

PORTFOLIO

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Master of Science in Architecture and Urban Design

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**MANUFACTURING
PUBLIC SPACE**

Prof. Nans Voron
Prof. Tricia Martin

The Industrial Business Zone (IBZ) in Long Island City, NY was established to protect existing manufacturing districts and encourage industrial growth citywide. The IBZ is economically vital, centrally located and a well-connected mass-distribution center. The design promotes internal accessibility and the workers and locals social connections, which in turn improves the industrial community. The streetscape design has a hierarchy of traffic and a new pedestrian greenway. The water catchment and bioremediation systems mitigate the toxic history of the site. The proposed futureworks buildings re-invent the closed loop recycling process of the existing industries. By engaging new collaborators, they can reproduce waste materials into new products like urban furniture, pedestrian bridges, sculptures, canal wall and paving to test in a lively public space.



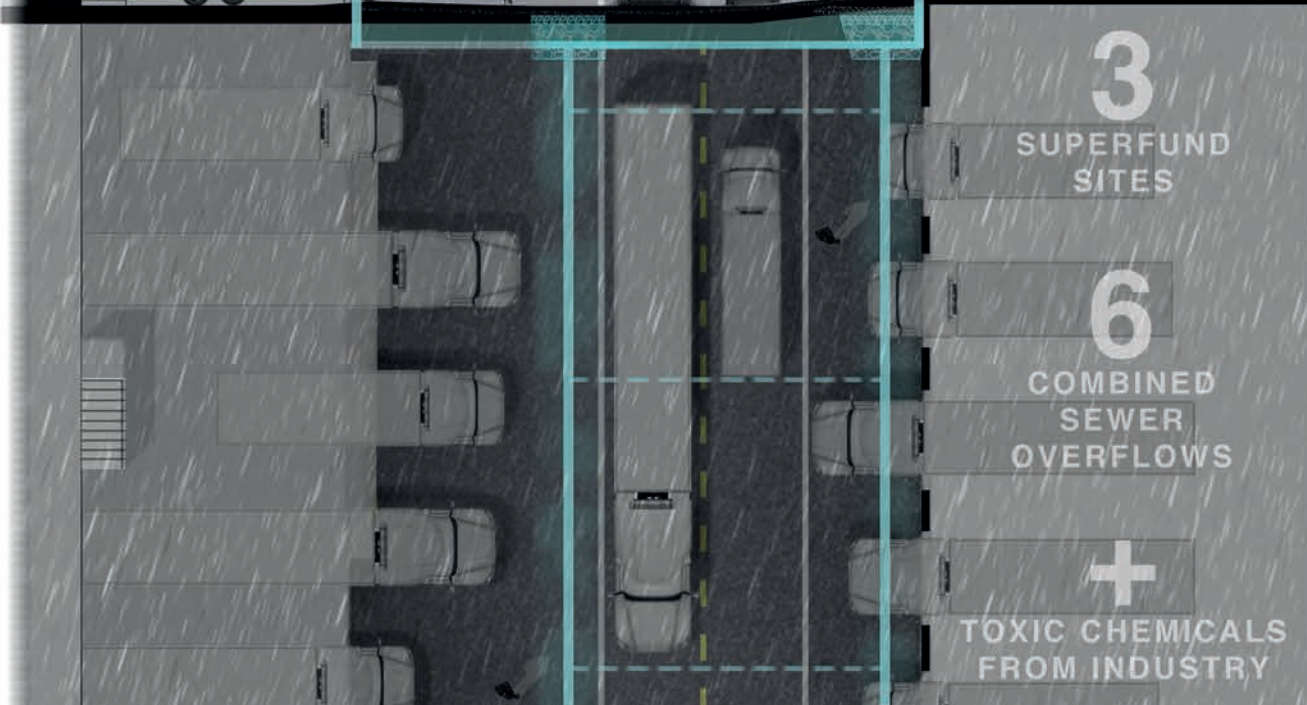
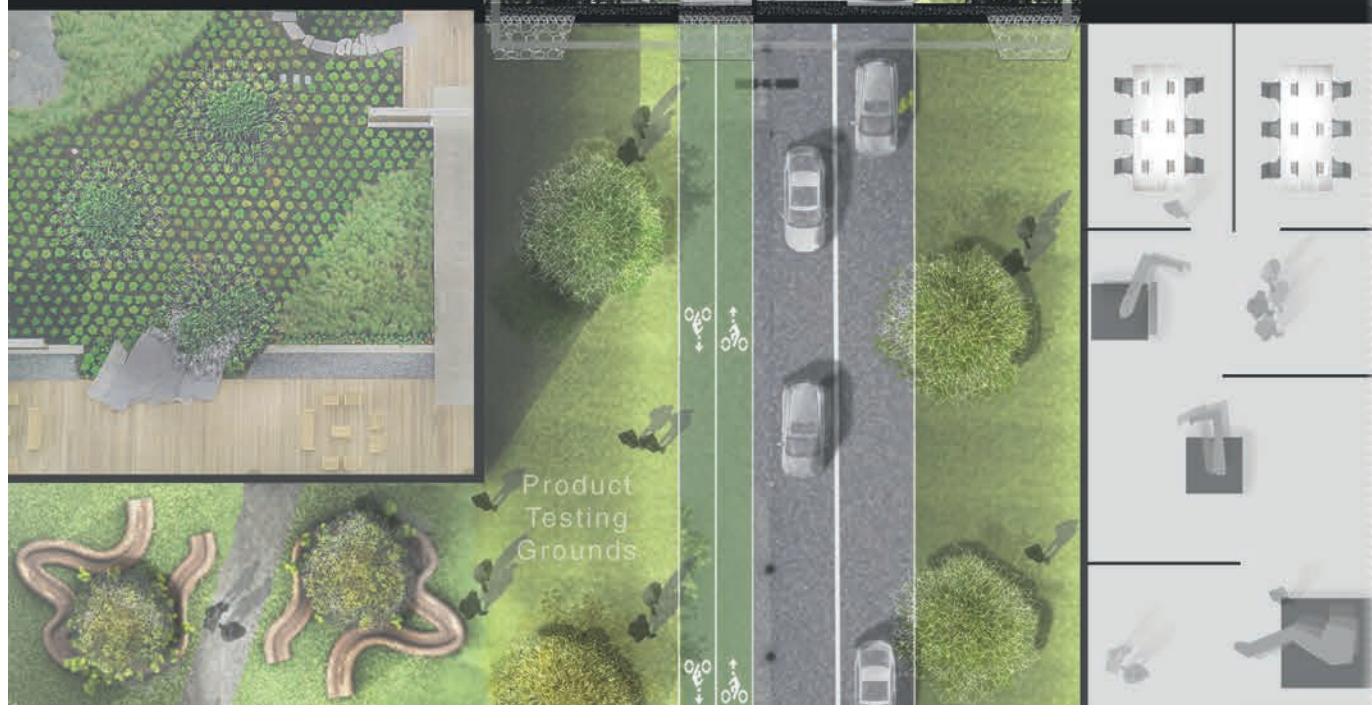
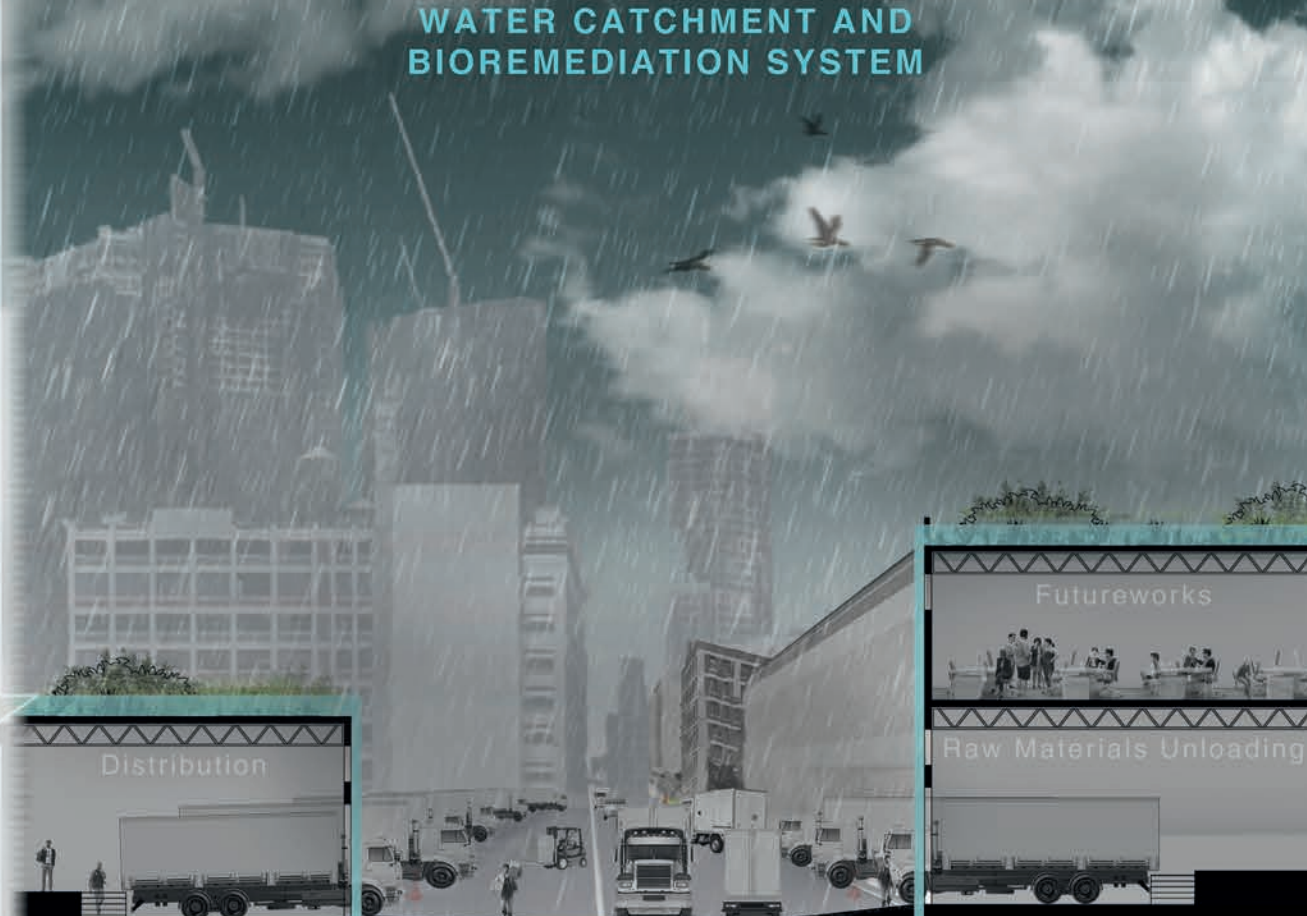
29th street adjacent to testing grounds and 3D printing of elements for the entire Industrial Business Zone.

30th street is re-designated for truck loading and a new rapid bus route with a system to reduce Newtown Creek pollution.

TRANSFORMING INDUSTRIAL STREETSCAPES

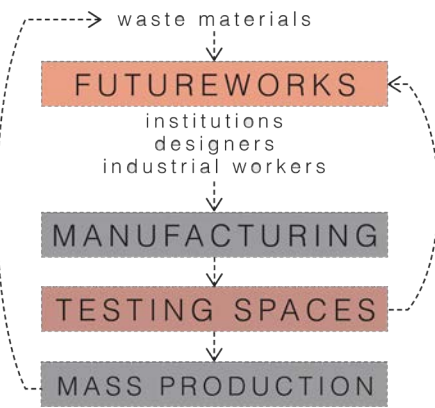
MANUFACTURING PUBLIC SPACES

WATER CATCHMENT AND BIOREMEDIATION SYSTEM

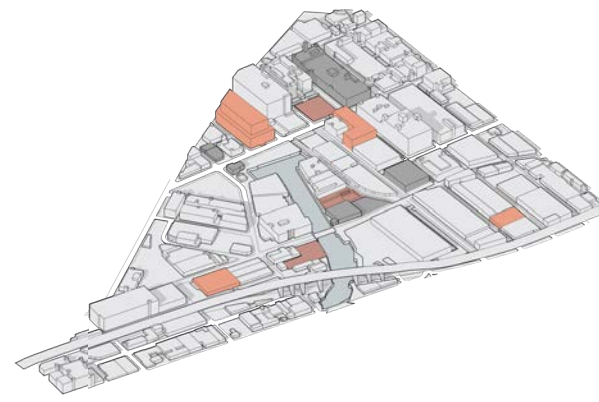




Site Analysis of NYC IBZs



Proposed life-cycle



Selected Site



Initial Site Analysis Maps:

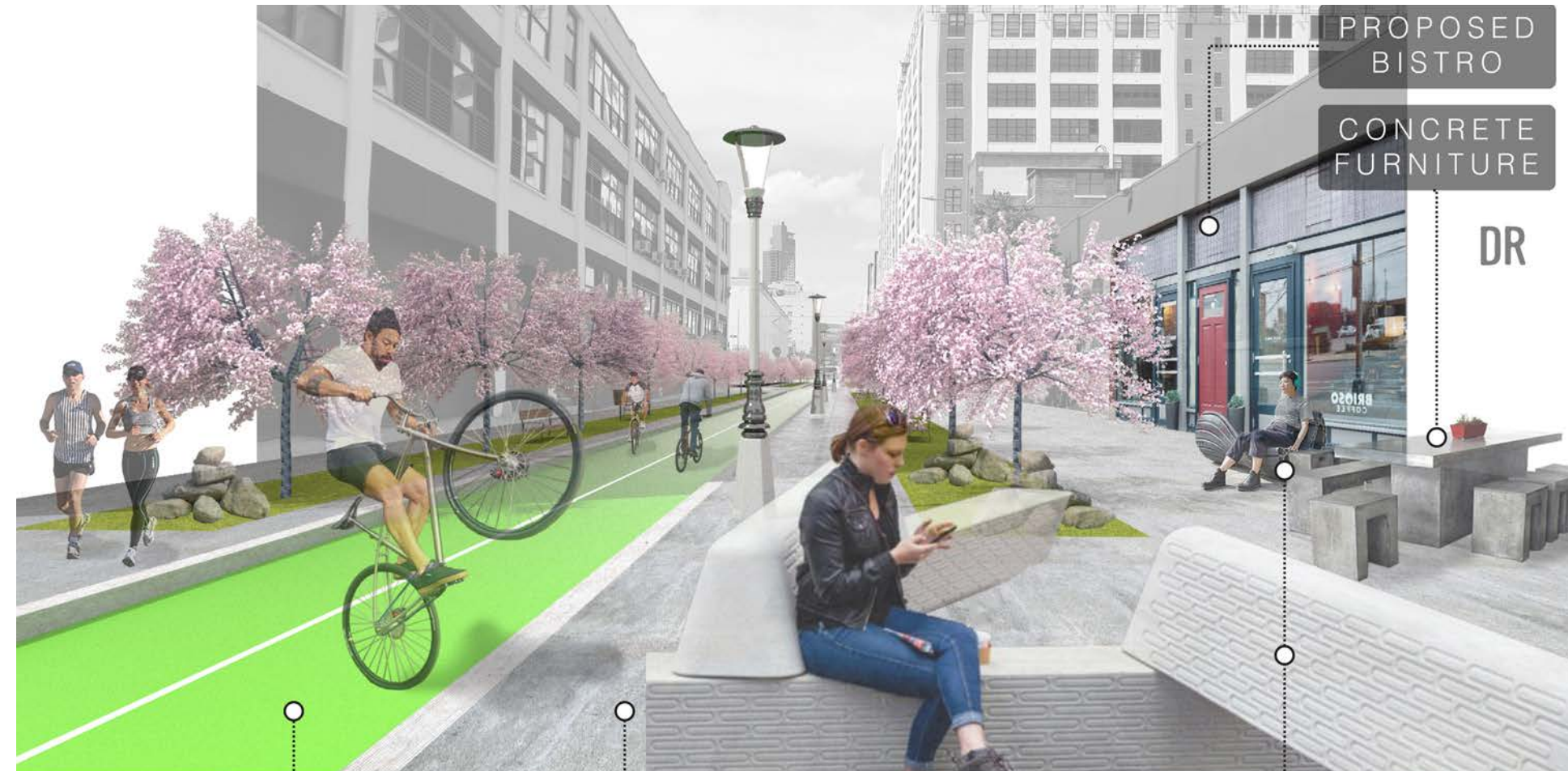
Tree coverage and air pollution, Transit patterns and noise pollution, Flooding and toxic sites



Daytime loading and unloading



Nighttime pop-up market and event space



GREENWAY
The new truck streets alleviate alternate streets for designated pedestrian and bike paths.

RECYCLED RUBBER
L&C TIRE SHOP

POROUS CONCRETE
NYCON SUPPLY CORP

3D PRINTED FURNITURE
SHAPEWAYS
NOVELTY CRYSTAL CON

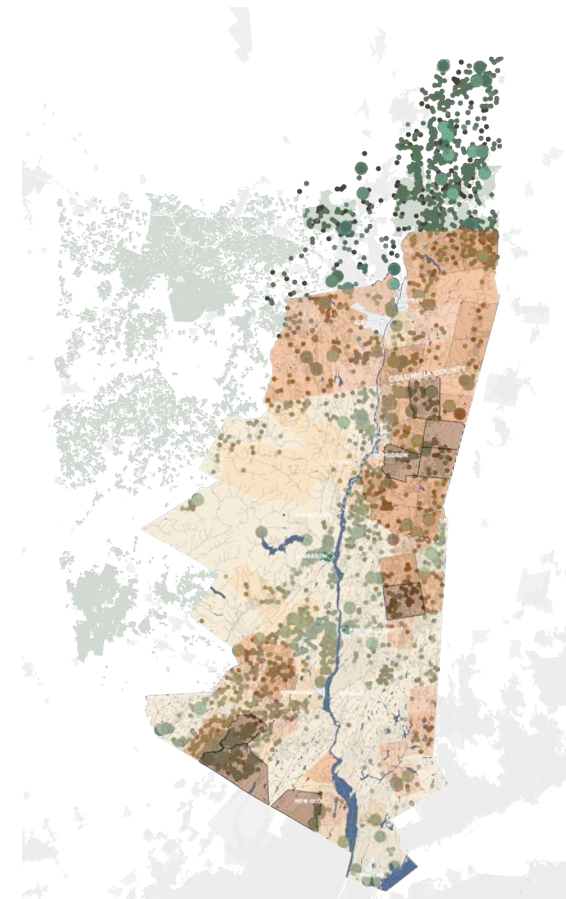
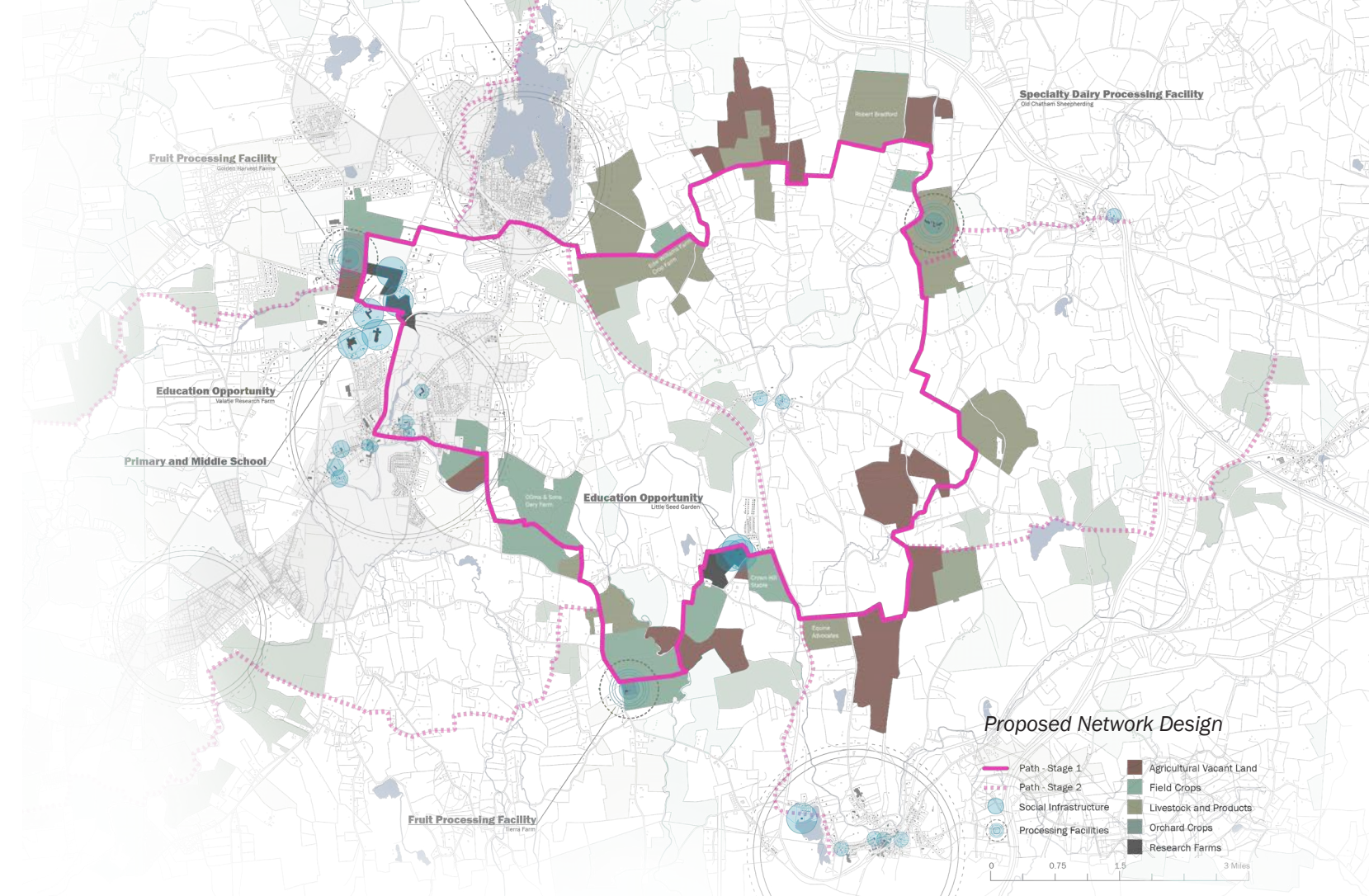
key plan

Proposed Streetscape Design

MIGROCULTURE

Prof. Kaja Kuhl

Industrial Agriculture in the US today operates in a way that is out of sync with both the long term sustainability of the land and the well being of the people it is designed to feed. Although Agriculture makes up 9% of GHG emissions in the US, it's surprisingly low at just 0.64% in the Hudson Valley, NY. Regenerative Agriculture practices can rebuild soil, which leads to increased carbon storage, environmental benefits, as well as healthier food. Migroculture begins with an arterial route connected with adjacent paddocks and harvested cropland through easements. Farmers will be able to share each other's land and develop social networks. Livestock become crucial in keeping the land sustainable and productive with rotational pasture management and diverse crops. The region in turn can sequester ample carbon from industries that can not easily transition.



Hudson Valley Analysis



Farmer Just Transition story

**MIGROCULTURE
WORKSHOPS**
Prof. Kaja Kühl



Playing the boardgame with the jury at final review workshop



Hudson Farmer's Market



Boardgame: An interactive way to collaborate on path construction and learn



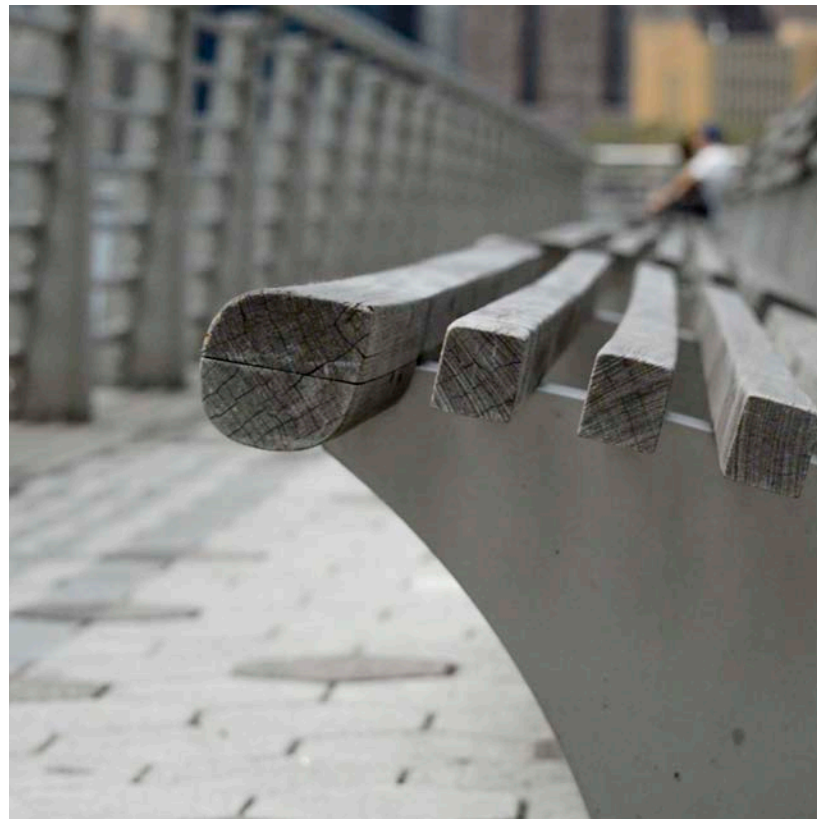
BENCH MATTERS
DOCUMENTARY
SHORT FILM
Prof. Cassim Sheperd



Still Frame of "Bench Islands" in Gantry Plaza State Park, LIC



Interview with Thomas Balsley, Principle, SWA



Still frame from film



Storyboarding

**THE LIBRARY
AS SOCIAL
INFRASTRUCTURE**
Prof. Kaja Kühl

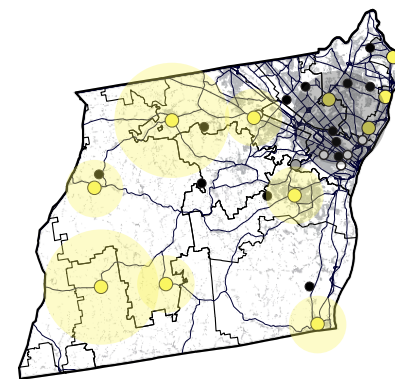
The library's neutral and welcoming nature makes it the ideal place for democracy and political transparency. The library is where social infrastructure forms a resilient society. As a free public institution, the library equitably distributes vital resources, relevant programming and civic participation. When communities are faced with massive changes, libraries are a mechanism nimble enough to absorb the impacts. Climate change is not just a scientific issue where the library is a source of accurate information; it's a justice issue where libraries are in the unique position to bring more people to the table. There should be citizen science micro-libraries distributed across the region enable residents to collect and distribute data, town halls and civic meetings at a county level will be held in local libraries. Residents can vote on relevant topics in this neutral space.



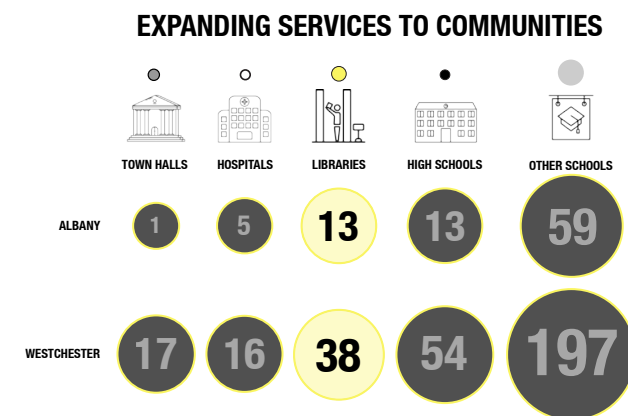
GREEN NEW DEAL MICRO SCENARIOS

MOBILITY	ENERGY	FOOD SYSTEMS	FORESTS AND CARBON SINKS	WATER	EXTRACTION AND WASTE	HEALTH
Rideshare stop for visitors and micro-libraries on trains.	The library installs solar panels and uses wind power to become net-positive allowing increased	New farmers market locations and educational programs on better agriculture practices.	CCC office at the library will identify locations and plant # trees per year.	There is a closed loop grey water system on site. The library CCC will add rain barrels and gardens.	The library will facilitate education and art programs about recycling and composting.	Micro-clinics at Libraries to distribute equitable care for non-emergent issues.

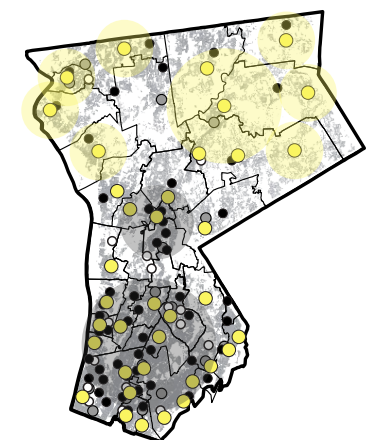
Designing libraries for the Green new Deal



Albany county scale



Analysis of community services



Westchester county scale

**RESILIENCE
ACCELERATOR:
JOHNSTOWN, PA**
Prof. Kate Orff
Prof. Thad Pawlowski

I had been to Johnstown during the summer of 2015 while I was pedaling across the US for affordable housing. On that visit, I remember taking the funicular up the mountain and seeing a small and neglected industrial town. This memory became entangled with the many generous people I met and the colorful lives they led. When I returned four years later, I was with classmates and professors to help imagine strategies and design a Green New Deal. We arrived in Johnstown with maps, case studies, markers and open minds to run a Resilience Accelerator Workshop. We shared ideas, offered outside perspectives and allowed new connections to be made in the community to solve complex local and regional problems. Facilitating workshop activities can be the best way to understand a place, engage with stakeholders and inform design decisions.



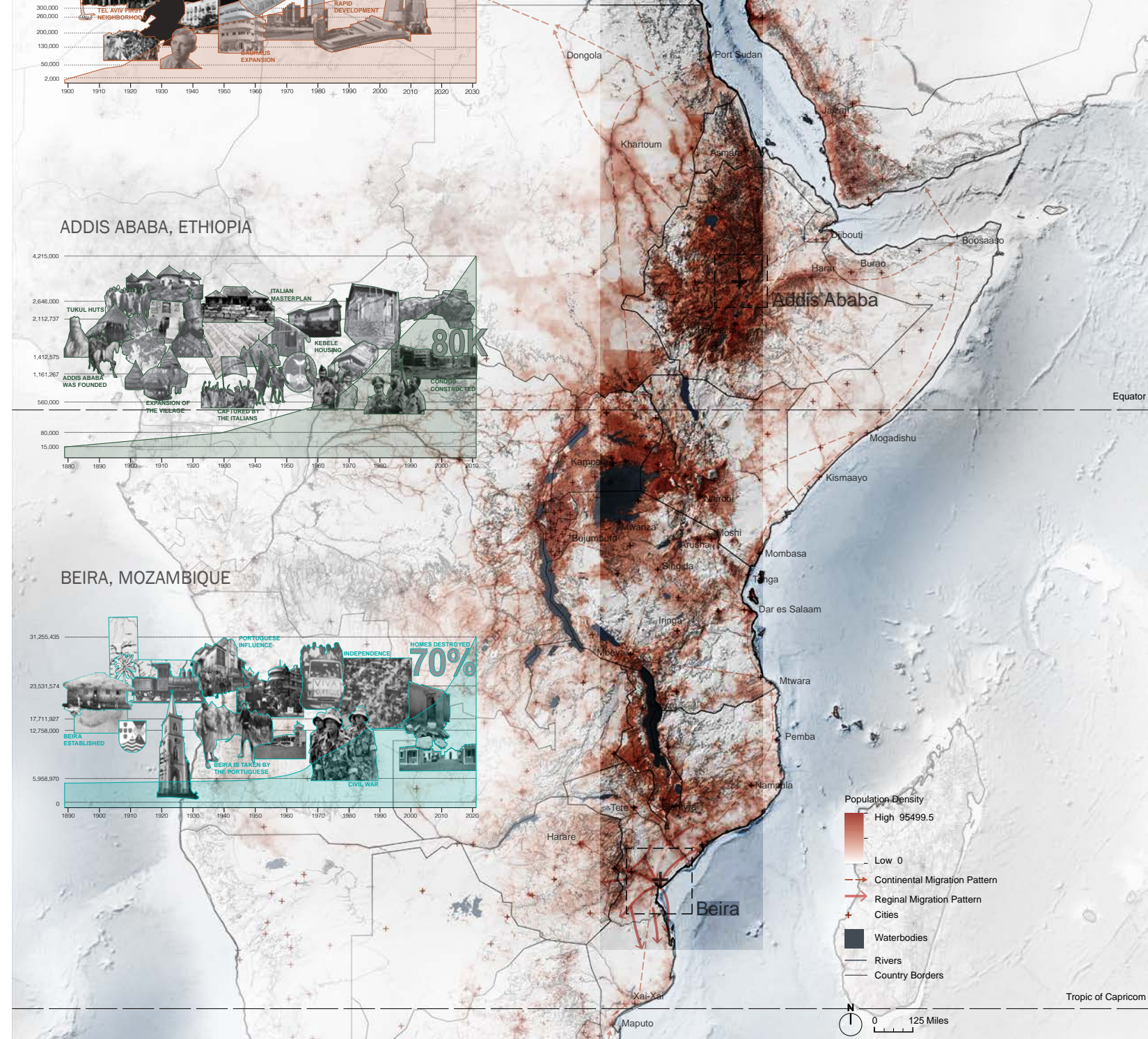
River walls captured on film



Workshop Tiled Map



Housing Rehabilitation Program Sketches

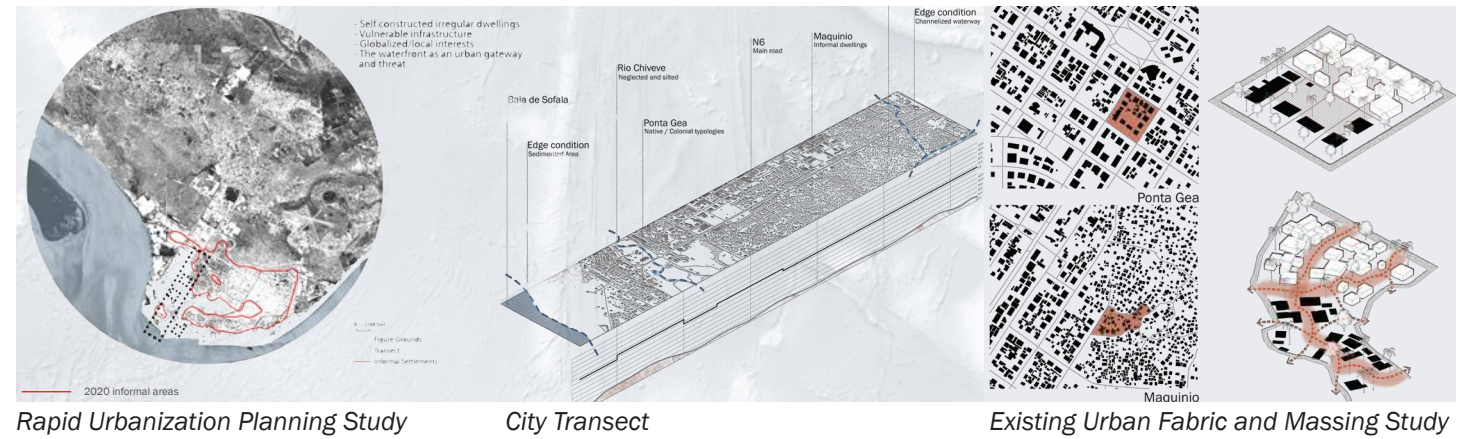


Historical Timeline, Population Growth and Migration map

THE GREAT RIFT VALLEY GLOBAL TRANSECT

Prof. Kate Orff
Prof. Thad Pawlowski

The Water Urbanism design studio began with an investigation of urbanization and climate challenges in three cities along a global transect. The Great Rift Valley is marked with fossil evidence of the beginning of human civilization. The rift calls attention to an alternative narrative at play in the world, a narrative of tension, instability, conflict, migration and emergence. Tel Aviv, Addis Ababa and Beira exist at different elevations along this global geological transect. While working in a large team of nine colleagues, I led my group to illustrate the housing typologies and study the built fabric. Together, we presented human migration, moving towards resources or away from conflict, settlement and the idea of returning to intelligence of how native housing was built before colonization. This project allowed the studio to question what is typically categorized as “informal.”



Rapid Urbanization Planning Study

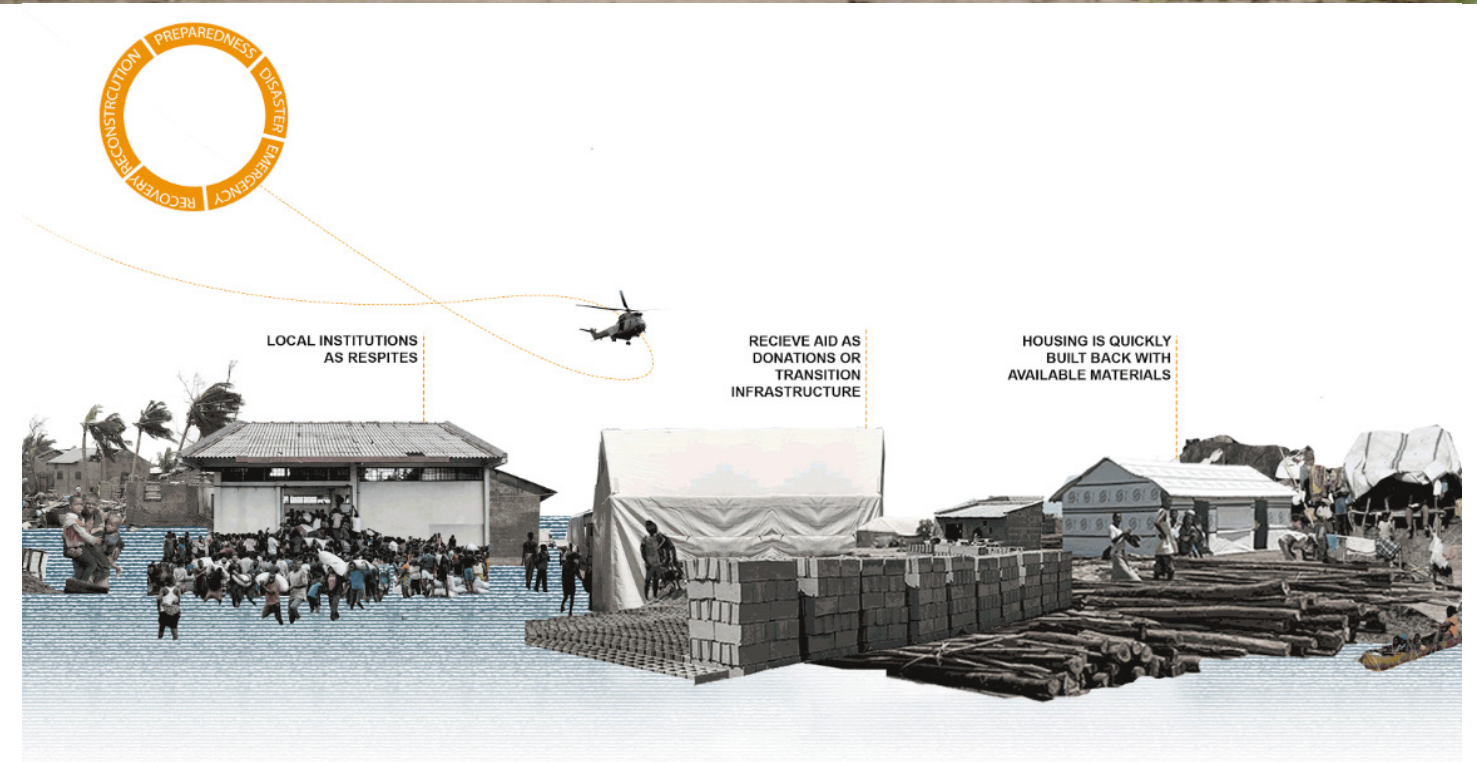
City Transect

Existing Urban Fabric and Massing Study

**ALIANÇA PARA
UMA BEIRA
CONSTRUTIVA
(ABC) Alliance for a
Constructive Beira**

Prof. Kate Orff
Prof. Thad Pawlowski

A framework that proposes to change the existing post-emergency reconstruction process into a more inclusive resilient one, anchoring our efforts on local social infrastructures and regional productive landscapes. We propose a nested implementation which recommends that multi-scalar actors redirect NGO funding and international aid for Mozambique's National Disaster Risk Reduction in partnership with Beira's Office of Reconstruction. We propose neighborhood Districts which will organize co-ops and community members with the local institutions through Aliança para uma Beira Construtiva or ABC. This system will diversify the existing agricultural market, promoting local economies, and new job training opportunities.



GLOBAL



GSAPP, WWF,
IOM, UN Habitat

NATIONAL



Mozambique Disaster
Risk Reduction

REGIONAL



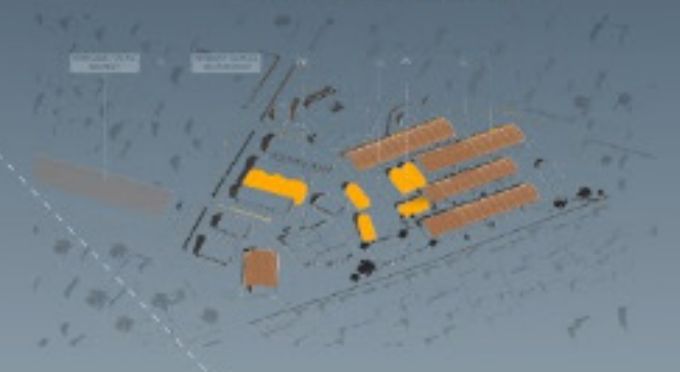
Beira's Office of
Reconstruction

NEIGHBORHOOD



District Co-op and
Community Members

INSTITUTIONAL



Universities, Schools,
Churches and Markets

OPEN CLASSROOM

CROPLAND

MATERIAL BANK

ELEVATED HOUSING



1

Educate and
workshop

2

Grow crops

3

Harvest food
and Crops

4

Sell excess
and agricultural
residues

5

Process into
building
materials

6

Store surplus
with tool and
seed library

7

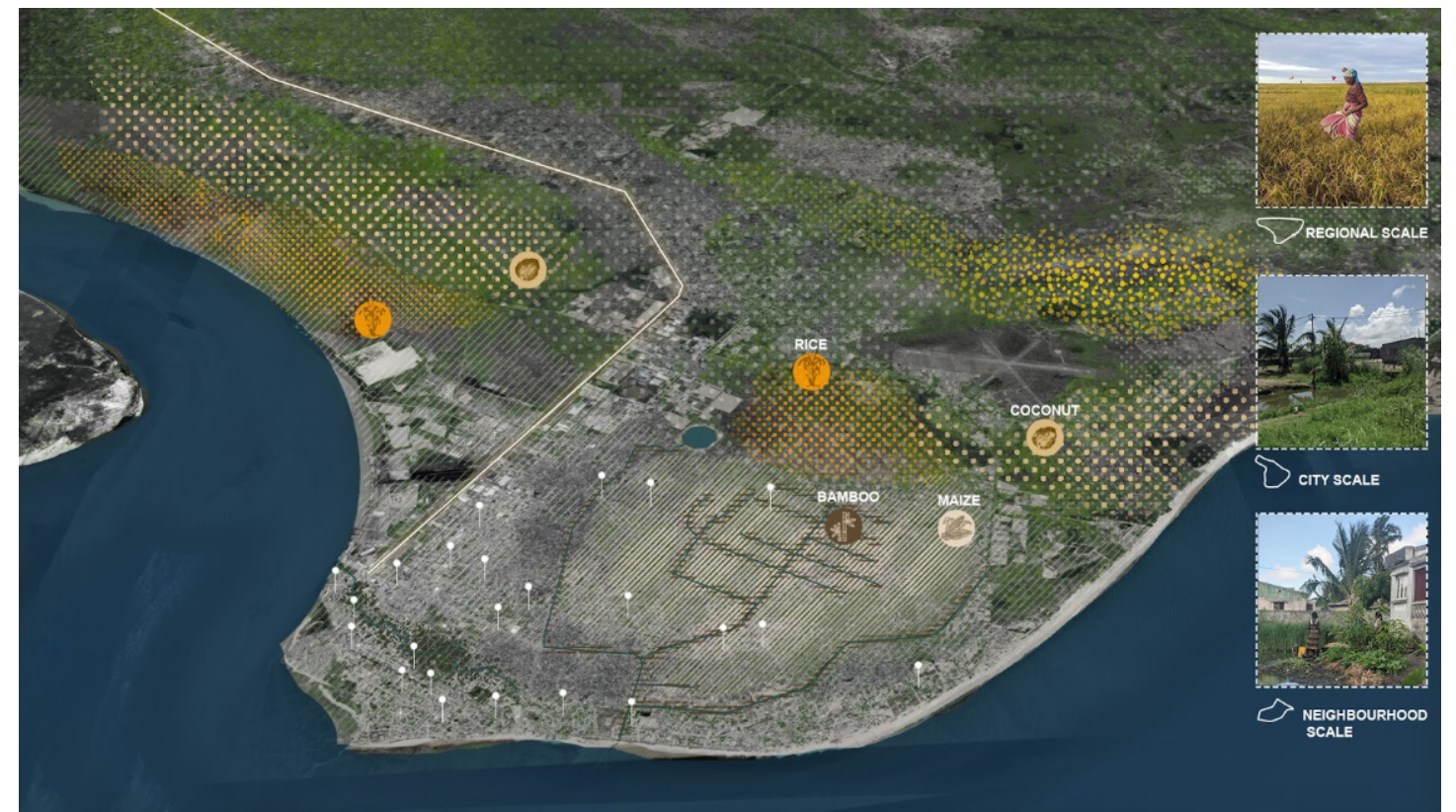
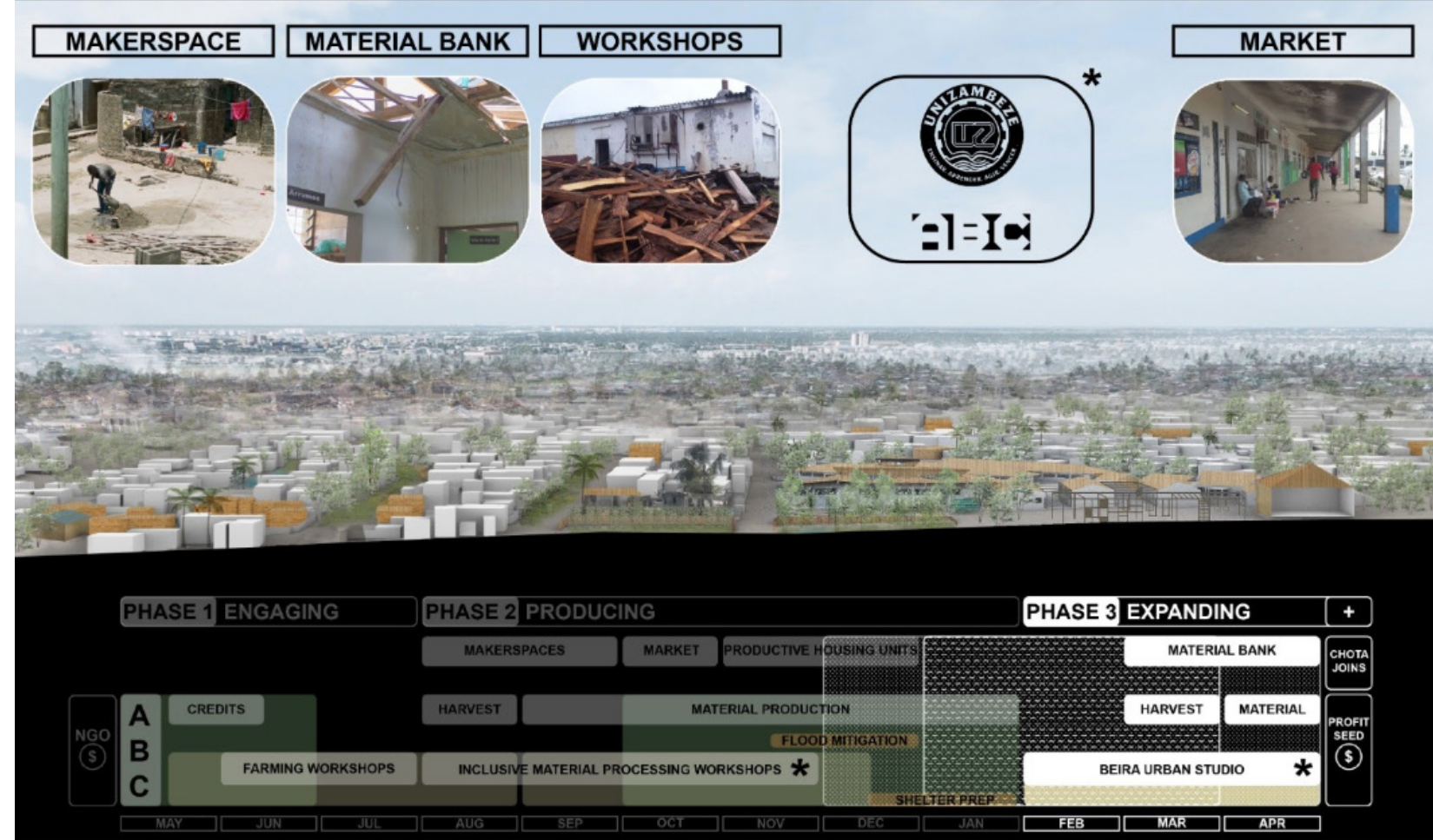
Buy building
materials and
loan tools

8

Self-built
housing
typology

HINTERLANDS

UNIT OF CHANGE



COLUMBIA
GSAPP
URBAN DESIGN

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