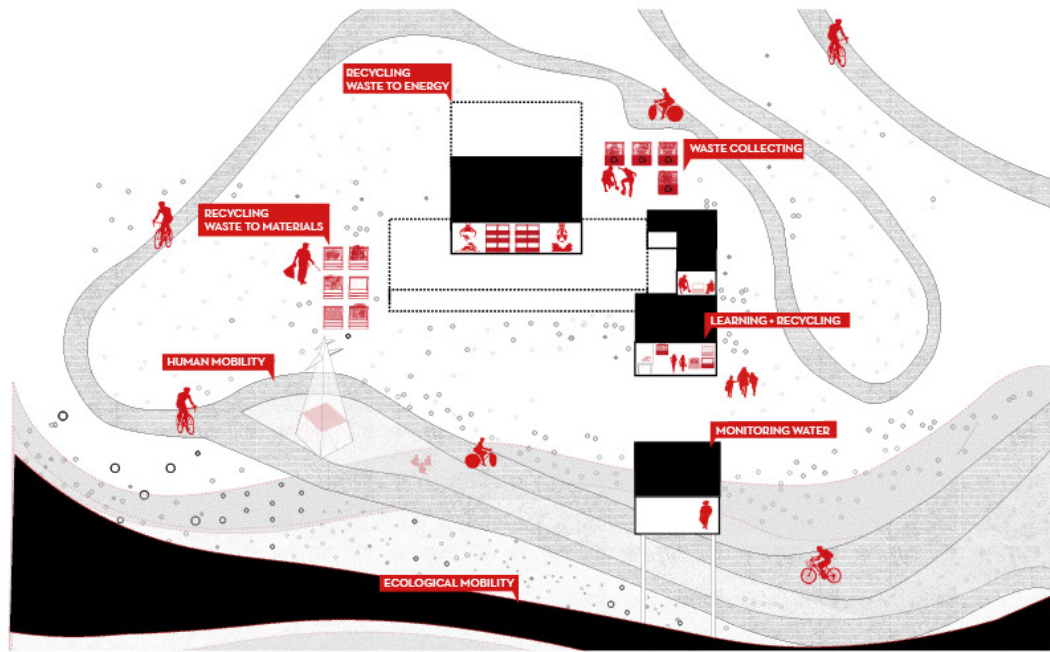
LIVING AND PRODUCING COLLECTIVELY

CARING + LEARNING THROUGH ECOLOGY

SHARING SKILLS

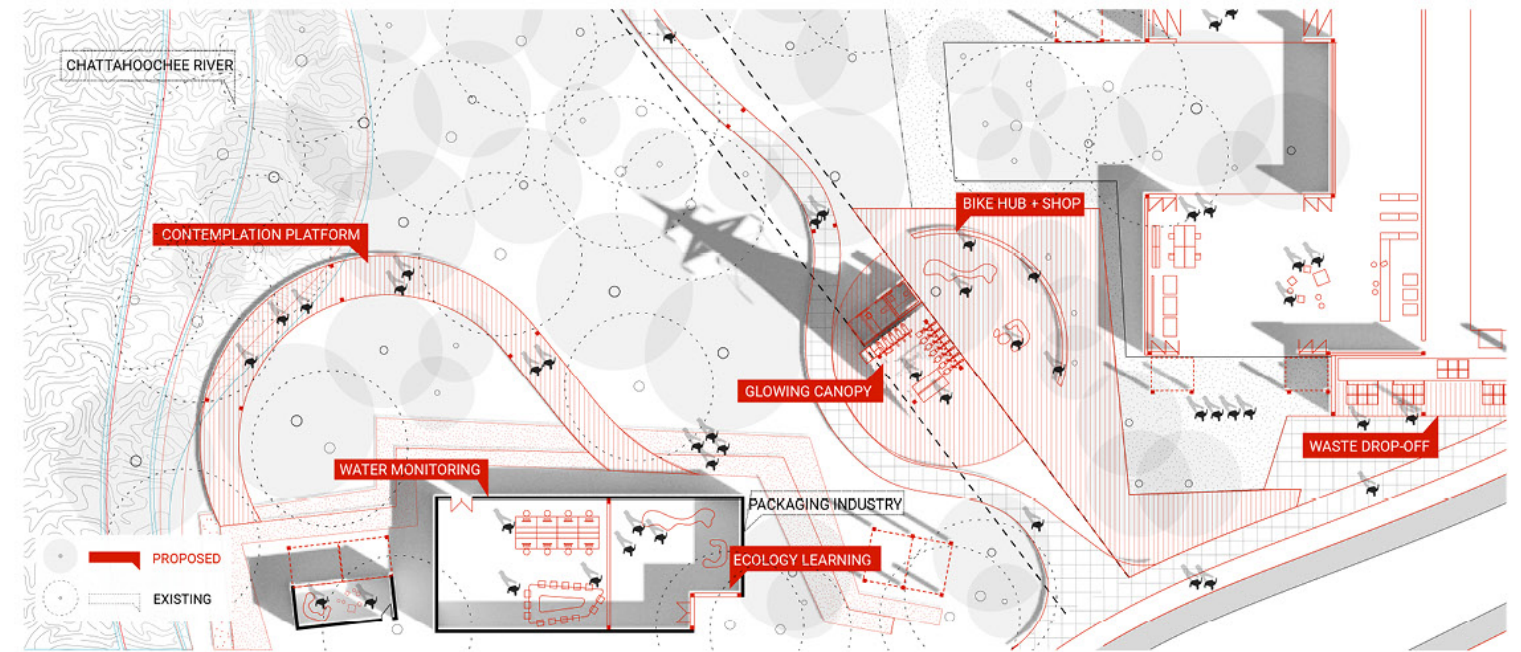


Gas Station Converted Into Dwellings And School



CRIME 3: DISPOSSESSION

The last crime can be seen by the impact of auto-centric infrastructure, highways and industry upon ecology which has resulted in polluted landscapes, deforestation and trash and tire dumping grounds across the hollowell drive.



ECOLOGY AS PROTAGONIST

In order to reverse trends of pollution and harm, we aim to remediate polluted zones, and transform nearby industrial facilities into sites of sustainable production. By giving agency to the river, allows for ecological mobility. The collective will monitor the river and soil, recycling materials from demolitions while empowering local residents to become active stewards of the land.

ECOLOGICAL CENTER:
WATER MONITORING
+ STEWARDSHIP

**ENERGY +
WATER
CAPTURE**

BICYCLE PAVILLION:
ALONG REGIONAL
BIKE NETWORK
USING R.O.W

**WASTE
DROP-OFF ZONE**

RECYCLING FACILITY:
RECYCLING AND
MATERIAL PRODUCTION



MONITORING THE RIVERS HEALTH

MODES OF MOBILITY

WASTE CYCLES + EDUCATION



LESS IS ENOUGH: A PIECE OF THEORY

(excerpt)

2021 Fall

Course:
History Of Architecture Theory

Faculty:
Mark Wigley

Ultan Byrne
Ashraf Abdalla
Alireza Karbasioun

Introduction

Examining the transformation of domestic spaces over the last decades dating back from the early European monasteries to contemporary micro flats as reinterpretations of 1970s hotels in New York and San Francisco, in *Less is Enough*, Pier Vittorio Aureli questions the foundations of private property. The Italian architect and theorist wonders how the modernist architectural canon of the economy of means, minimalism, and asceticism shaped our current understanding of the built environment and life itself through the idea of “less”. Most importantly, as he would put, how it all went wrong.

Published in 2013 by Russian publisher Strelka¹, the book is part of the Italian architect’s extensive quest on the issues revolving around domestic space and its power of transformation. With similar goals to the publisher, through both research and design Aureli’s work at DOGMA and at the Architecture Association in London blurs the boundaries of the architecture field, meandering through visual arts, sociology, literature, and philosophy to fully comprehend the complexity of domestic spaces. Later on this paper we will briefly look at how his design work is influenced by his understanding of history as a tool for understanding present conditions to provide alternative ways of living.

Before diving into the presented theory and provocations, we will look into how the content itself is presented. Aureli’s take on asceticism and minimalism has a clear and extremely intentional influence on the book’s structure. Stripped of all imagery - except the silhouette of a house defined by two flat colors on the cover - the book is organized in seven short chapters, with no titles, index, page numbers, footnotes, and no references to the book’s name, author, or publisher in the pages. Arguing that the complexity of forms of living can not be explained in pictures, Aureli wanders through both space and time with nothing but carefully curated words, framed by symmetrical empty margins, justified sans-serif text, and single spaced text.

In addition to the way the book is presented, we will see that content-wise Aureli stretches from the institutionalization of the Church to the iconic photograph of Steve Jobs sitting on his living room floor - not shown but described - to craft his argument with direct and provocative sentences.

It is through this constant dialogue between different fields and time frames, the way it is presented, and the questions brought up that *Less is Enough* poses itself as an important piece in architecture theory. Aureli’s approach towards history is one of both chronology and contrast. In considering that histories are narratives that domesticate change in favor of a specific agenda, the history of domesticity could be said to intentionally blind us to our domestication. It is usually taken for granted how the ethos of production influences our most prosaic relationships and beliefs, and Aureli’s book puts even the most unthought of questions into the spotlight. It challenges not only practicing architects and academics, but whoever reads it to question and rethink the way we design, interact, and most importantly, the way we live.

Forensic Linguistics

Even before diving into the content, the book which was originally published online can be analyzed through the lens of forensic linguistics². Aureli’s choice of words and sentence structure have a significant impact on how he presents the content and the message he wants to convey. In short, we can highlight five characteristics: the constant dialogue with history, the referencing to renowned personalities, the author’s emphasis on his point of view and his role as part of the conversation, the effort of connecting and engaging with the reader and making them part of the discussion, and last but not least, the understanding of the book itself as a (almost) physical space for dialogue.

Firstly, the book relies heavily on historical facts and transformations over the last centuries to make its point. Several paragraphs are introduced with phrases such as “within the history of”, or “in recent years”. In fact, history and time play such a significant role that “for many years” are the opening words of the book. Those words exemplify the strategy of the book in referring to the past to explain the present and argue for future change. Also, the past is usually expressed through verbs in the past-participle or present-perfect continuous. “Have (always) tried”, “have advocated”, and “has always been”, to cite a few, are his way to clarify what no longer exists or is still seen in contemporary settings.

Secondly, Aureli extensively relies on renowned architects, designers, thinkers, and artists to validate his thoughts since most readers - people in academic environments or in possession of a certain required knowledge - have heard of them. Not necessarily by agreeing with whoever is cited - as is the case with Hannes Meyer and Charles Baudelaire, but also by showing the contradictions and misreads in the works of Le Corbusier and John Pawson. Also mentioned are the names of Mies van der Rohe, Maurizio Lazzarato, Max Weber, Benjamin Franklin, Friedrich Nietzsche, Roland Barthes, Sebastiano Serlio, Walter Benjamin, Bertolt Brecht, Peter Zumthor, Steve Jobs, Friedrich Holderlin and Absalon; a selected group of white men, largely part of Western civilizations from the global North. In a subject that involves domesticity and gender - as Aureli himself would mention - the narrow and specific nature of the group draws a narrow spectrum in regards to possible different points of view. The only woman mentioned is Diana Walker, the photographer that is brought up briefly as the author of Steve Jobs’ iconic photo.

Thirdly, Aureli’s ambition to be a part of the large architectural dialogue with that select group is emphasized by the frequent use of the first-person pronoun. He puts himself physically in the book with expressions as “in what follows, I would like to address”, “I have chosen a slightly different”, and “I don’t want to discuss the discontents” together with others such as “it is interesting to note that”, which also clarifies what he deems important to the narrative and can not be taken for granted, or what is somehow left aside. It makes the narrative more personal as a particular piece of theory.

In addition, throughout the book, the first-person pronoun is also used in the plural to make the reader participate in the dialogue.



Steve Jobs by Diana Walker, 1997

The architect engages with the audience and keeps them hooked to the story through pronouns and by explaining what was said and what will follow. “As we have seen”, “when we talk”, “if we observe”, “we will see that”, “here we see that” are also accompanied by rhetorical questions that can help him direct the reader to focus on something specific or to reflect upon certain issues.

Finally, as the conversation develops, the book supposedly leaves the field of words on paper to become an actual space of discussion. Constantly referring to it as “here” - placing himself and the reader in the referred spaces - Aureli seems to take the concept of architecture creating space for conversation not only as a narrative for his built work but written too. All combined add to how the book plays a significant role in architectural discourse and intentionally assumes the character of an important piece of theory.

Asceticism

In the first pages, Aureli introduces the term that will drive the entire narrative: Asceticism. In his words, it is a “way to radically question given social and political conditions” 3. It is the self-discipline seen in monks’ way of living that requires “repression of instincts for ethical rationality”. However, as he would later put it in the book, all starts to go wrong when that is turned into a style and merely aesthetics. The radicalism and refusal of property and ownership loosened its ethos over the centuries to what became an image-consuming society. We will later see that this shift is exemplified in the book through the work of contemporary British architect John Pawson, where his monastic minimalism and austerity set the scene for his work that includes both Calvin Klein stores in Manhattan and countryside monasteries in Europe.

It is important to highlight that as with many other concepts in the book, asceticism is first mentioned without any explanation. It is only in the first chapter, after the introduction, that the writer states his understanding of asceticism as

abstinence and self-discipline, as a willingness to sacrifice our present in order to earn our future – something which goes beyond the religious meaning of the term and has more to do with the ethics of entrepreneurial capitalism. 4

That being said, it makes it clear that the book is written to

a specific audience, who would need previous knowledge in specific areas to fully comprehend it, and a specific vocabulary. In parallel with (temporarily) taking for granted the meaning of those words, the lack of imagery also presupposes a previous contact with the different fields addressed. By doing so, he assumes that the reader either knows of or can look up all imagery references from Western arts, architecture, history, but also have read or at least heard of writers such as Baudelaire and Walter Benjamin.

As previously mentioned, the visual simplicity with which Aureli presents his arguments in the book could be said to be his own form of austerity. Not only in the book but in his practice as the founding partner of DOGMA and professor, Aureli carefully curates how his work is displayed: text seems to always precede images whenever they are present. As the original ascetic architecture of monasteries was designed to express life’s immanent details, Aureli’s book’s repression of ornaments and images allows for the focus to be on the content itself. There is nothing else but the reader and his words. Therefore, minimalism here is not out of the economy of means or appearance as he claims to be the driving reason for modernist simplicity, but an intended ideology.

Less is more, less, and enough

Taken originally from literature in Robert Browning’s poem, spread through architecture by Mies Van der Rohe, and appropriated by capitalism as a cynical celebration of budget cuts, the canonical sentence “Less is More” is well known among people from different fields. The clear reference and positioning made by Aureli with the book title already set the bar for the book’s ambition as a piece of theory. One could draw a parallel to Bjarke Ingels’ approach by naming his first manifesto book and exhibition “Yes is More”, in 2009, which put the Danish architect in the spotlight of architectural conversations.

However, Aureli and Ingels’s approach to the topic could not be on more opposite spectrum. While Aureli strips off of images, adds several layers of intellectual references in a very non-appealing presentation, and uses specific vocabulary, Bjarke’s approach aimed to make architecture theory extremely accessible to the general public, portraying this office philosophy and agenda through a comic book format, arguing for “the overlap between radical and reality” 5. In both cases, by referring to Mies Van Der Rohe’s modernist dogma, both architects assume the importance - and determination - to be a

part of that conversation. To add their own layer and knowledge to an ongoing discussion that for decades shapes architectural production, and now with Aureli, how it no longer belongs to imagery but the political dimension of more ideologized times 6.

Through the chapters, Aureli will mention the ideology behind “less is more” as a ‘celebration of the economy of means’ 7, both ethical and aesthetically. The refusal of all that was not necessary was associated with an understanding of beauty but also the financial aspect behind the global post-war scenario that pushed for a reduction in costs and rationally in production. Mies’s theory, however, creates a paradox with his highly costly buildings, where construction is hidden to make a performance. His built work is one of an extremely controlled and static sense of movement, where materials float and freeze in space.8 Amid all the supposed hypocrisy - or simply contradiction - between theory and practice, is it still possible to reprise the idea of “less” as a radical alternative?

Building off of centuries of transformations in society’s ways of living, typologies, and the pretensions and ideologies behind them, Aureli defends the necessity to redefine our needs and to live detached from the social ethos of property, production, and possession, simply by understanding that ‘less is enough’. He argues that ‘beyond the promise of growth and the threatening rhetoric of scarcity’, and in response to the modernist dogma, the concept of “less” should not be an ideology. It should not be more. Less should just be less, and nothing else. In other words, encouraging us to replace the Miesian phrase by making the shedding of material things the basis of a life free of the anxiety of production and possession⁹.

Property, production, and possession

Aureli’s approach to the history of domestic spaces in Less is Enough is similar to Rem Koolhaas’ retroactive manifesto in Delirious New York. Looking constantly at the past, the Italian writer reverse-engineers history in a straightforward approach to untangle the theories, transformations, and reverberations of ways of living that allowed for the formation of what we now know as ‘private property’. Aureli sees property as an unintended consequence from turning the abandoning of power through seclusion practiced by monks into a style, a way to monetize, and systematically bring even the most low-income parcel of society into a Capitalist system.10 In Aureli’s words, “asceticism was no more autonomy from the system but a way into it,

[so] it became the legitimation of the status quo”11.

The author’s use of history works in two complementary ways. Firstly, the chronology thread of events explained creates a linear succession of events that allows the reader to understand how we (as society) radically shifted our ways of living. Secondly, by contrasting the past and the present. Both time spectrum are not separate and unrelated, but a cause and consequence - and this is why Aureli needs to dissect history over time to make his point valid. If one looks at the current parcelization of land and the private property regime merely in opposition to a monks monastery, most likely no direct connection could be made. Therefore, to allow and motivate us to question those imposed conditions, the book crafts an appalling argument to shed light on a process that we have taken for granted.

Going through the history of monasticism abandoning power with the first monks organized in minimal individual huts around a central space sharing collective facilities, to the self-sufficiency of Benedictine monasteries and the Cistercians and Franciscans reform antithetical to the modern concept of private property, ownership, and possession, Aureli crafts his arguments towards the concept of use and temporary appropriation in opposition to property as means of power. In parallel with and departing from the evolution and transformation of monasticism, Aureli touches base on Russia’s post-1930 housing situation, Walter Benjamin’s understanding of property as greed, identity, and the illusion of permanence, Baudelaire’s perception of the city as a vast habitation, arriving at Hannes Meyer’s simple room as a non-autonomous unit to question the relationship between privacy and property, solitude and concentration, intimacy and domesticity. In extreme opposition to Middle Age society when ownership of a private property qualified for citizenship, Aureli defends a point of view of shared domestic spaces to reclaim our subjectivity as ‘social individuals’. In his own words, “the less we have, the more we share” - again, the use of “we” being a clear intention of persuading the reader to take a stand and be part of his vision.

It is, therefore, crucial to dissect the transformations over the last century, to understand how we unintentionally crafted domestic spaces from the Roman Domus and its gradient of social prestige to the independence of contemporary micro-flats. Not exclusively related to spatial conditions, Aureli’s work as a practitioner and theorist also dives deep into the issues of domesticity in financial contexts, the ethos of productions developed through Capitalism,

and patriarchal and gender narratives. Even the most prosaic changes of rooms shifting from circular spaces to rectangular are portrayed as essential transformations for going from nomadic to sedentary settlements built around the illusion of permanence and identity. Yet, the rise of housing as a mass phenomenon - made possible by the standardization of rooms, buildings, and of life itself - turned the private room into an instrument of control - not anymore a symbol of prestige.

History-driven design

Finally, shifting from Aureli’s book to his design work in DOGMA alongside Martino Tattara, we can look deeper at how history shapes his built (or proposed) work. Firstly, it is worth mentioning how their website makes clear the interest in private property and residential spaces as a theme. Most of the projects accompanied by text and images revolve around that topic. Be it a proposal for a self-built prototype for cooperative housing (Do you hear me when you sleep?) or case studies of suburbanization in Belgium (The Opposite Shore), the projects are accompanied by a retroactive study with redrawn plans and sections in a quasi-exhibition style introduction. Together with the texts, they curate a base to set the ground for their proposals as something deeply connected to their long and short-term context.

At DOGMA, often overlooked narratives and rhetorics give place to design informed by history, translating the chronological thread into new solutions. It is not only about rethinking the built aspect of spaces and construction materials, but the politics and funding that would allow it to get built in different contexts. It is about basing his projects in history but simultaneously detaching them from such.

Is it therefore important to put his built and written work as complementary and intertwined practices. Again, here we can draw a parallel between Aureli’s work to Koolhaas’ OMA-AMO duality. In sum, one can argue, for Aureli, history is operative: it is an essential tool to understand the present while arguing for change, and arguably the element with most relevance in making his work part of the larger architecture discourse.

Conclusion

In sum, we can argue that Aureli makes his voice heard and takes an important stand on architecture history through three

main aspects: the content of the book, the way it is presented both graphically and linguistically, and the dialogue he establishes through the questions he poses to our reflection by shedding light into issues and process we have taken for granted thus far. If architecture creates space for conversations, and criticism takes doubt and makes it public, Aureli does both through his writing.

By reverse-engineering the transformation of the religiousness of asceticism into an architectural aesthetic and lifestyle, he accomplishes his goal to generate debate and critical thinking on the condition of ‘less’, domesticity, and the domestication of society. His seemingly retroactive manifesto and directional declaration towards a need to ‘redefine our needs and live detached from the social ethos of property, production, and possession’ is argued by looking at points in the past that helped build the contemporary scene of living, making us understand how Capitalism drove our current view of the space and shaped the idea of private property.

Graphically, the presentation of the book as a sort of meta-asceticism is a curated way of emphasizing his point - one that is not mentioned and can go unnoticed if not carefully analyzed. Together with the book’s title and its previously mentioned reference to the modernist dogma “Less is More”, this subtle extra layer added by the author exemplifies his self-control, and consequently his determination and willingness to join the conversation around the topic. Again, the vocabulary used and the first-person point of view of a narrator that is part of the story only reinforces his role in the conversation.

Finally, and most importantly, Aureli is not presenting his point as hard information or soft theory. The book is not supposed to be read simply as research material or one’s perspective of the theme. The bigger scope is to make readers question their relation to property. Through rhetorical questions, affirmations, and examples, both of built environments or well-known designers and thinkers, driving from history to present, he puts the reader into the spotlight by making them question their ways of thinking and living, and hopefully stand up to imposed social contracts.

NYCHA FREDERICK DOUGLASS I, II

NYCHA Frederick Douglass I and II are home to over four thousand residents in Manhattan. Composed of eighteen buildings, most of them completed in 1958, the complex of high-rises stands out like a sore thumb amongst the low-rise brownstone buildings surrounding it in Upper West Side. What at first glance appears to be a healthy community for passers-by, with the recurrent street events, music, outdoor gatherings, and a sports court, is heavily contrasted by the presence of police cars around the perimeter and lawsuits against the city for poor living conditions. Rats, bedbug infestations, collapsing walls and ceilings, mold, hunger, and broken radiators are a few of the complaints filed by residents over the last decade.

Unfortunately, authorities have not done much to reverse this scenario. Inhabitants find themselves abandoned in an imaginary deteriorating island, with boundaries established by rent prices and

ethnography. Through a network of collective care, they help each other through the difficulties faced daily. With few vacancies and most residents living there for decades, it is a place where "everybody knows your name".

Even though, residents are still dying out of hunger in their apartments. Some could not go downstairs to buy food because of accessibility issues and broken elevators due to lack of maintenance. When top-down and power agencies do not take action, we often encounter bottom-top initiatives that try to revert negative scenarios. It is the case of Douglass' Tenants Association, led by Carmen Quinones, ten main volunteers, and one "guardian" per building. Together, they try to lighten the burdens residents face: food distribution, daily visits, religious events, and sports activities are a few of the examples that create a bond in the community, and help them get by.

2021 Fall

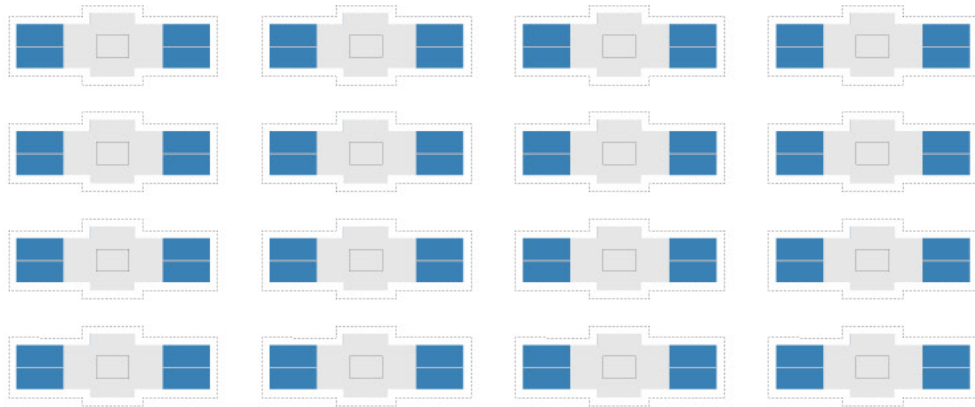
Course:
Difference and Design

Faculty:
Justin G. Moore

Location:
New York, NY - USA



Right: New Common Space

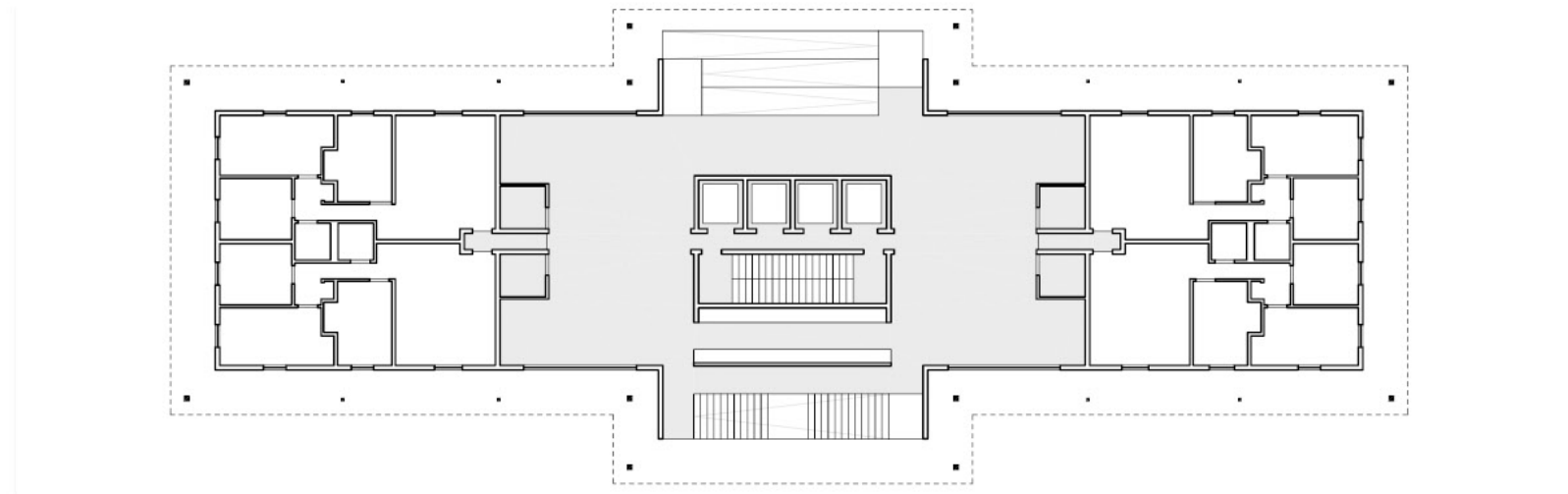


Out of the 4204 residents in both Douglass I and II, 919 are seniors, which corresponds to approximately 22%. Several complaints of broken elevators deem them unable to get in or out of their homes, due to mobility issues. With the new common space on the second floor of each building accessible by ramps, we can convert the remaining units into senior apartments. This would allow having 15% of the senior residents to live in apartments that do not rely in elevators and are closer to the shared areas and nature.

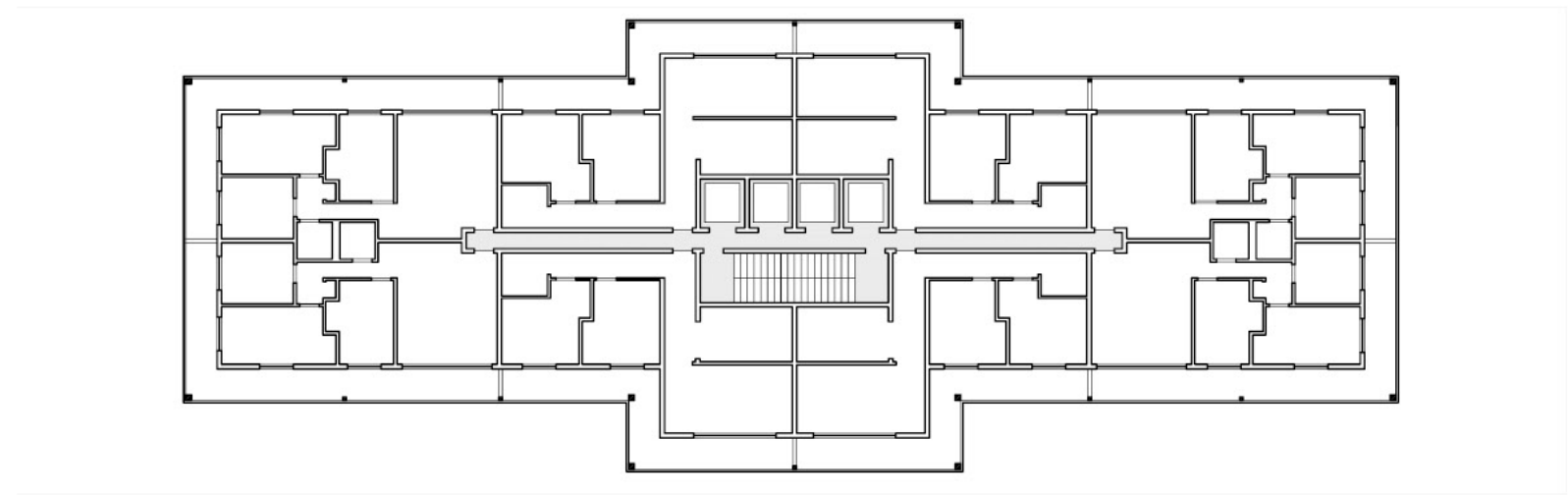
This project aims to tackle two spatial issues of the site: the poor spatial quality of the apartments and the lack of indoor shared spaces for residents. The facade is deteriorating, there is not enough sunlight in the rooms and the apartments are considerably small. In addition, the only indoor common area is a semi-underground room, with no windows, where all administration happens. During winter, when outdoor gatherings are interrupted by the weather, the space host all sort of festive events, masses, and meetings. Abandoned gardens accumulate trash, and broken furniture, increasing the number of rodents. The area is locked by the NYCHA and not allowed for intervention by the residents - who also do not have the budget to do so.

To tackle the apartments' spatial quality, balconies are added all around the buildings, and the opening is made larger to compensate for the sunshade from the new additions and provide access to it. The second floor of the buildings is converted into common areas accessible by ramps and stairs, which also allows for bringing part of the senior residents to lower floors. Finally, three sub utilized outdoor areas are converted into new uses to support nearby activities. Residents need spaces to support the social infrastructure created amongst and by them.

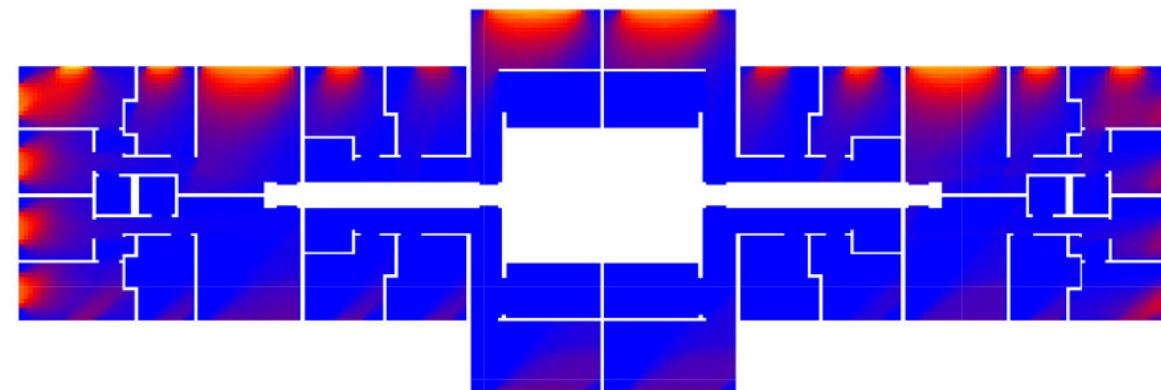
The new shared space on the second floor connects to the street level through accessible ramps and stairs. It serves as a space for meetings and events, as well as a collective kitchen with bathrooms and access to the building's vertical circulation core. It is also the floor of the new apartments destined for senior residents with mobility difficulties.



Proposed Plan - Common Area



Proposed Plan - Typical Apartments



Proposed Plan - Sunlight Hours

POST RETIRED LANDS

Landscapes for a long have been altered due to energy production and agriculture all across Brazil. Associating solar energy to already altered and retired landscapes near reservoirs allows for reduced transmission costs, increased power generation, and diversification of the national energy portfolio

Brazil has over 200 dams, being the backbone of the electricity grid. However, they are becoming less productive and reliable due to climate change. Brazil's agriculture is also suffering from climate change and low water levels, likely deeming some of its land retired in the future. On the other hand, due to its hot climate, solar energy has the potential to become a large part of the nation's energy portfolio.

Climate change has rendered reliance on certain water levels unsustainable. Due to expected low water levels, most agricultural land will shift upstream closer to the water source, leaving behind vast amounts of retired land. It is in them that the installation of new solar farms should start. Together with in-ground plants, floatable photovoltaics spread throughout the water body, with inverters and performance monitoring stations situated near existing settlements for local job opportunities.

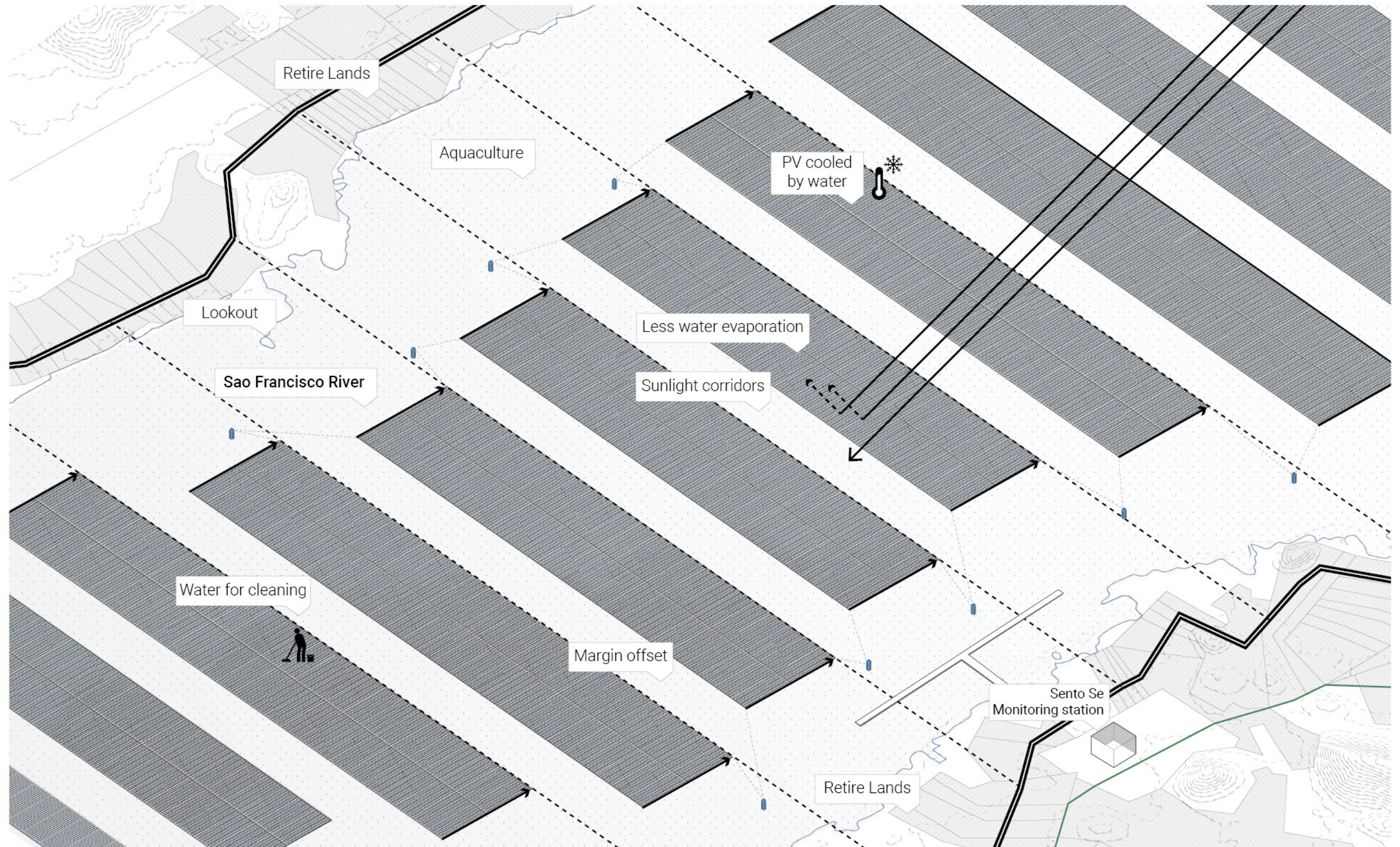
The PVs reduce water evaporation, a margin offset guarantees that the panels will not be damaged by extremely low water levels, and sunlight corridors will allow for aquaculture to happen.

2021 Fall

Course:
Man, Machine, and Land

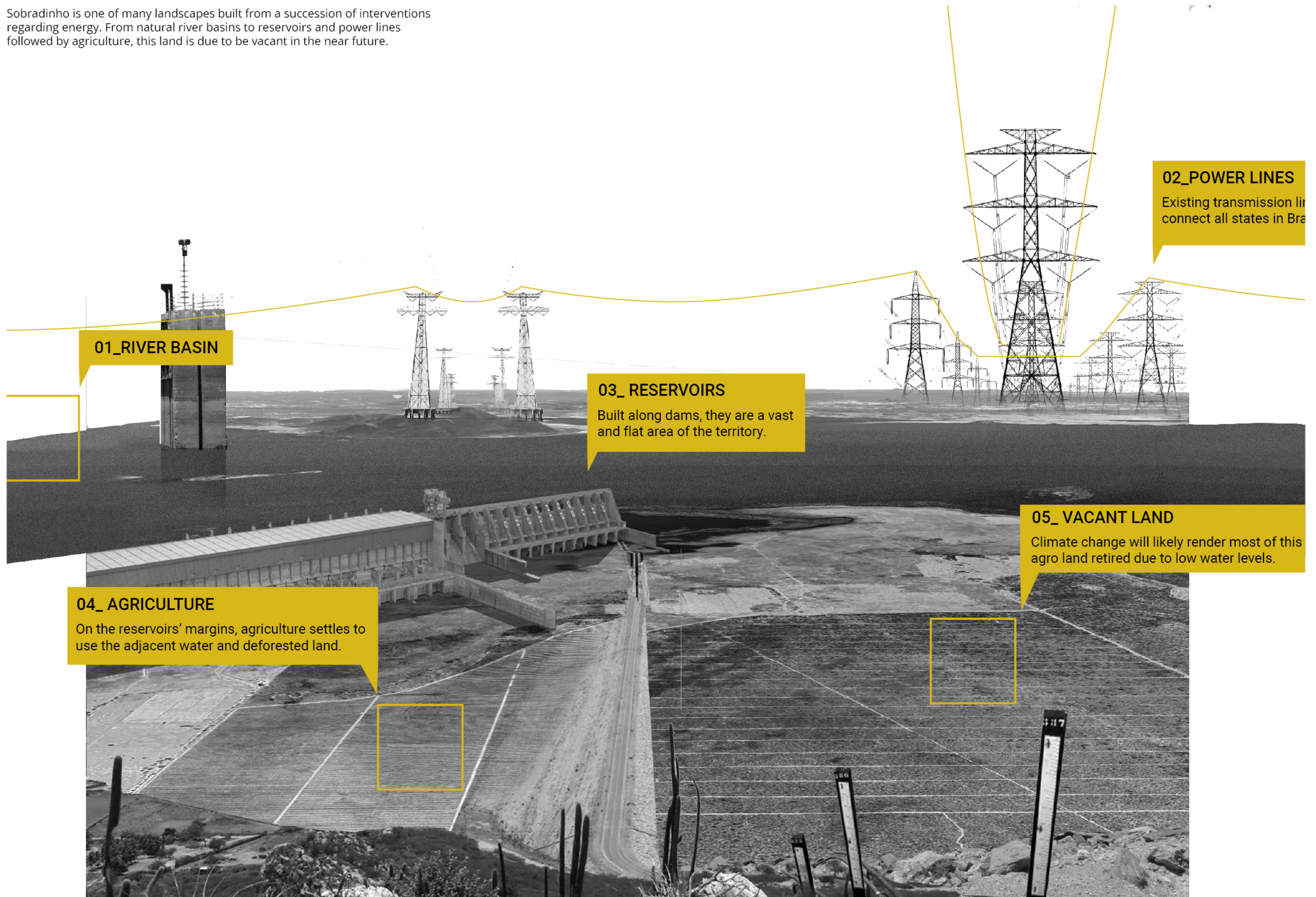
Faculty:
Sean Gallagher

Location:
Sobradinho, BA - BRA



Right: Main Interventions

Sobradinho is one of many landscapes built from a succession of interventions regarding energy. From natural river basins to reservoirs and power lines followed by agriculture, this land is due to be vacant in the near future.



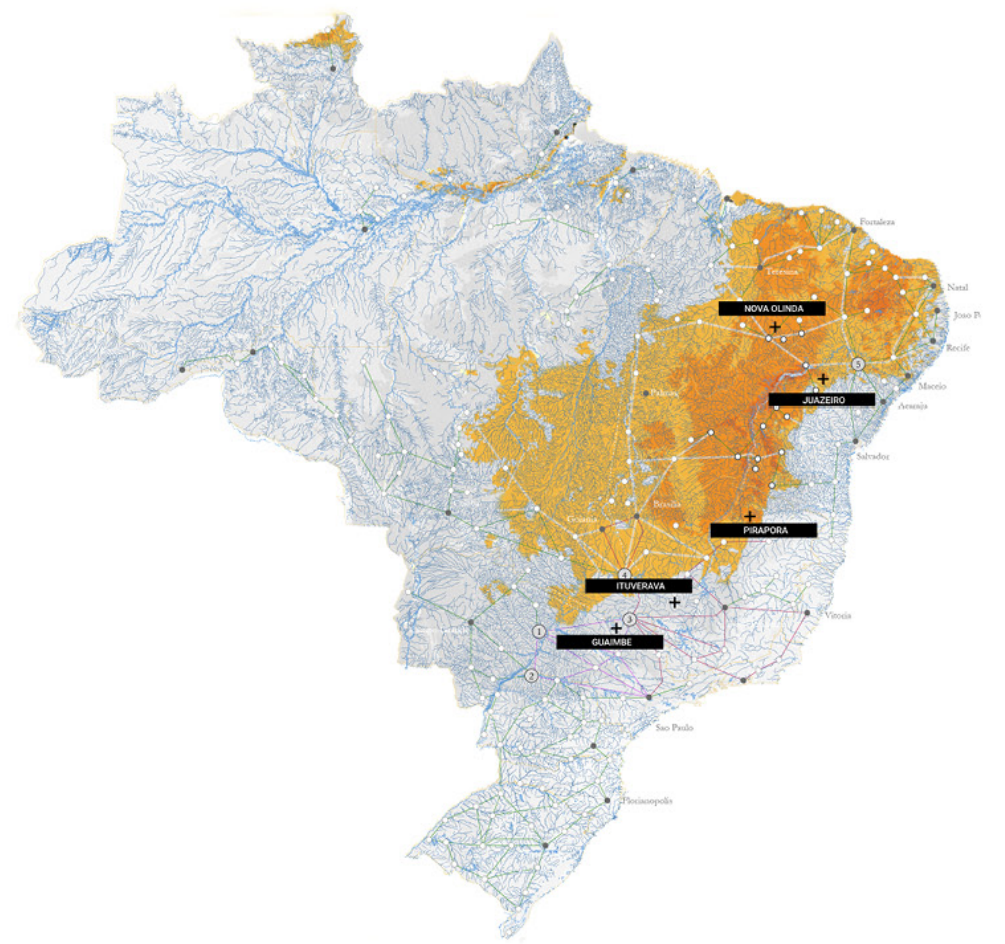
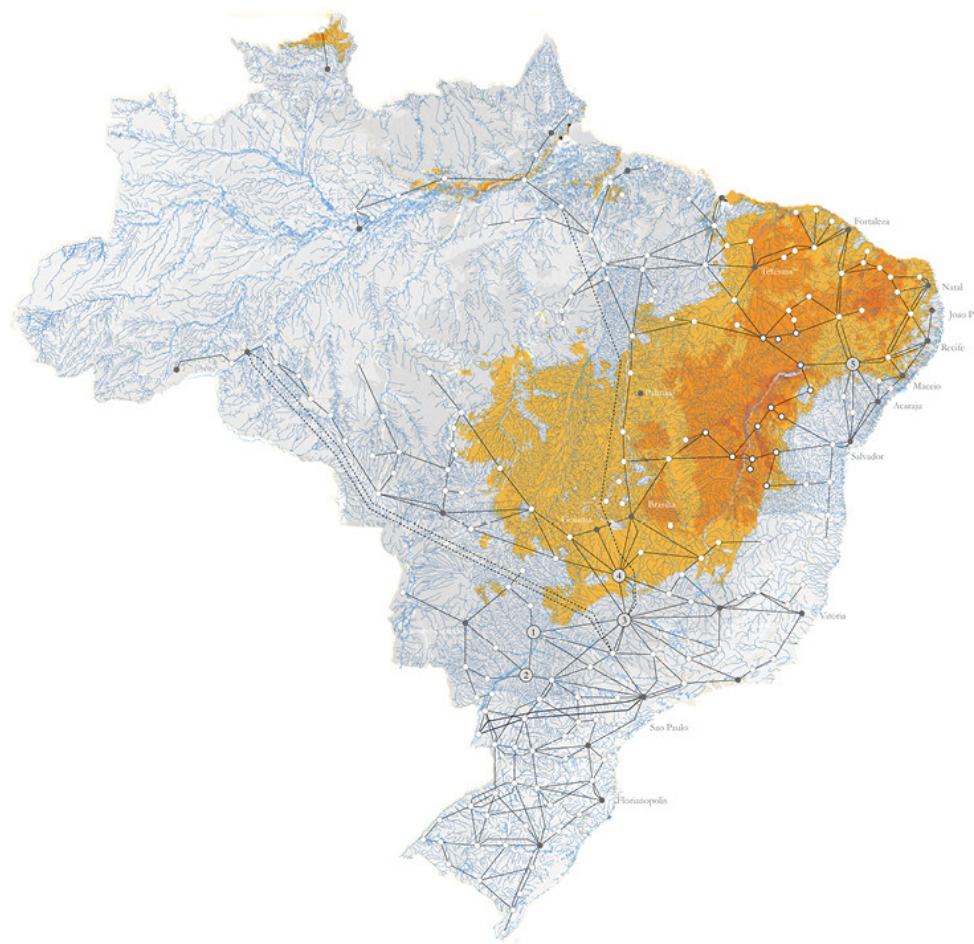
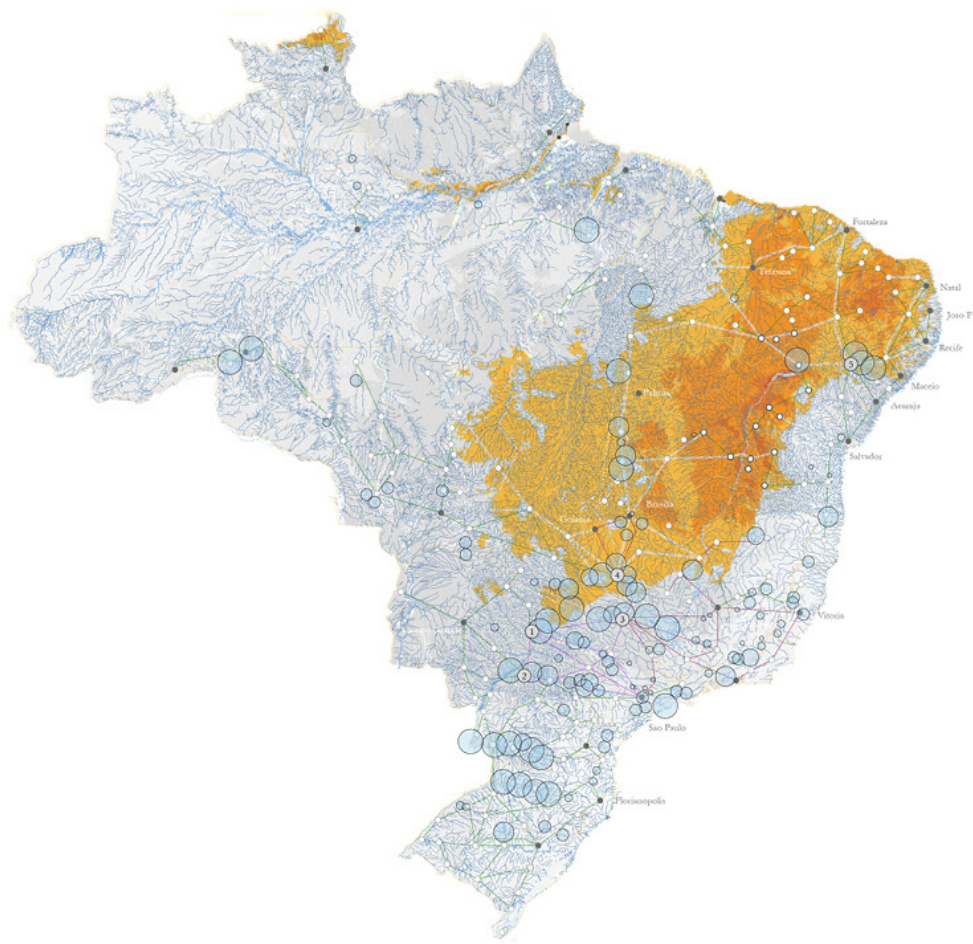
01_RIVER BASIN

03_RESERVOIRS
Built along dams, they are a vast and flat area of the territory.

02_POWER LINES
Existing transmission lines connect all states in Brazil.

04_AGRICULTURE
On the reservoirs' margins, agriculture settles to use the adjacent water and deforested land.

05_VACANT LAND
Climate change will likely render most of this agro land retired due to low water levels.

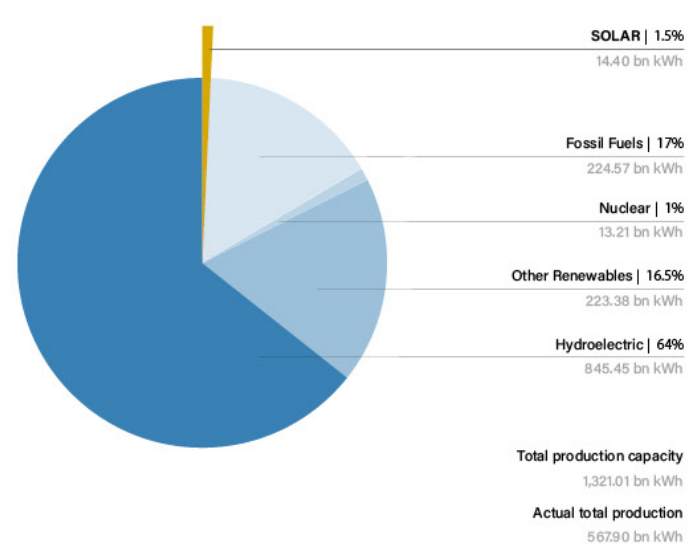


ENERGY NETWORK

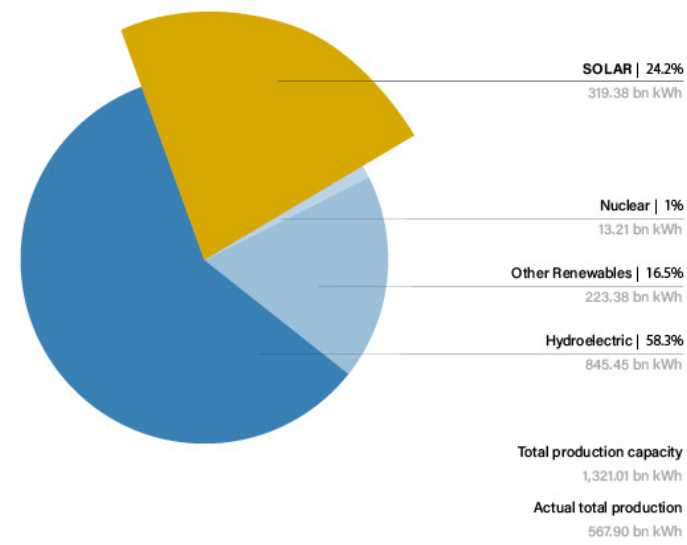
- Hydroelectric dams energy production (kw)**
 - 30.000
 - 30.001 - 252.000
 - 252.001 - 300.000
 - 300.001 - 370.000
 - 370.001 - 820.000
 - 820.001 - 11.250.000
- High Voltage Transmission Lines**
 - Cities
 - Capitals
 - 230 kV
 - 345 kV
 - 440 kV
 - 500 kV
 - 765 kV
- GHI Average annual sum, 1999 - 2013**
 - 2300
 - 2100
 - 1900
- Energy Complexes**
 - ① Complex Rio Parana
 - ② Complex Rio Paranapanema
 - ③ Complex Rio Grande
 - ④ Complex Rio Paranaiba
 - ⑤ Complex Paulo Afonso

ENERGY PORTFOLIO

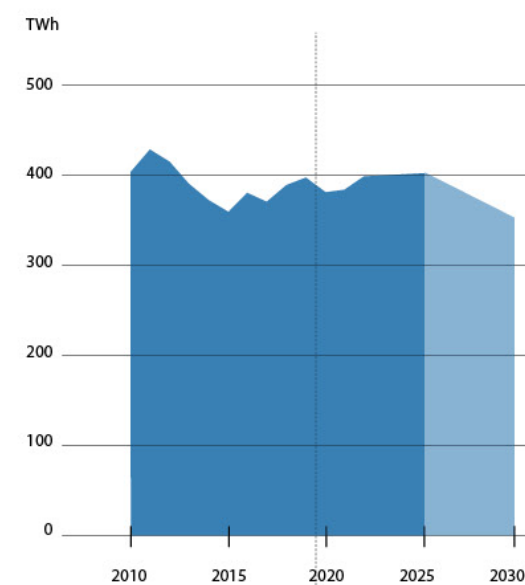
Brazil still relies on fossil fuels for almost 20% of its energy production, and over 60% on hydroelectric power - while solar and nuclear still figure around 1%. Climate change and new technologies shaped a scenario where hydropower tends to reduce while solar panels will be largely implemented. This proposal will show how combining solar panels, hydroelectric, and agricultural lands can shift the country's energy portfolio.



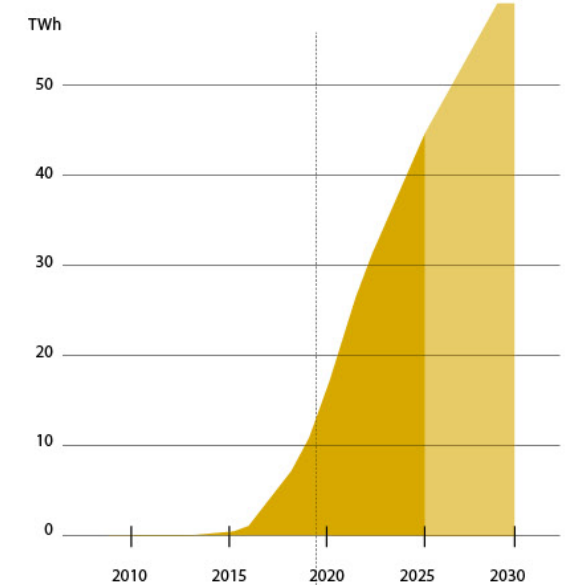
Energy generation, Brazil, 1990-2025



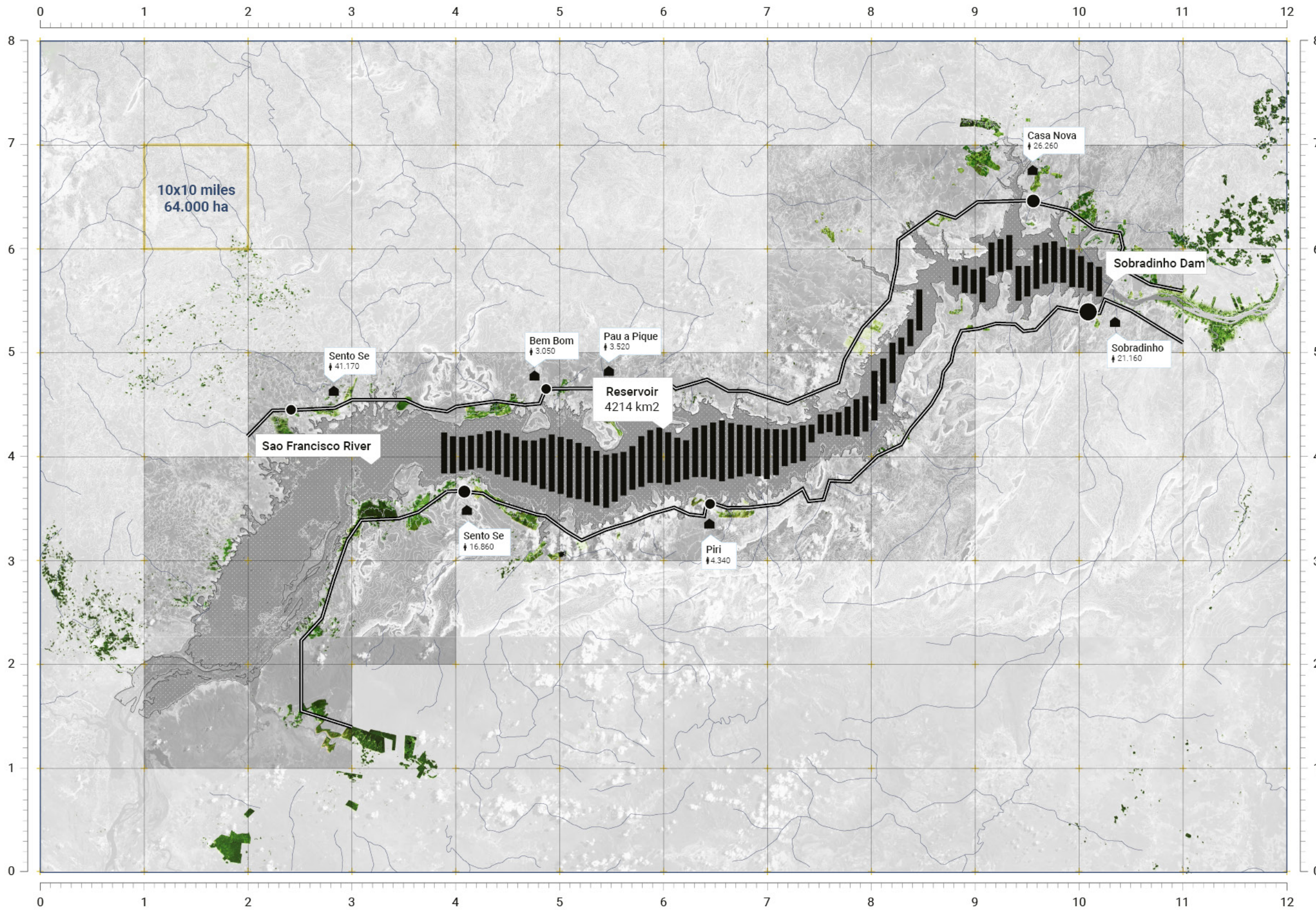
Energy generation, Brazil, 2050



Hydro generation, Brazil, 1990-2025



PV generation, Brazil, 1990-2025



floating solar farm
5.081.459.422 sqf

agro turned into solar farm
2.390.768.820 sqf

energy production by sqf
20wh/sqf

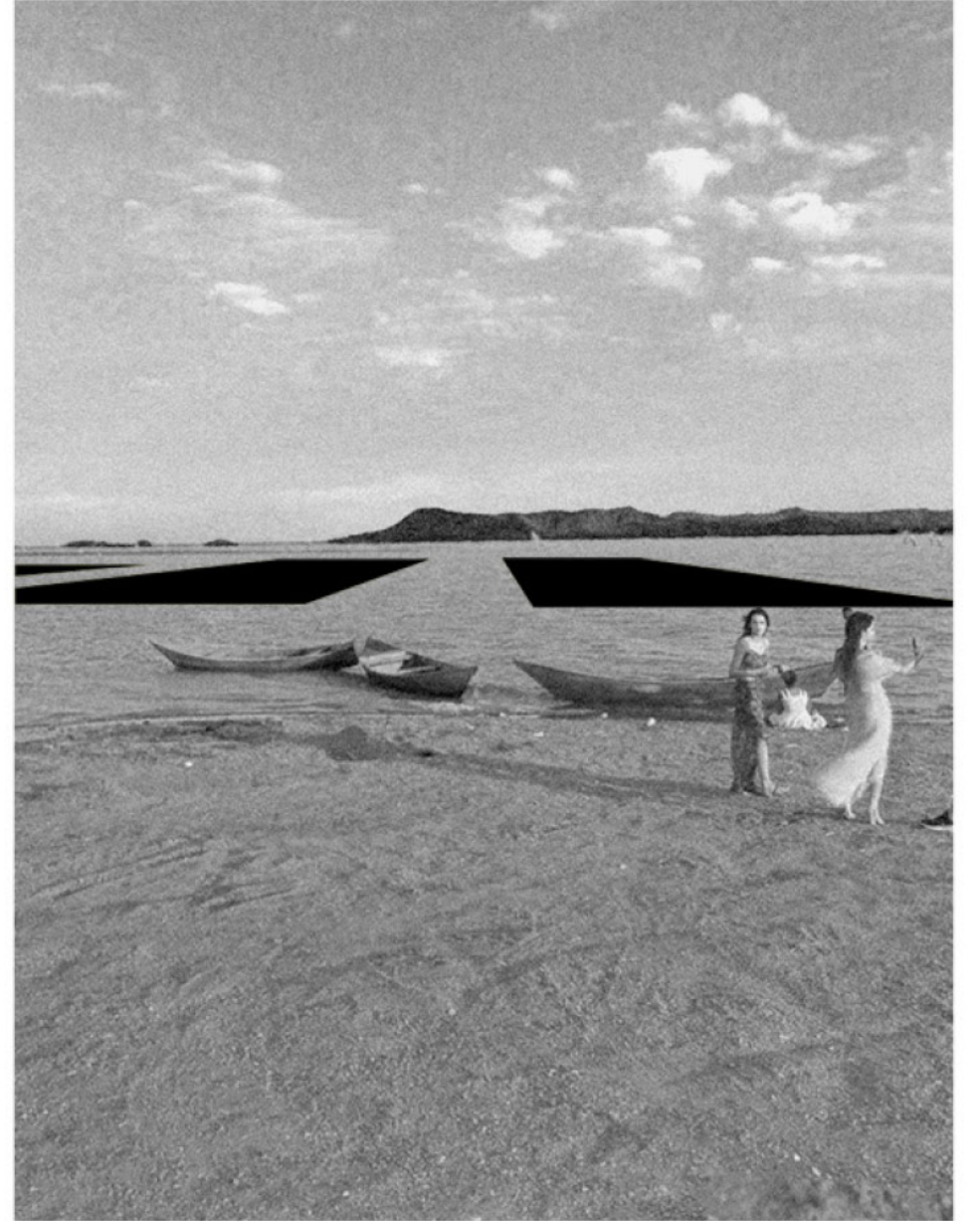
total energy capacity
101.629.188 kWh
47.815.376 kWh

sunlight hours per year
2721

efficiency
75%

total energy production
207.40 bi kWh
97.58 bi kWh

total energy production
314.98 bi kWh



POMAR SQUARE AND THE LIMITS OF PUBLIC SPACE

2022 Spring

course:

Public Space:
Rhetorics and Design

faculty:

David Smiley

Designed as part of Lucio Costa's 1960 master plan for Barra da Tijuca, in Rio, Pomar Square is a rectangular park at the center of a radial plan of streets, set in what is today a dense residential area. The fabric of low-rise buildings that surrounds the Square creates a figured public space, not unlike many pre-modern plazas in European cities such as the Piazza Navona, in Rome, or the Puerta del Sol, in Madrid. However, contrasting with these, Pomar Square is a green island created by busy car lanes, a fenced perimeter, and is accessed only through four controlled gates - one on each corner. The monumentality evident in a plan or aerial view is deceptive. Not only is the park geographically and spatially isolated but it is, for all practical purposes, closed.

To understand the situation of the Square, one must first examine the coastal public spaces in Rio de Janeiro. A city sprawled along a vast beachfront, between sea and mountains, Rio has contrasting neighborhoods: on one side, the extensive unplanned and informal settlements to the North, and the orthogonal grids of postwar modernist urbanism of upper income neighborhoods along the shore. In this context, Pomar Square can be analyzed as a proxy for the eight other public squares within walking distance from the beach in privileged neighborhoods such as Barra da Tijuca, including Leblon, Ipanema, and Copacabana. Due to the hot weather and few explicit restrictions on behavior at the beach, the sandy expanse ends up being the main destination for residents during their leisure time. It is an almost infinite public space with easy access by multiple forms of transportation and, just as important, with little to no surveillance. In effect, even nearby small urban parks have little draw.

In planning terms, Pomar Square is a paradox between design and site. On the one hand, the design is limited by the deterministic tendencies of modernism (and their classical models), and, on the other, it suffers from underuse due to its location - physically and socially. In simple terms, the Square has been abandoned. Formally, it offers an illusion of civic control but, in the neighborhood, it is considered unsafe and home to any number of anti-social behaviors and vandalism. Not long ago, residents put up a sign that said "Be careful, constant robberies in this area." Apart from the fences, signs on all the entrances list rules and expected behavior during opening hours (7am to 6pm) - ball games, barbecues, dogs, and commercial activities are not allowed. Visitors can also find a sign with numbers of emergency contacts and are recommended to report any "misbehavior".

The relationship between pedestrians and vehicles is also of special interest in this case study. Pomar can be seen as a "lost space" - as are many of its peers in the area: a public space "in need of redesign, antispace, making no positive contribution to the surroundings or users" Writers variously blame cars and the privatization of public spaces for shaping this condition; others see "neglected" spaces, "invaded" spaces, and

"exclusionary" or "under-managed" spaces. All are symptomatic of deep problems in maintaining public space.

Barra da Tijuca was planned as a car focused neighborhood, being built during the 60s, soon after Costa's Brasilia (with many buildings by Niemeyer). Even though the zone where Pomar Square is located - Jardim Oceanico - is one of the most walkable areas within Barra, cars are still the protagonists. Zoning policy reduced commercial activities to a few streets, and residential buildings with fences or walls, and several car lanes created unpleasant pedestrian spaces. Together, the scenario set the ground for a constant feeling of risk unsafety among residents, which resulted in extremely reduced pedestrian traffic and consequently, a further withdrawal from public spaces.

Pomar Square is under the jurisdiction of Rio's Parks and Gardens Department and is cleaned by COMLURB, the Municipal Urban Cleaning Company, but it is not only an under-utilized gem of upscale Jardim Oceanico, it is woefully under-funded. Situating this within the larger context of Brazil, and more specifically, of Rio de Janeiro, we must take into account the legacies and impact of mega-events in the city, and the national political turntable and impeachment of President Dilma Rousseff in 2016. After the peak of global investments between 2007 and 2016, largely in Barra da Tijuca - the main hub for the 2016 Olympic Games - the scenario that followed was one of a "large financial crisis in sub-national state governments." Rio suffered from global economic trends, including a drop in oil prices, and thus reduced tax revenues, as well as questionable tax exemptions at large corporations involved in public-private partnerships in large urban projects. Between 2016 and 2021, Parks and Gardens' annual budget was cut by 58%, leading to the need for concerned citizens and neighborhood groups to search for other forms of funding to maintain even minimal conditions.

In 2018, the city of Rio passed a law that allowed the "adoption of public spaces" (ADOTE.Rio), where organizations, firms, or individuals could "purchase" a part of a park or its entirety in exchange for marketing space at signs, recognition in official websites, social media marketing, and so on. The department's director Cristina Monteiro claims that the program is "part of a global movement," where public entities "are unable to care for public spaces due to lack of funding." ADOTE followed the examples of Porto Alegre and São Paulo, in Brazil, as well as cities in the UK and in the US (privately owned public spaces or POPS, starting in the early 1960s, and Business Improvement Districts or BIDS, starting in the 1970s). where "shrinking local government transfers power for the management of public spaces from the state to private businesses and organizations or individuals." Since then, over 1.5 million square meters of public spaces including plazas, gardens, monuments, and even trees have been adopted. Pomar Square is still available. Differently from its American and British counterparts, ADOTE forbids any kind of



Aerial view of Pomar Square, 2020
Source: Sebastiao Zimmerman

commercial exploitation in public spaces, being the sponsor - or as they call it "adopted parent" - strictly in charge of maintenance. However, since the first version of the program, rules have been softening and business owners are adopting spaces in front of their shops to remove the homeless that often sleep in urban parks - excluding undesirable populations and prioritizing security concerns over social interactions. Recently, former secretary of Healthy Aging, Life Quality, and Events in Rio, Felipe Michel said he intends to allow for commercial activities in adopted spaces. This commodification of services means that "needs formerly met by public agencies are now met by companies selling services." Public space is increasingly branded, and ADOTE's policy of benefits is only one of many recently implemented systems following this trend.

The current status of Pomar demonstrates state disinvestment in urban infrastructures, including parks. The park's facilities have not been maintained in years, and are permanently closed. The few walls and buildings within the plaza are constant targets of vandalism and trash accumulation, and homelessness in the area has increased. Public employees of COMLURB are often seen cleaning and washing the surfaces. Recently, a new surveillance system was implemented, with police officers driving around in cars and vans, or on bikes, or merely on foot. Their schedule (day and night) and expense reports were made public by the organization. Yet, urban observers have found that surveillance can "increase the perception of safety, [but] it can also contribute to accentuating fear by increasing distrust among users." In addition, consistently prioritizing security over social interactions destroys the democratic expression of publicness. In other words, the park has not been privatized, and the state uses law enforcement to do the minimum for public safety.

Looking for an alternative solution - as set out by ADOTE - residents of the surrounding streets (mostly the elderly) held fundraisers to support the square, and their association (Amar) is often in dialogue with City Hall and the Parks and Gardens Foundation to report any misbehavior, need for specific cleaning and/or maintenance. In this way, Pomar demonstrates that neither private nor state-owned entities are the answer for sustainable common resources. Instead, local, self-organized forms of governing need to drive wise management of public spaces. Pomar is an example where individuals (slowly) take over maintenance and surveillance to avoid the decay of the neighborhood they live in but it is not enough. Through "commoning" - a politics of sharing - indigenous cultures or local cooperatives can claim or set design principles to secure responsible governance: "clearly defined resources and users, congruence between appropriation, provision rules, and local conditions." The residents and businesses around Pomar, in tandem with the City and its Parks department, need to organize and take further the maintenance and care of the park as social infrastructure and as localized public space that, in turn, can contribute to the City's daily life.

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Kilian, T. (1998) Public and private, power and space, in: A. Light & J. M. Smith (Eds) *Philosophy and Geography II: The Production of Public Space*, pp. 115-134 (Lanham, Md: Rowman & Littlefield).

EMPOWERING BELIZE

As a leading destination for tourism and development in Belize, we propose that San Pedro can be a new model for climate resilience and a testing ground for future habitats through clean energy and sustainable tourism infrastructure. By pairing ecological restoration and land-based strategies, clean energy is rendered visible within the urban fabric. Local and regional energy independence can be achieved through urban design towards decarbonization, economic diversification, and coastal resilience.

2022 Spring

Course:
UD Studio III

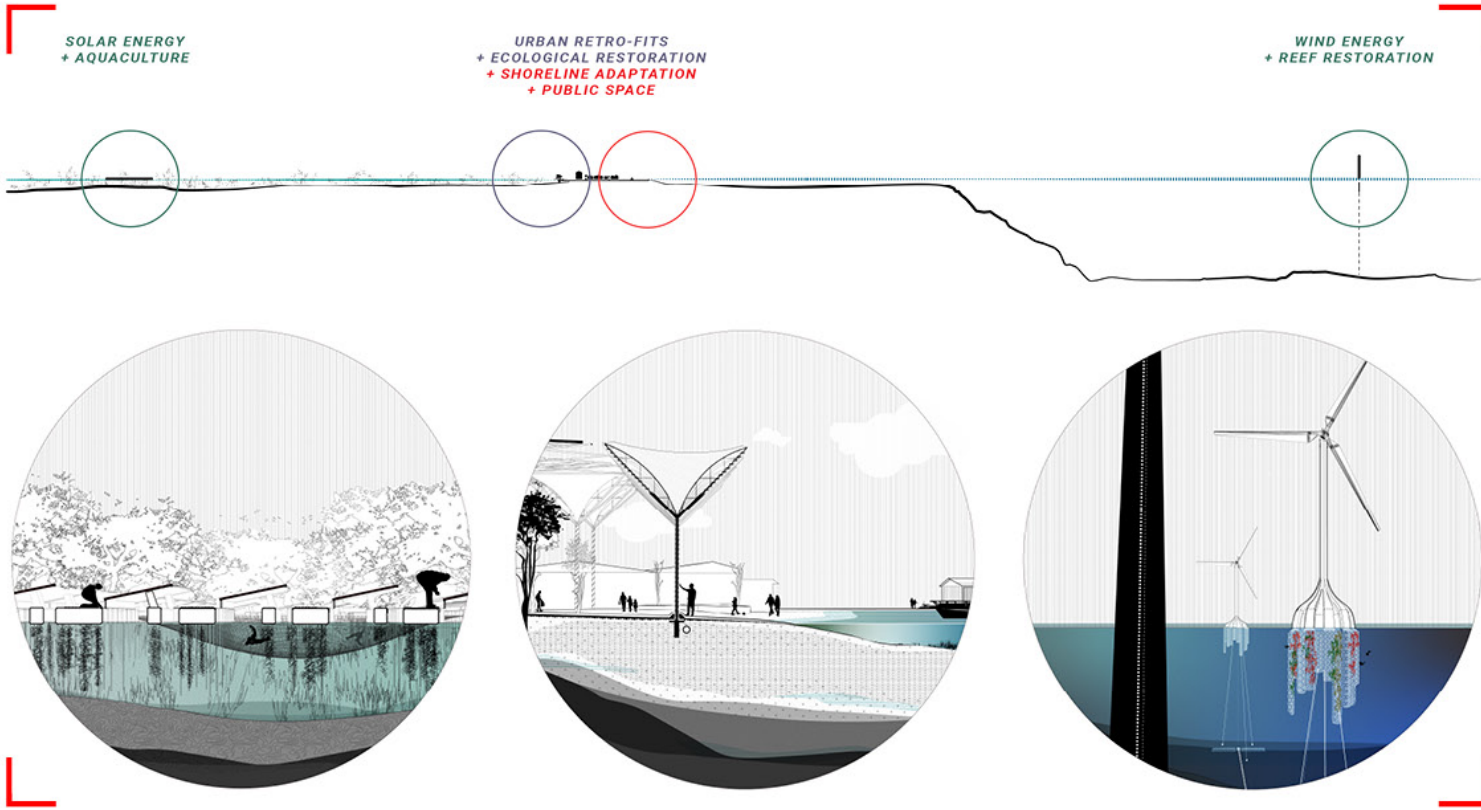
Faculty:
Kate Orff
Geeta Mehta
Tadd Pawlowski
Adriana Chavez
Tori Vuono

Team Members:
Giulia Chagas
Samuel Dye
Yasmine Katkhuda

Location:
San Pedro, Belize

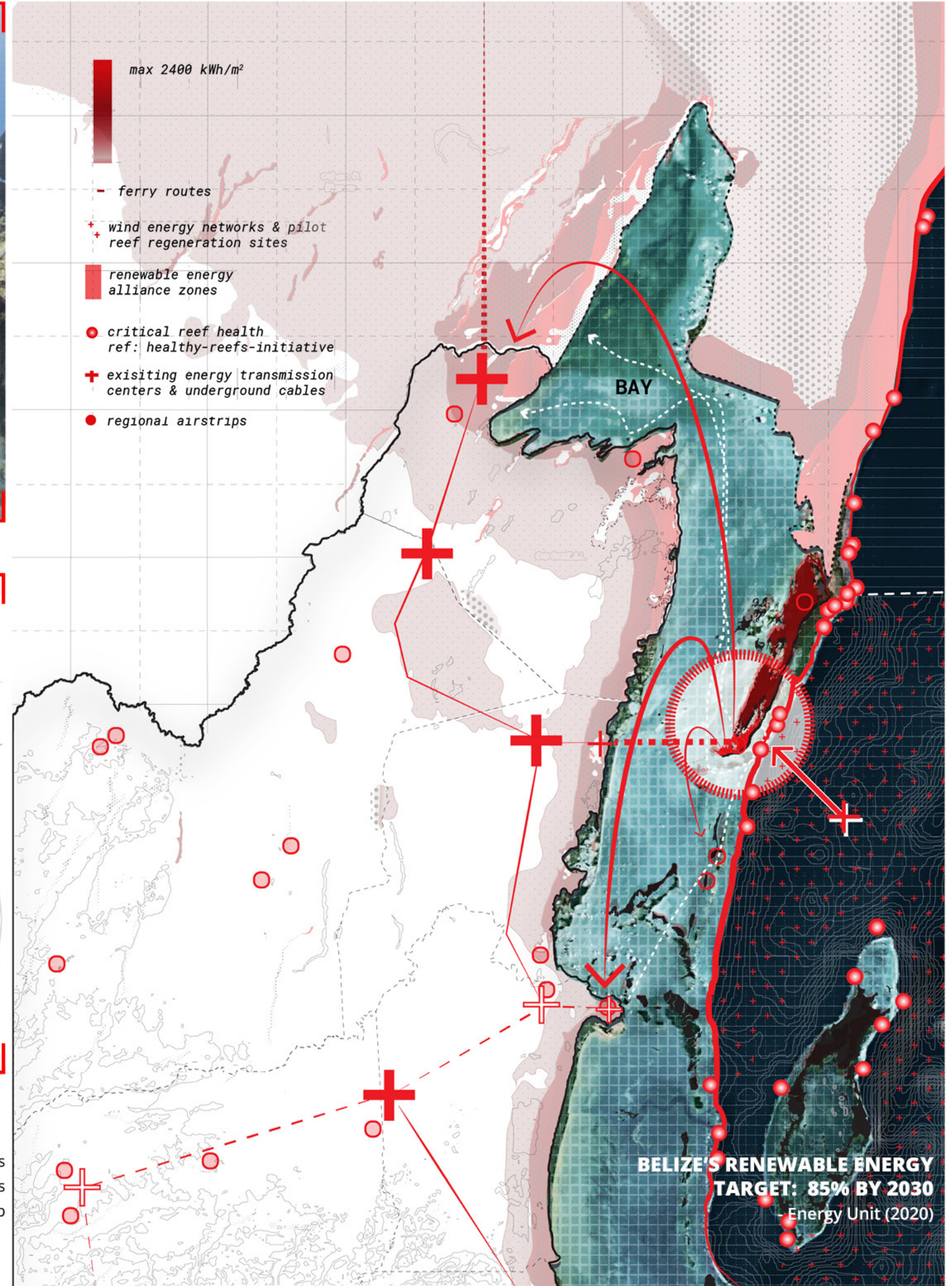


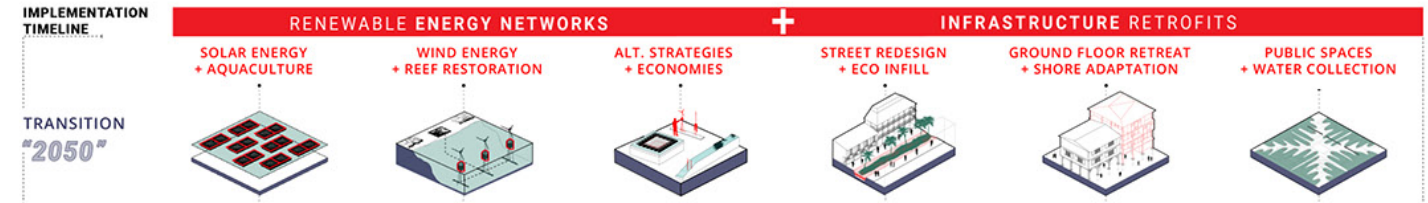
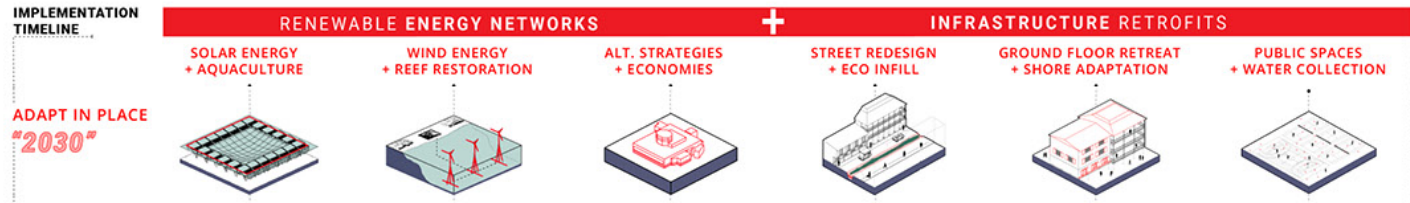
Right: Town Core Street



Energy is the invisible factor within the picture-perfect Belize postcard. We see an opportunity to shift the conversation towards equitable and regenerative systems; to transition from fossil fuel dependence, seasonal tourism, and ghost reefs to local clean energy, alternative economies and coral nurseries.

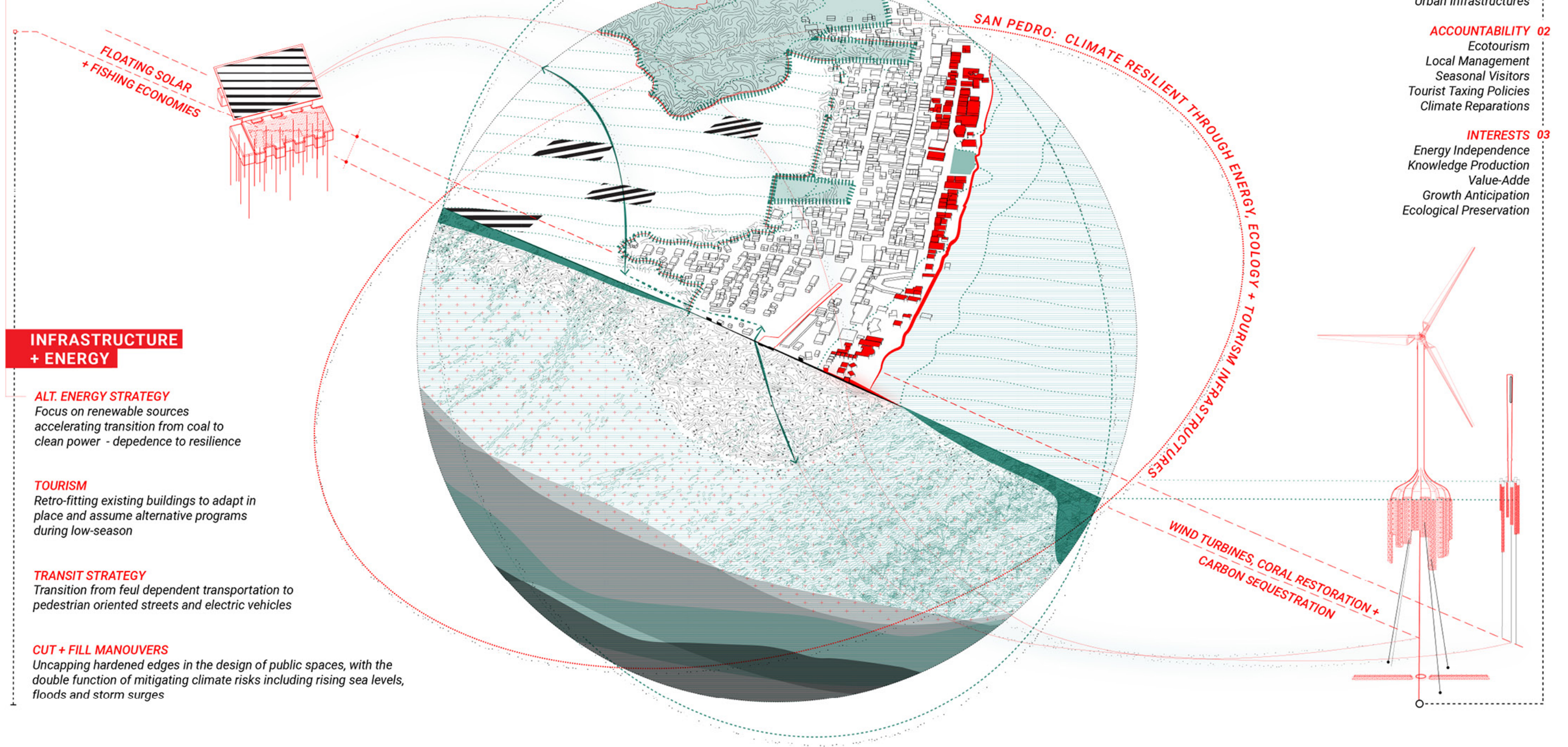
- 01 Fossil Fuels, Tourism, Ghost Reefs
- 02 Transect: Water / Land Interventions
- 03 Regional Siting Map





Design interventions range from adapting in place to future habitats, striving for urban and coastal resilience. A Public Benefit Corporation is proposed led by the Ministry of Energy through a Build-Operate-Transfer scheme.

- A WATER BASED ENERGY + ECOLOGY**
- B LAND-BASED INFRASTRUCTURE + COASTAL RESILIENCE**



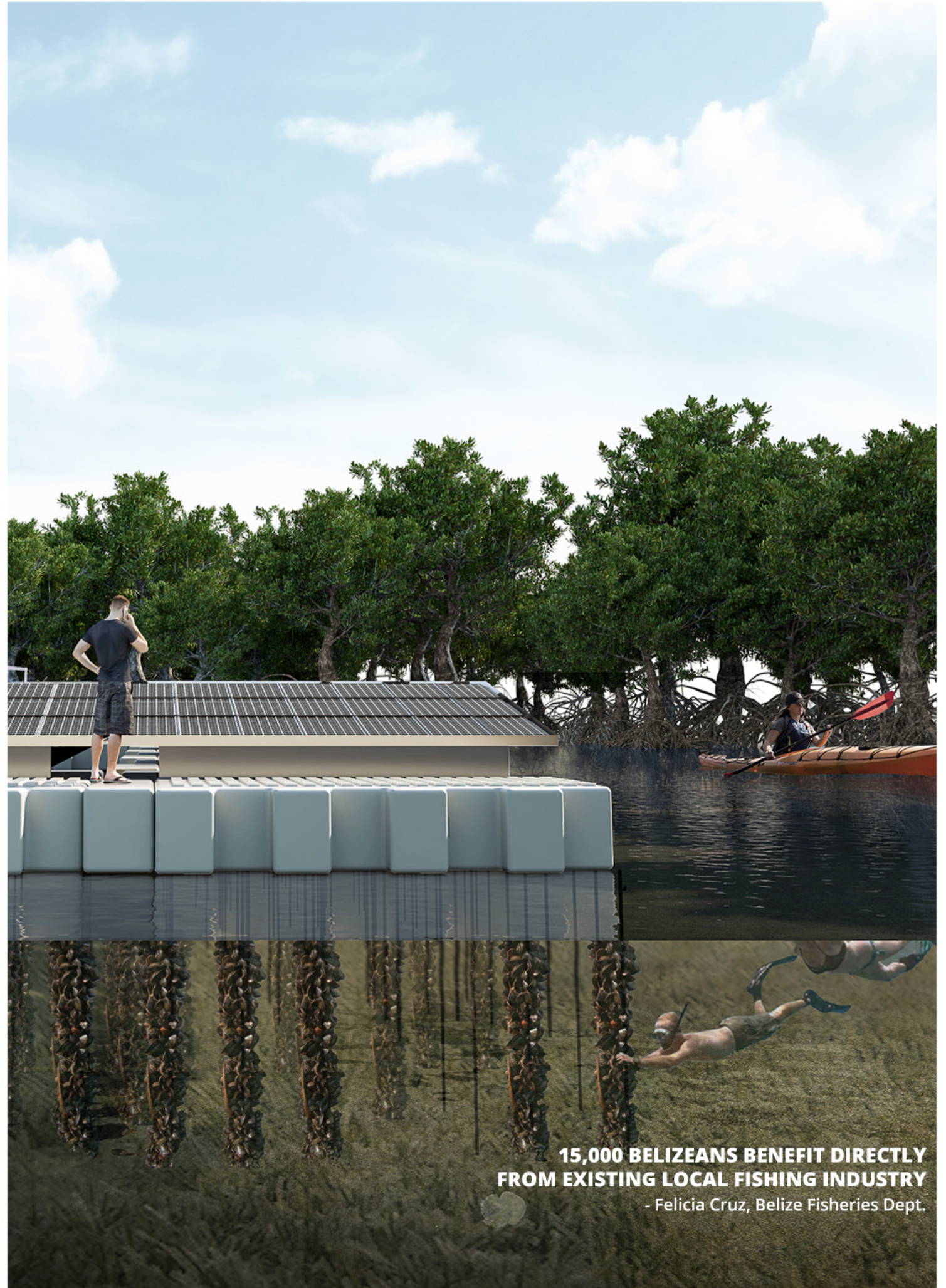
SOCIAL + ECOLOGICAL EQUITY

- ASSETS 01**
Natural Ecosystems
Urban Infrastructures
- ACCOUNTABILITY 02**
Ecotourism
Local Management
Seasonal Visitors
Tourist Taxing Policies
Climate Reparations
- INTERESTS 03**
Energy Independence
Knowledge Production
Value-Add
Growth Anticipation
Ecological Preservation

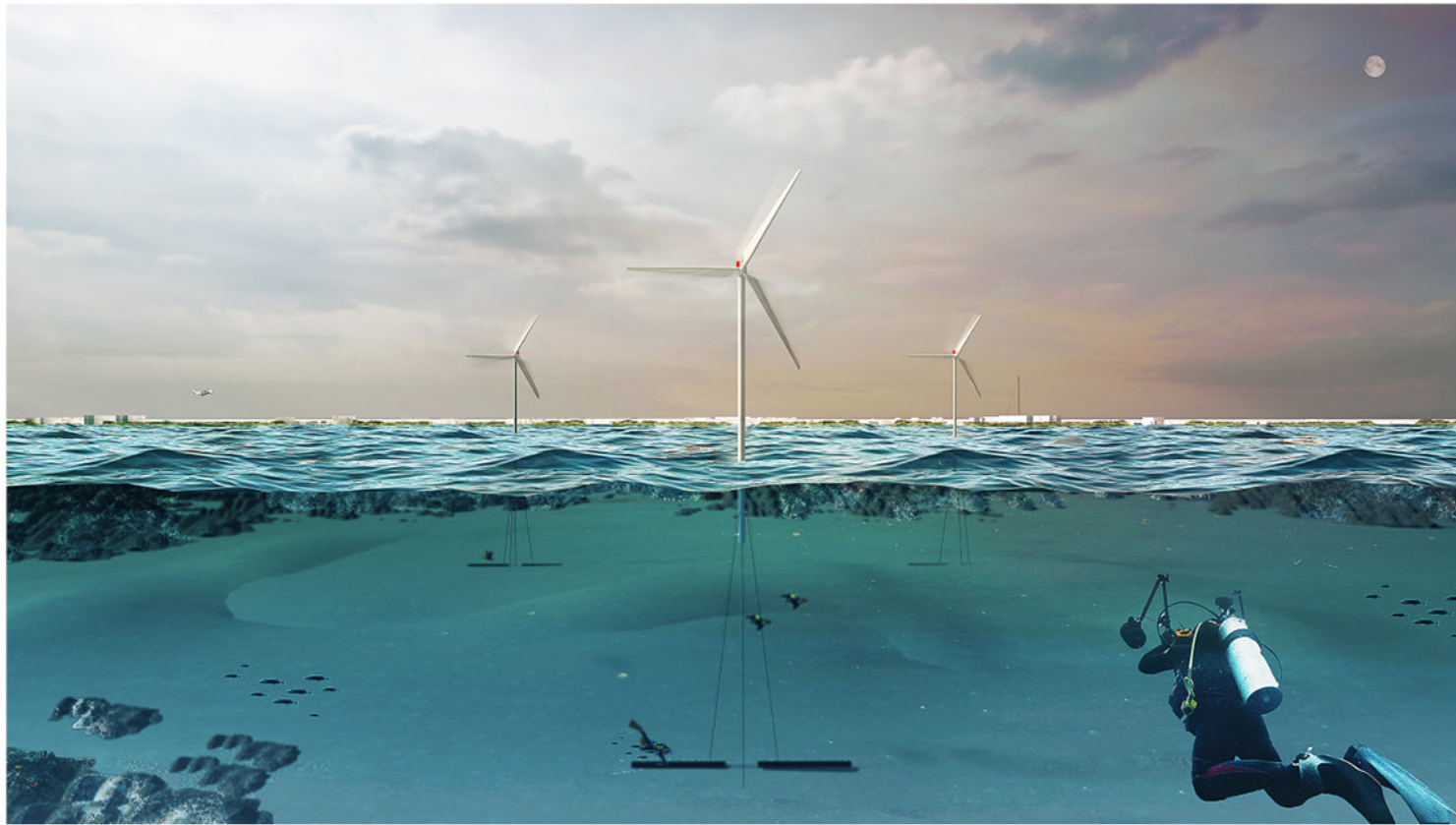


A combination of floating solar panel modules and fish farming practices are proposed in the lagoon surrounded by mangrove nurseries. Through which, jobs will be generated for the local community from implementation and operation stage to maintenance, alongside a new vision for ecotourism.

01 Floating Solar: 2030
 02 Post Card Image: 2050
 03 Alt. Economies: 2050



15,000 BELIZEANS BENEFIT DIRECTLY FROM EXISTING LOCAL FISHING INDUSTRY
 - Felicia Cruz, Belize Fisheries Dept.



Offshore wind farms take advantage of high and constant East winds. Turbines would be sited near the coral barrier to aid in creating an artificial reef. 3D printed modules made out of recycled materials are attached to the bottom of the turbine structures to allow for coral nurseries and new habitats.

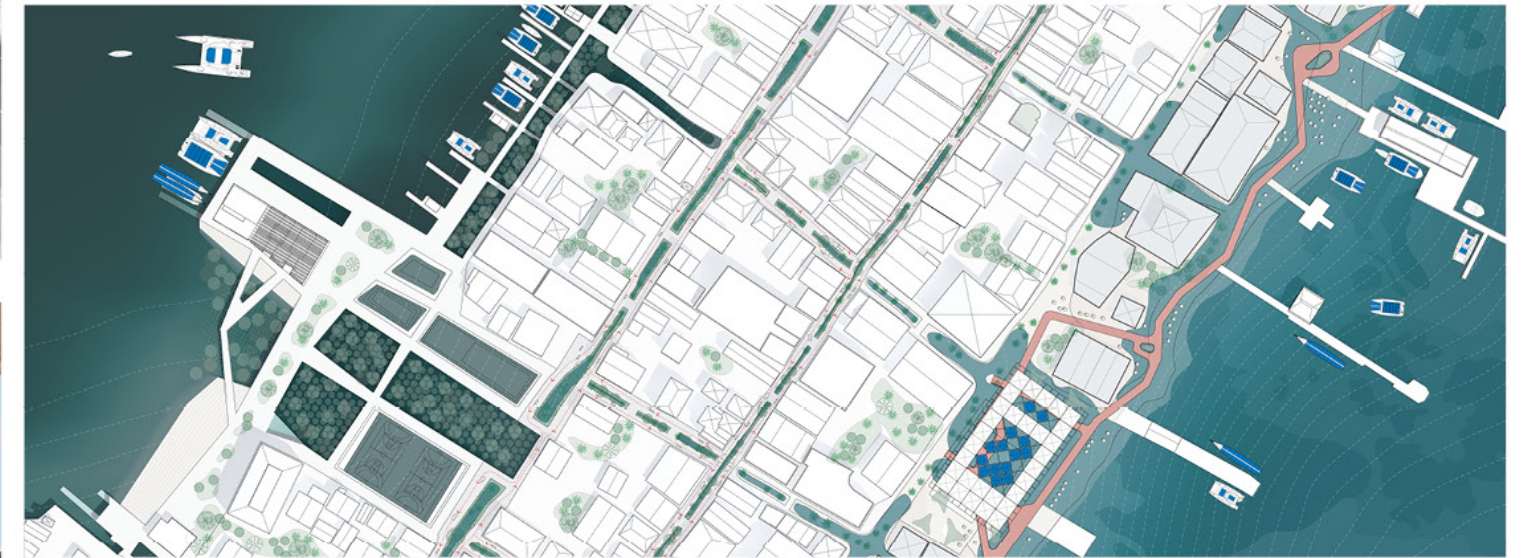
- 01 Off-Shore Wind: 2030
- 02 Post Card Image: 2080
- 03 Grid Expansion: 2050



**BELIZE'S RENEWABLE ENERGY
TARGET: 85% BY 2030**
- Energy Unit (2020)



Infrastructural retrofits within the already dense fabric of the town core draw energy into the public eye. In-land strategies forefront heightened public spaces coupled with water collection, street redesign, bioswales, and ground floor retreat which embody urban resilience.



01 Floodable Public Space
02 Central Park Solar + Water Collection Pavillion
 Through a cut and fill strategy, hardened edges are uncapped to allow for urban ecological infiltration, where local maintenance and continuous engagement is assumed. Through which, San Pedro becomes an example of climate resilience through clean energy and sustainable tourism infrastructures.

03 Bay to Roof Section
04 Proposed Site Plan
05 Reef to Roof Section

TAXING TOURISM

As an annex to our studio project, this seminar work aims to make visible the tourism footprint of Belize. Mostly for educational and information purposes, making data graphically appealing and accessible would aid the creation of taxing policies that can fund future maintenance for renewable energy infrastructure.

2022 Spring

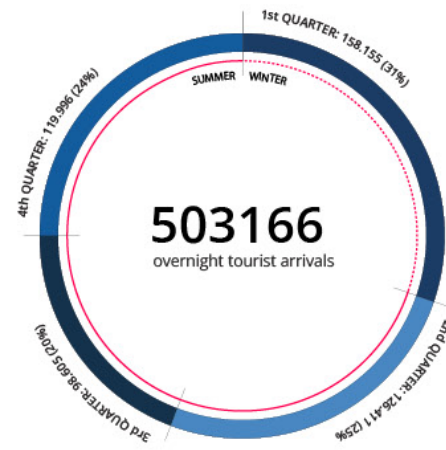
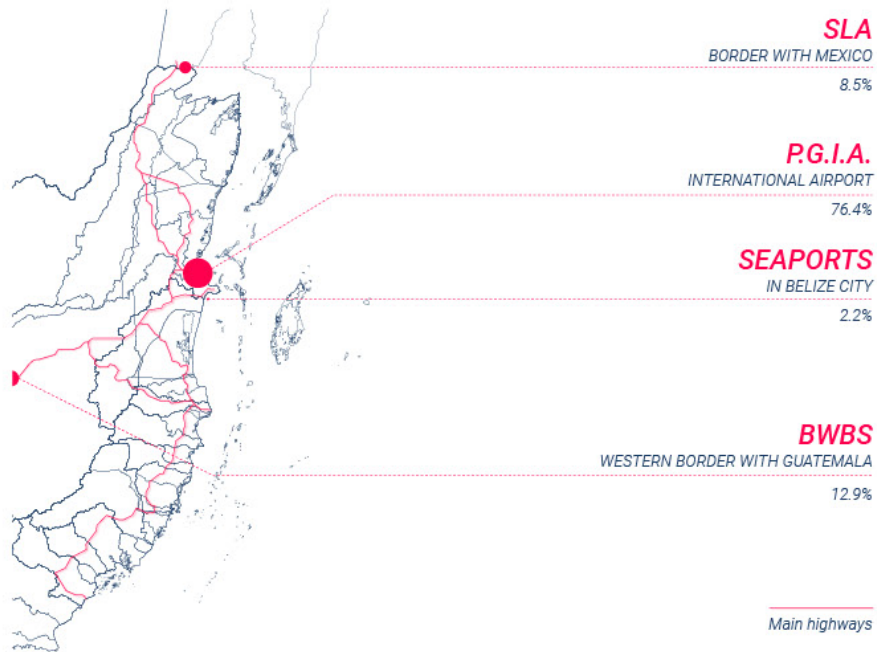
Course:
Carbon & Footprint

Faculty:
David Benjamin

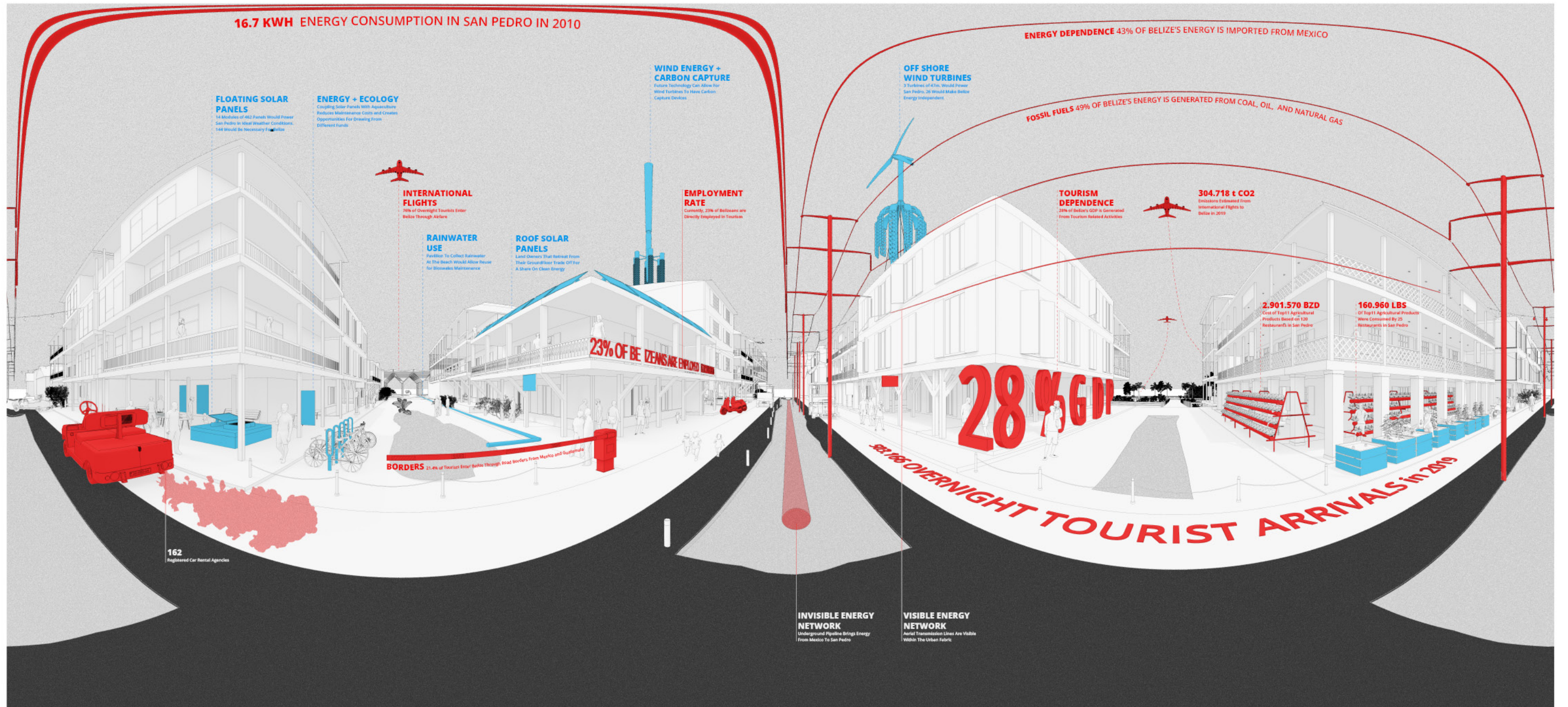
Location:
San Pedro, Belize



Right: International Flights



UK 15,356 tourists 8,400 km CO ² amount per tourist: 1.4t	total CO ² emissions 21,498 t
Germany 9,401 tourists 9,300 km CO ² amount per tourist: 1.5t	total CO ² emissions 14,101 t
France 6,875 tourists 8,600 km CO ² amount per tourist: 1.4t	total CO ² emissions 9,625 t
Netherlands 5,861 tourists 8,700 km CO ² amount per tourist: 1.4t	total CO ² emissions 8,205 t
Canada (E) 14,210 tourists (40%) 4,700 km CO ² amount per tourist: 0.8t	total CO ² emissions 11,368 t
Canada (W) 21,316 tourists (60%) 8,400 km CO ² amount per tourist: 1.4t	total CO ² emissions 29,842 t
EUA (W) 65,265 tourists (20%) 3,500 km CO ² amount per tourist: 0.6t	total CO ² emissions 39,159 t
EUA (S) 114,215 tourists (35%) 1,600 km CO ² amount per tourist: 0.3t	total CO ² emissions 34,264 t
EUA (NE) 146,847 tourists (45%) 2,900 km CO ² amount per tourist: 0.5t	total CO ² emissions 73,423 t
399,346 tourists (80%)	total CO ² emissions 241,845 t
503,166 tourists (100%)	total CO ² emissions 304,718 t



LUCAS COELHO NETTO

lc3589 - portfolio

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