Forward:

The portfolio is a compilation of responses at various scales. This work takes my previous understanding of architecture and scales it up through cities, regions, infrastructure and ecosystems. The study spans from understanding a city and its morphology to contesting for social justice and climate resiliency. In an attempt to understand the city not as a static entity but as a dynamic combination of systems, the work captured in this book is part of a collective response to the anthropocene crisis.

The course is divided into three semesters studying three different buckets of scale. It starts with a smaller Urban Districts in New York to global scale Rifts of Middle east and Africa.

Each scale is a geographic understanding of multiple systems revolving around a city.

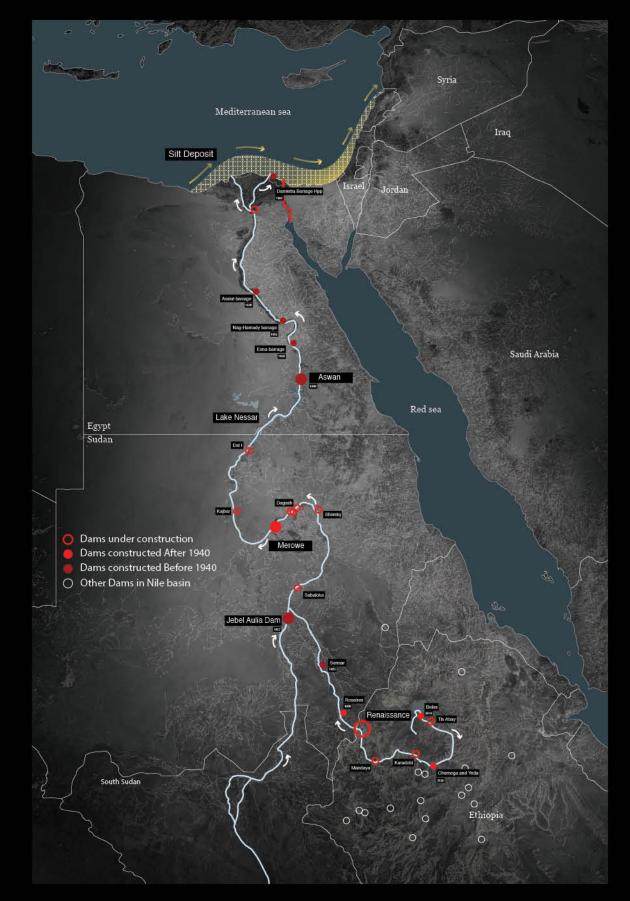
Structure of the book follows the same understanding and collects projects into three scales; Rift, Region and Urban District.

	Rift	Region	Urban District		
Zoom Scale	IIIx	III _x	IIIx		
	Social Solar 01	These Routes are Not Made For Walking 01	Re-Development Climate District 01		
	-	-	-		
	Trash City	Managed Retreat for Suburbia	Reading NY urbanism 02		
	02	02	-		
	_		Unreal 03 -		
			Inwwod Dodges Rezoning 04		

RIFT



The drawing of Nile and its Damming was a trigger to understand the global scale rift. The tectonic understanding of the rift was translated to converging forces that caused unequal distribution of resources. The Rift scale response began with the system of energy and its global ripples. Though Israel, our "site" looked disconnected from the rift, finding connection of Tel-Aviv's eroding coast to Nile steered the studio.









the rift valley is a space of invention (diverging difference)

ormal	Informal
esident	Immigrant
ettler	Nomad
Irban	Rural
luman	Nature
and	Water
lan	Section
pace	Time

Dominant Colonizer Marginalized Colonized



The Great Rift Valley as a series of diverging tectonic forces - Dilip Da Cunha

01. SOCIAL SOLAR

A new energy landscape for the city of Bat Yam

Bat-Yam, Israel.

Columbia University Urban Design Studio, Spring, Jan 2020 - Apr 2020.

Team Members : Hugo Bovea, Nina Ndichu Sharvari Raje.

Team Members : Yile Xu, Jaime Palacios, Kunal Mokasdar, Lino Caceres.

We propose the creation of a decentralized renewable energy landscape in the city of Bat Yam, south of Tel Aviv through the introduction of Social Solar Corridors

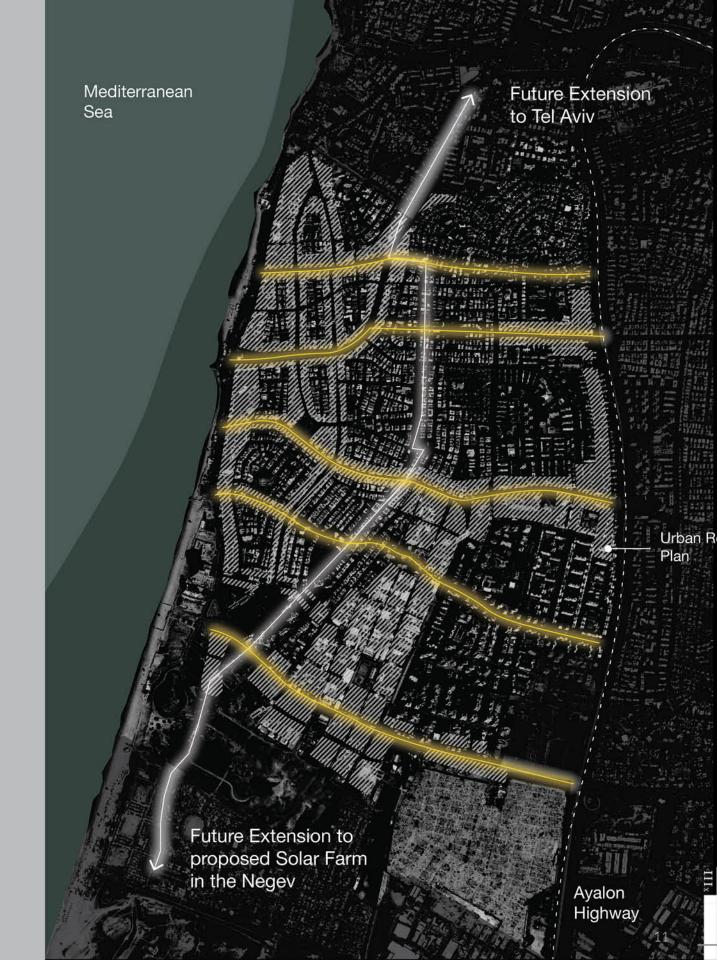
The recent discovery of the Leviathan Gas Field off the coast of Israel, enough to supply the country for over 40 years, has deepened the dependency on fossil fuels, shifting focus from renewable energy. However, the social, ecological and public health impacts of this system are huge and unaccounted for. The impacts of offshore drilling are felt on the coastal threshold, which is already damaged by the continual damming of the Nile for hydroelectric power and water reservoirs.

IIIx

The toxic cycle of energy production and consumption in Bat Yam is threatening the stability of the coastal threshold.

The coastline has receded by about 50 to 100 feet in the past 30 years, as a result of abundant infrastructural development as well as a lack of sediment due to Nile dam projects.

We propose a new system for renewable energy generation, storage and distribution, as well as coastal infrastructure to support coastal regeneration.



"We build glass buildings because of the GREAT VIEW."



"Bat Yam is very DENSE, COMPACT with NO EMPTY spaces."

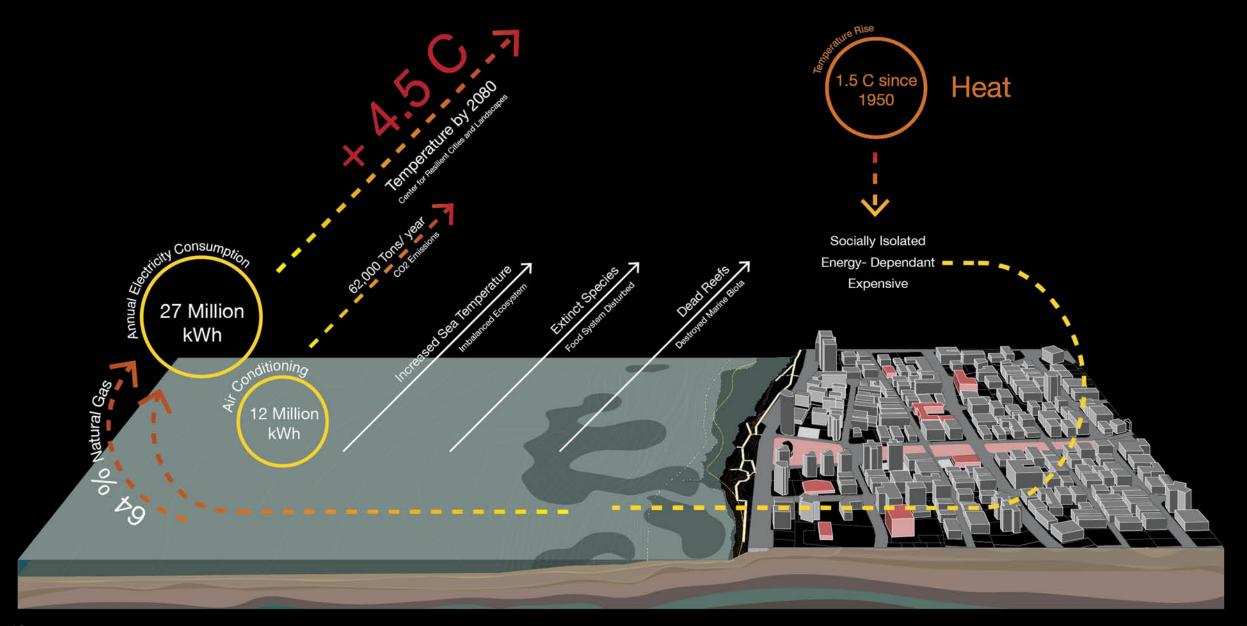


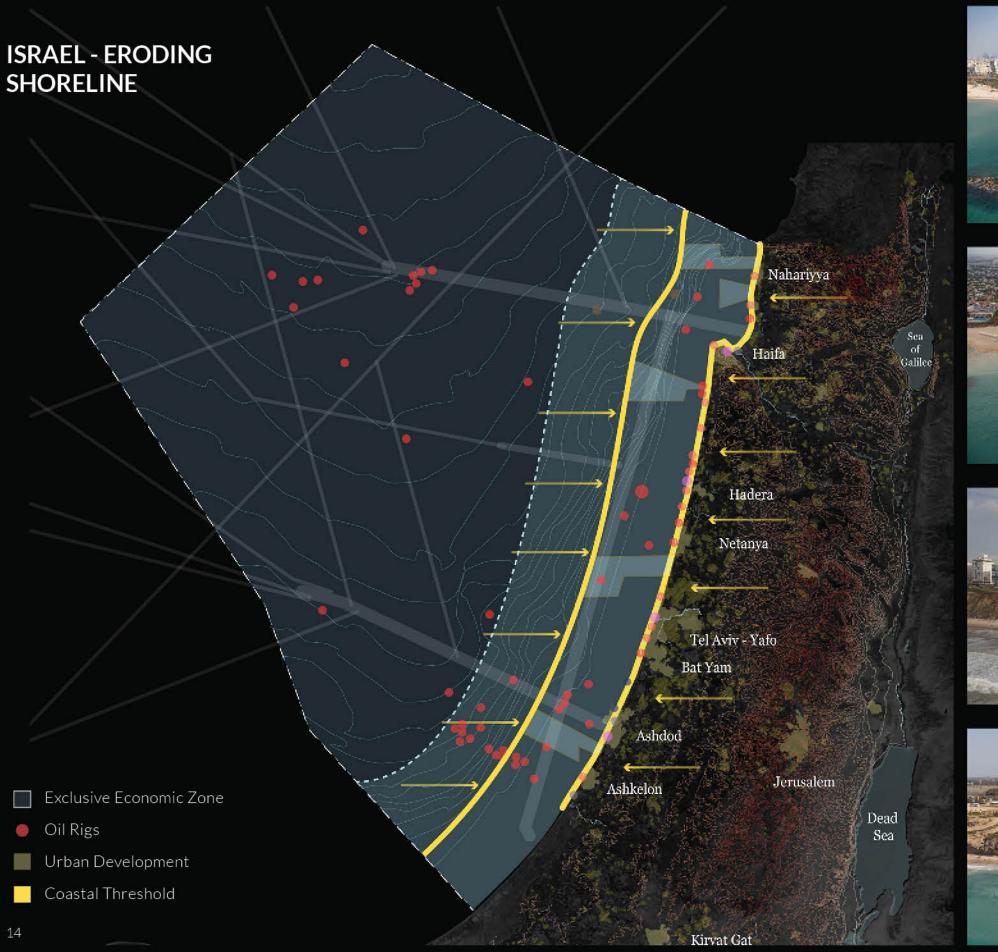
SHIRA Environmental Department Bat Yam Municipality

"NATURAL GAS is NOT IDEAL for resilient cities"



OMRI CAMRON Sr. Deputy Director Resilience and Equity





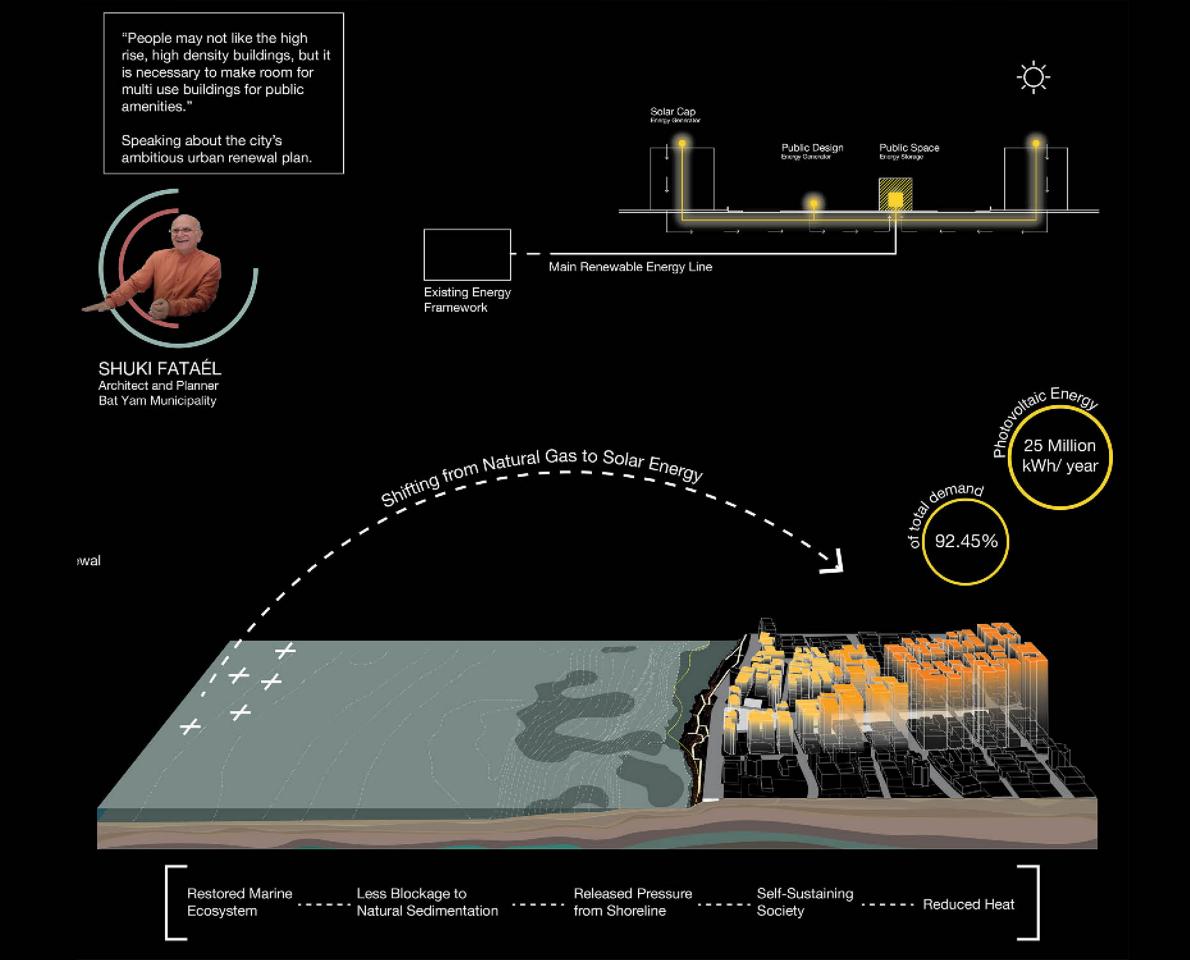


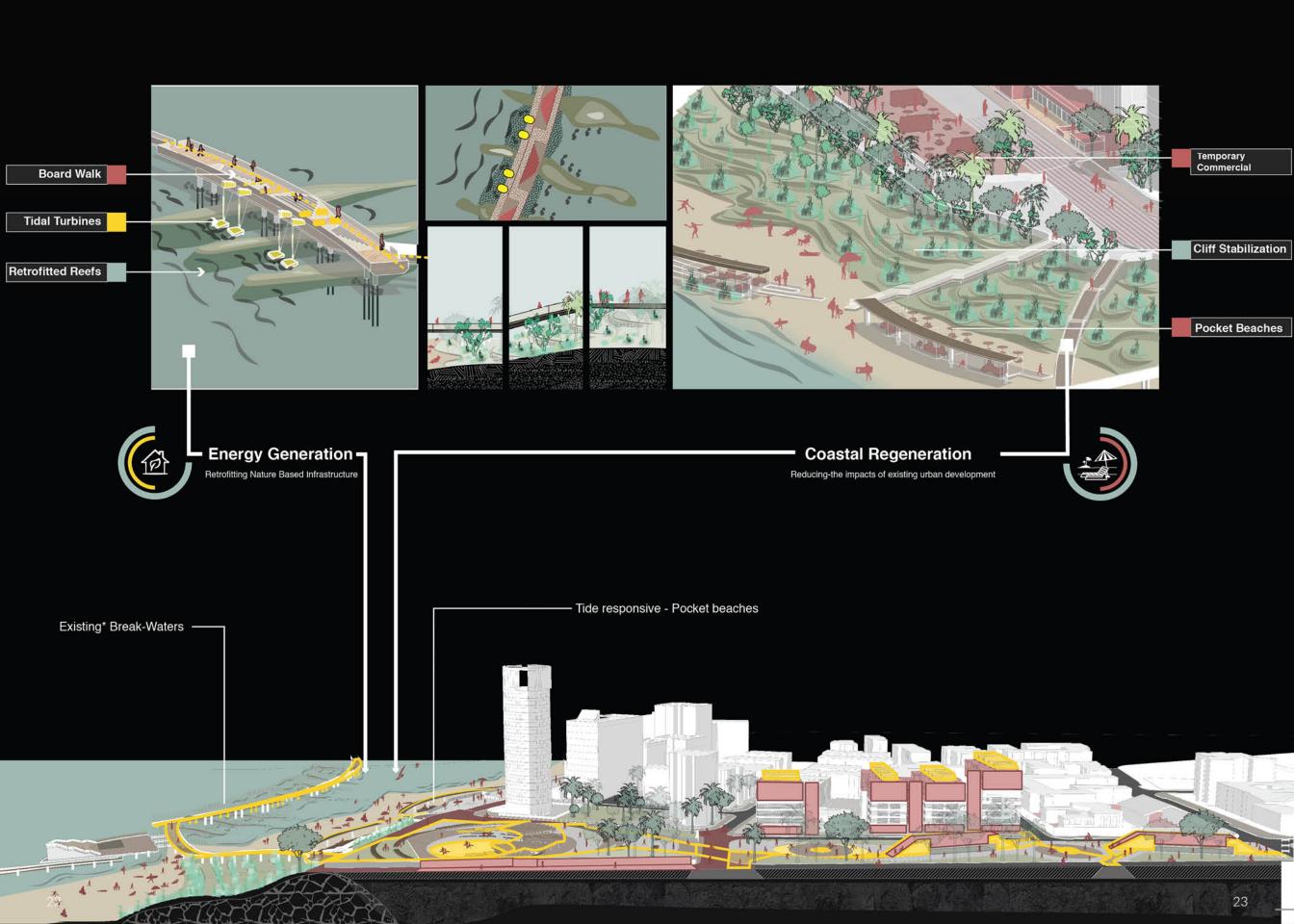




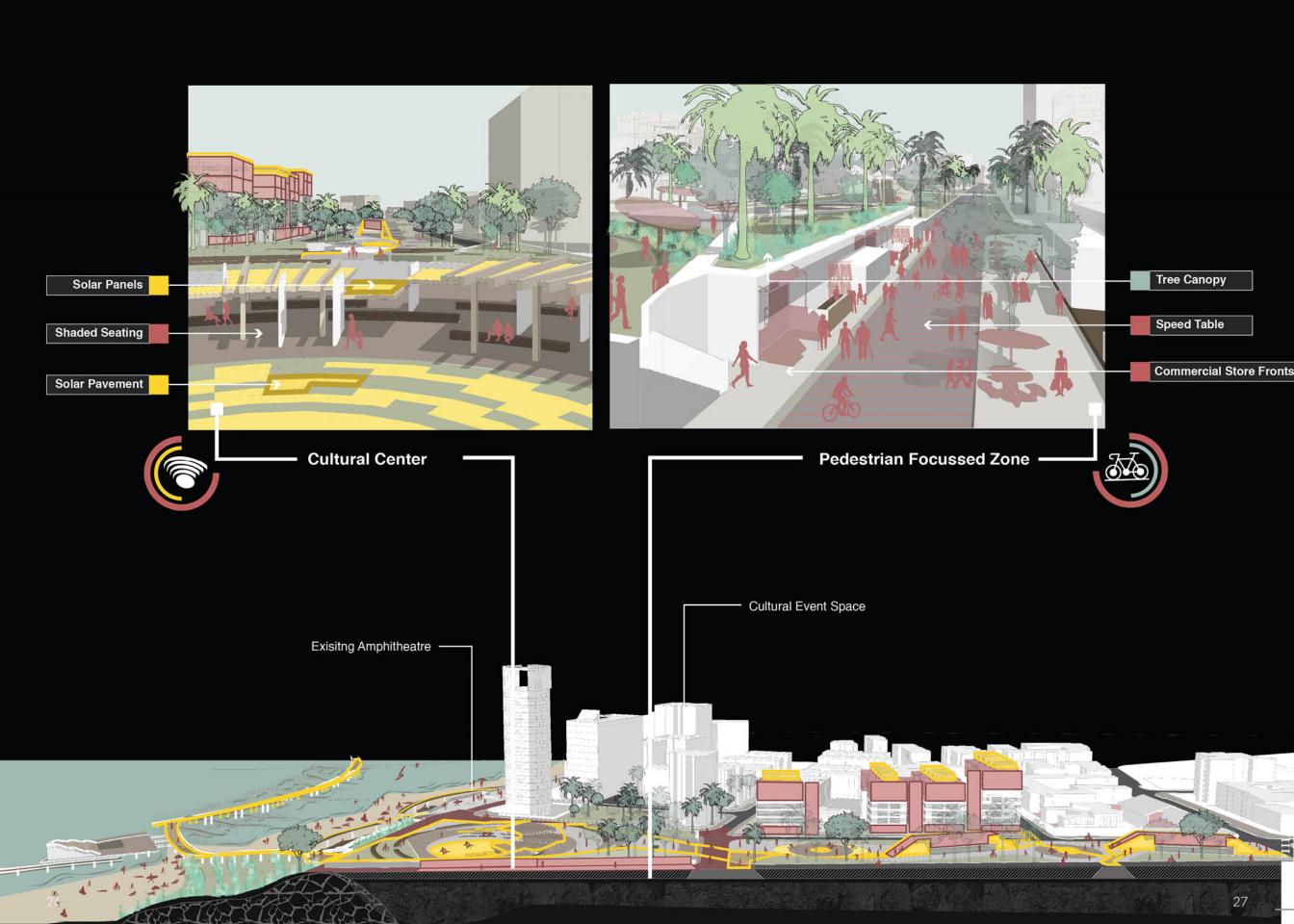






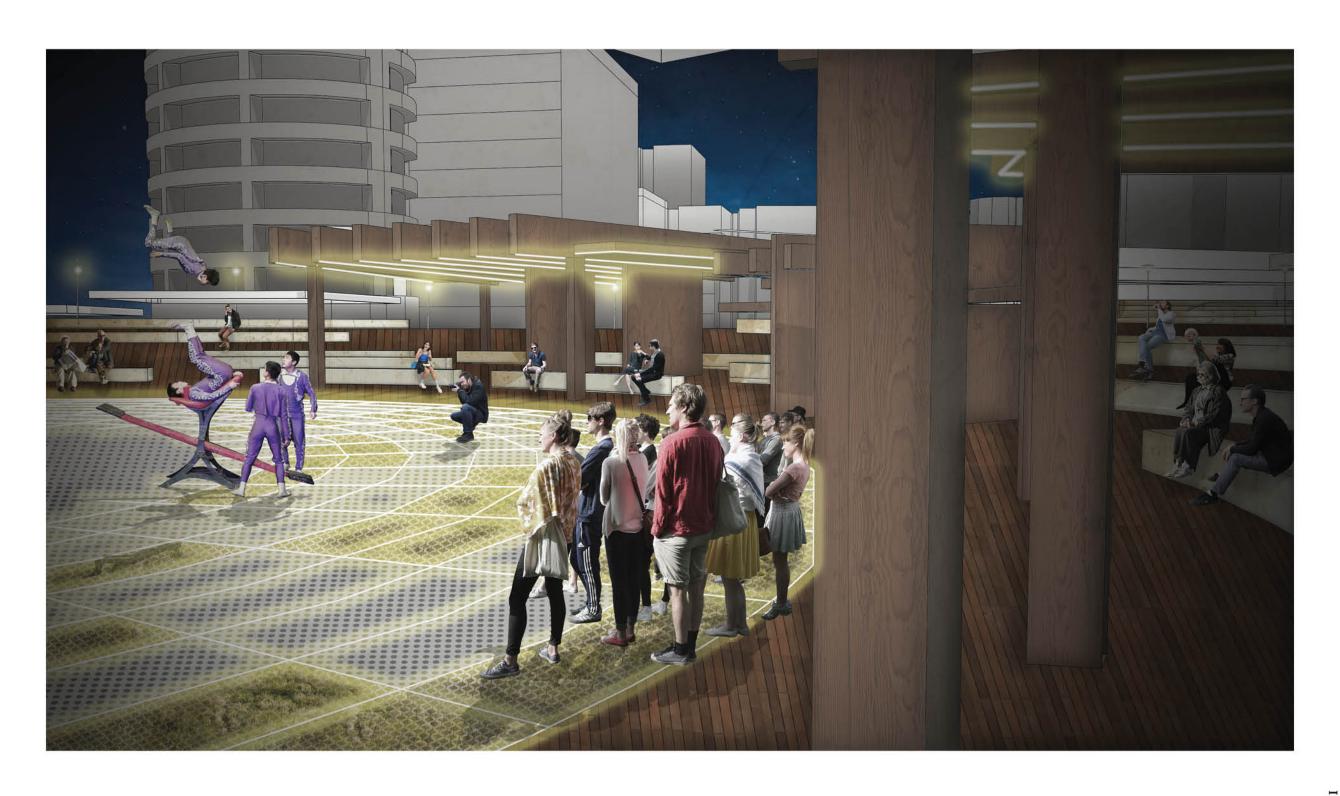




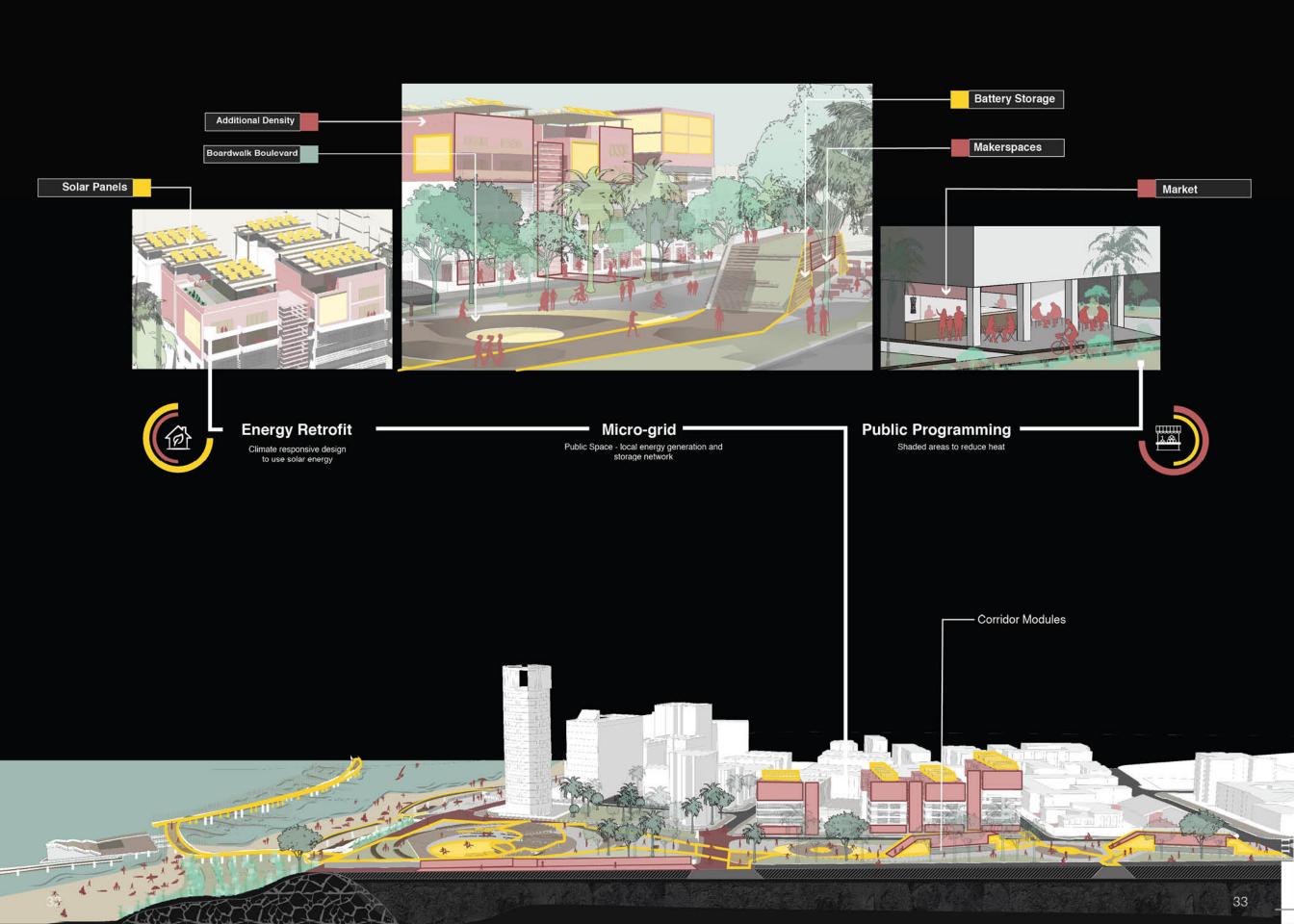


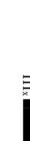


IIIx



XII









02. THEORY OF CITY FORMS

Pacific Ocean

Columbia University Urban Design Studio, Fall. Sep 2019 - Dec 2019.

Team Members : Geon Woo Lee . Yao Yao Hajir Al Khusaibi . Sritoma Bhattacharjee . Ana Perez.





Introduction: Problems and Purpose

For the entire history of civilization, humans have failed to utilize a dominant resource of the Earth -- ocean water. Ocean water covers roughly 71% of the Earth's surface, compared to 29% of the land mass. Yet, humans have historically associated the ocean with fear than opportunity.

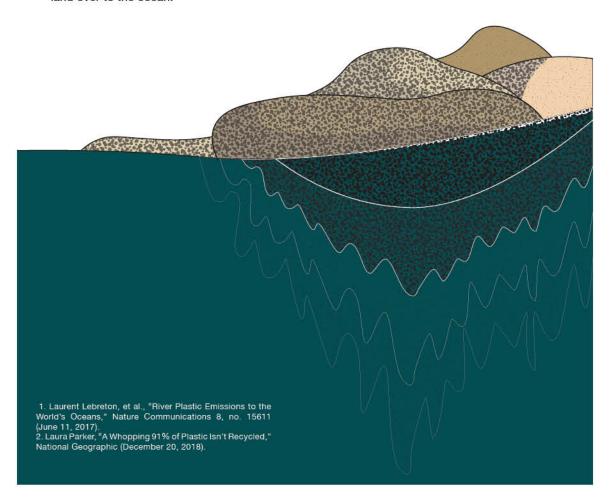
One of the most bad-tempered and vengeful Greek mythological gods, Poseidon, roamed the sea. Herman Melville created a mythical creature Moby Dick, stronger and mightier than humans, living in the treacherous waters. Ernest Hemimway's magnum opus tells the story of a battle between an aging fisherman and a large marlin. In Jaws, a man-eating shark attacks causal beach goers in New England.

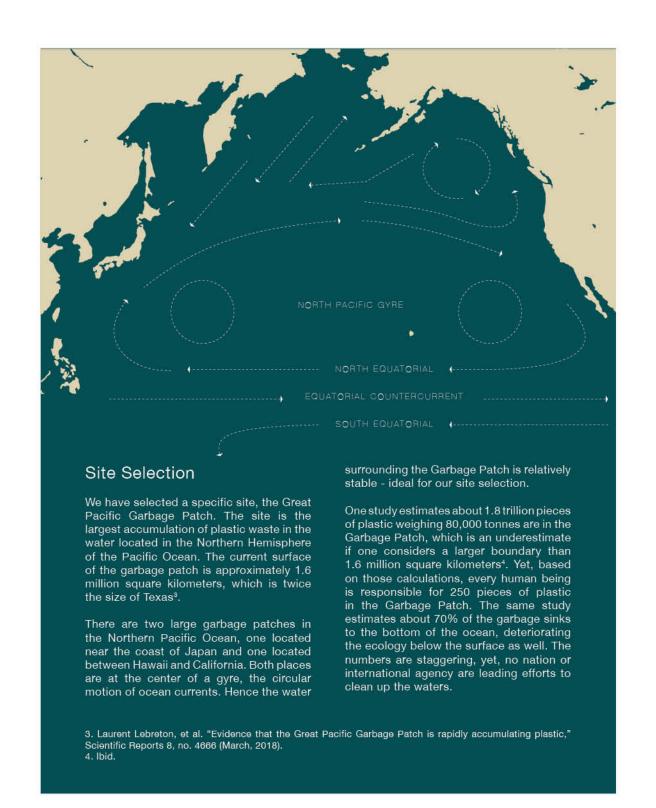
Instead of fearing the water, we believe that people should find mechanisms to use ocean water as a resource. Our belief stems from our collective understanding that cities on land are becoming increasingly dense and we should find ways to combat rises in sea level, which further reduces the amount of land. We believe humans can use water in a sustainable and equitable manner to benefit the globe and our civilization.

We hope that humans can see water as a habitable place. However, in the recent past, people have not found ways to make those goals achievable; in fact, we have contaminated the ocean and made it a less-habitable place.

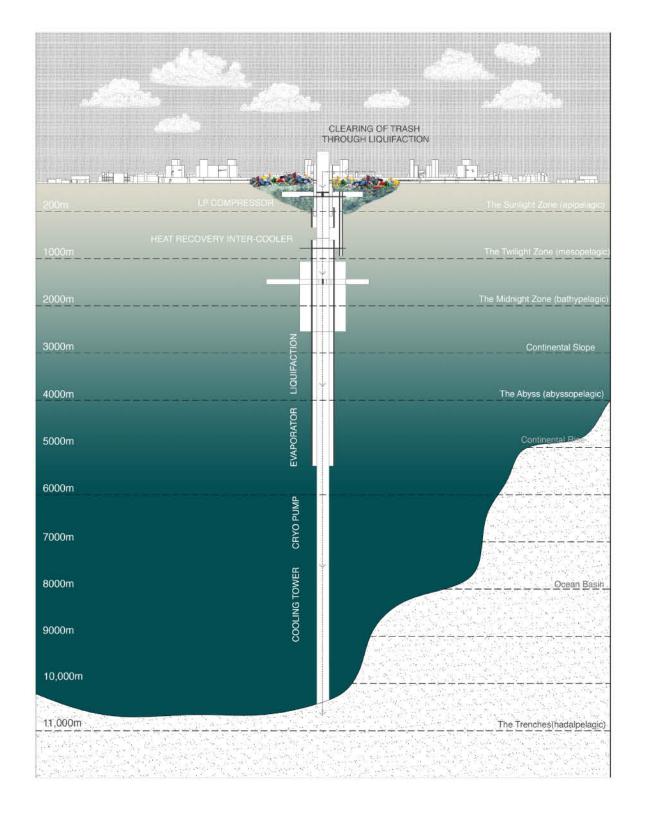
One study estimates about 1.15 to 2.41 million metric tons of plastic waste are entering the ocean every year¹. Plastic is one of the cheapest and most durable materials, which takes at least 450 years and up to 1000 years to decompose. Another similar study estimated that over 8.3 billion metric tons of plastic has been produced in history. Of that, only 9% were recycled, about 79% accumulated in landfills, and the rest went to the water. Simple mathematical calculations approximates 756 million metric tons of plastic waste has ended up in the ocean².

For the project, we hope to address these issues by proposing a city that remediates polluted areas of the ocean and spreads density from the land over to the ocean.









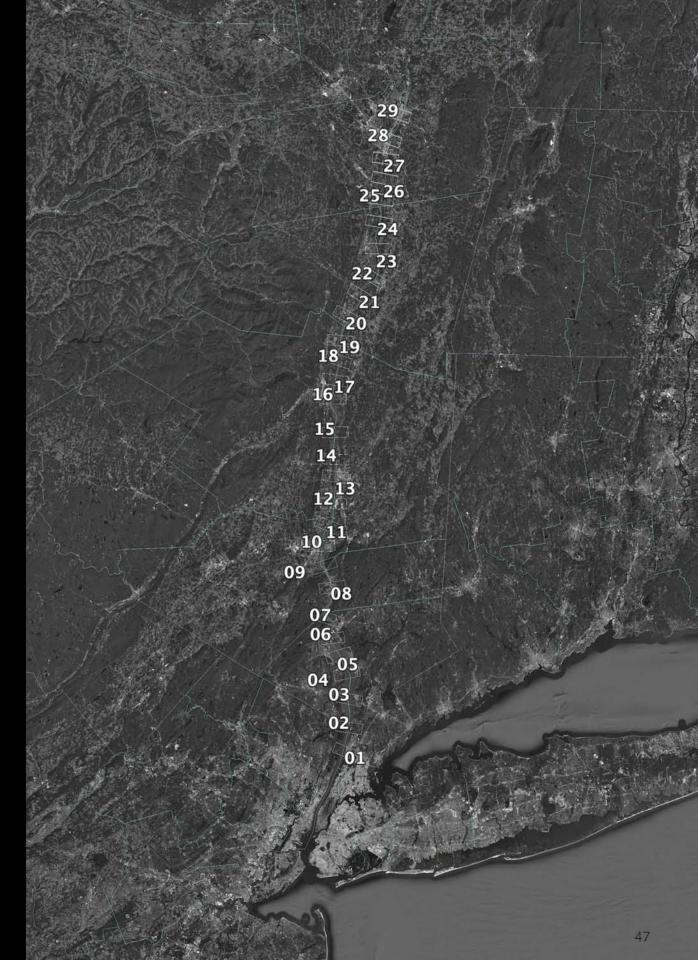
Region

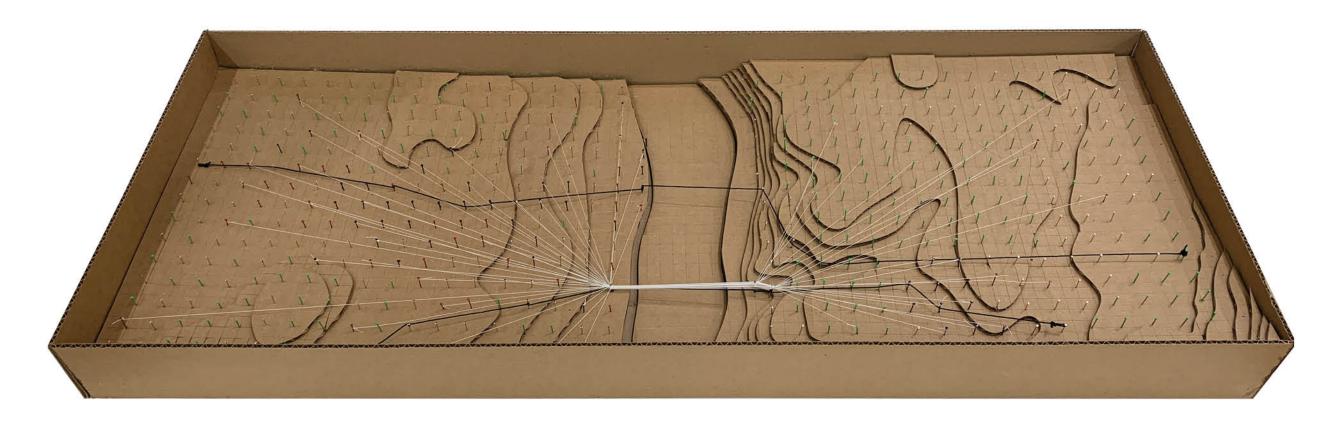
 $III_{\mathbf{x}}$

Exploration of Region started by cutting 29 slices and creating three-dimensional transect. The transect was an expression of larger urban forces shaping the landscape of the Hudson Valley.

A climate responsive legislation, Green New Deal drafted by Congress woman Alexandria Ocasio-Cortez was an integral lense to understanding this scale. A simple study of series sections helped us define a region. Looking at micro and macro strategic responses at this scale, we dealt with on ground participatory solutions as well as larger policy based changes.







Transect through Poughkeepsie.

The newly refurbished Walkway over the Hudson river has triggered commercial water front development connecting the separated neighborhoods due to

Highway infrastructure.

01. These Routes are Not Made For Walking

Hudson Valley, New York

Columbia University Urban Design Studio, Fall Sep 2019 - Dec 2019.

Team Members : Yile Xu, Jaime Palacios, Kuna Mokasdar, Lino Caceres.



Decades of failed policies and speculation have enabled Sprawl to spread pollution across the Hudson Valley. The GND presents itself as an opportunity to create programs that empower stakeholders, and redirect resources towards the reversal of this trend.

Sprawl has been one of the major contributors to the increase in carbon emissions, due to its dependence on private vehicles, and by replacing natural carbon sequestering landscapes with artificial lawns; our strategy addresses both effects simultaneously.

The infrastructure is already there, all we need is to do is update and equip it to actually serve its purpose: connect. Taking

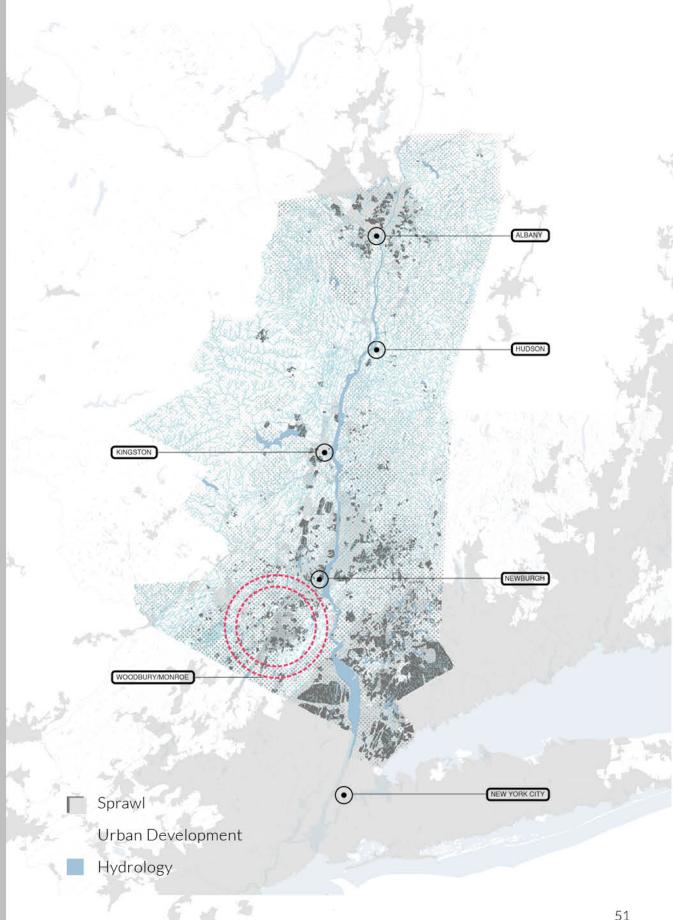
Advantage of these connections, we bolster existing activity nodes, and promote the creation of new ones.

Newly protected grounds derived from

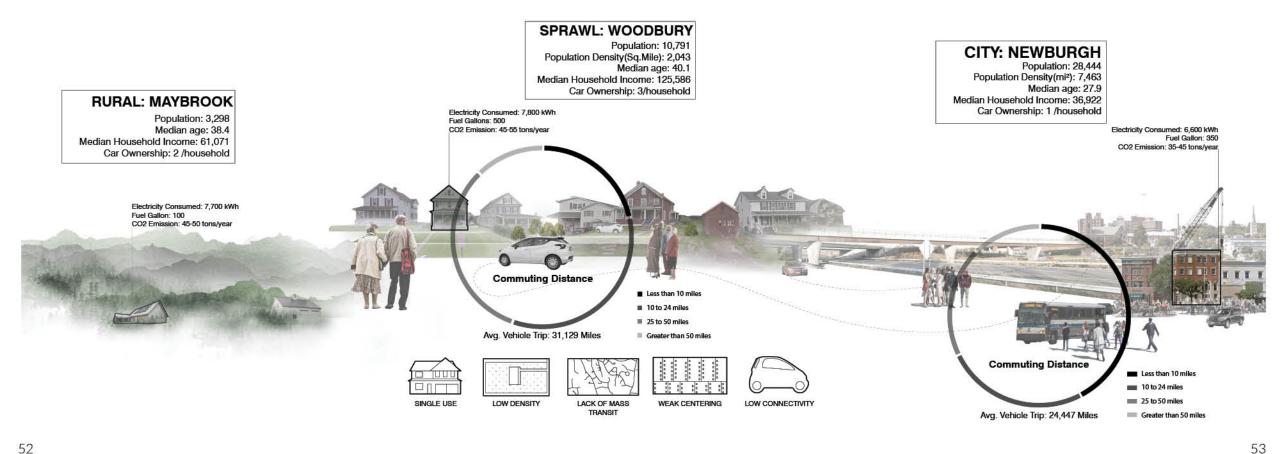
enforcing existing guidelines, created room for green corridors that punctured the boundaries of isolated communities, integrating them to a new forest linking Landscape, with open public spaces.

The project doesn't reach its maximum potential when all the paths are built, but when the lifestyle of suburban dwellers.

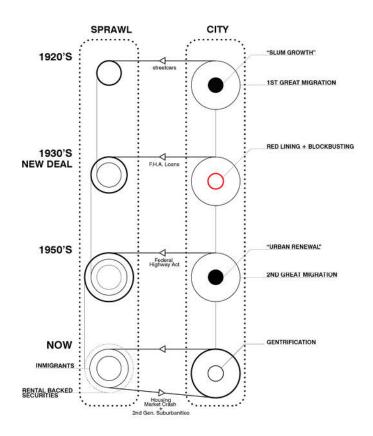
Harmoniums with their surroundings



"Spraw! has been one of the major contributors to the increase in carbon emissions, due to its dependence on **private vehicles**, and by replacing natural carbon sequestering landscapes with artificial lawns"



"The GND presents itself as an opportunity to create programs that empower stakeholders, and redirect resources towards the reversal of this trend"



RESOLUTION

1	Recognizing the duty of the	Federal Government to creat	e
	a Green	New Deal.	

Whereas the October 2018 report entitled "Special Report on Global Warming of 1.5 "C" by the Intergovernmental Panel on Climate Change and the November 2018 Fourth National Climate Assessment report found that—

 human activity is the dominant cause of observed climate change over the past century;

(2) a changing climate is causing sea levels to rise and an increase in wildfires, severe storms, droughts, and other extreme weather events that threaten human life, healthy communities, and critical infrastructure;

- (3) global warming at or above 2 degrees Celsius beyond preindustrialized levels will cause—
- (A) mass migration from the regions most affected by climate change;
- (B) more than \$500,000,000,000 in lost annual economic output in the United States by the year 2100.
- (C) wildfires that, by 2050, will annually burn at least twice as much forest area in the western United States than was typically burned by wildfires in the years preceding 2019;
- (D) a loss of more than 99 percent of all coral reefs on Earth;
- (E) more than 350,000,000 more people to be exposed globally to deadly heat stress by 2050; and
- (F) a risk of damage to \$1,000,000,000,000 of public infrastructure and coastal real estate in the United States; and

(A)	buildi	ng	res	ilien	cy ag	ainst	elim
hange-re	lated	dis	aste	TS,	such	as	extre
ceather,	includ	ing	by	leve	raging	fune	ling a
roviding	inves	tme	nts	for	comm	nunit	y-defii

(B) repairing and upgrading the infra structure in the United States, including—

 (i) by eliminating pollution and greenhouse gas emissions as much as technologically feasible;

(ii) by guaranteeing universal access to clean water;

12

21

22

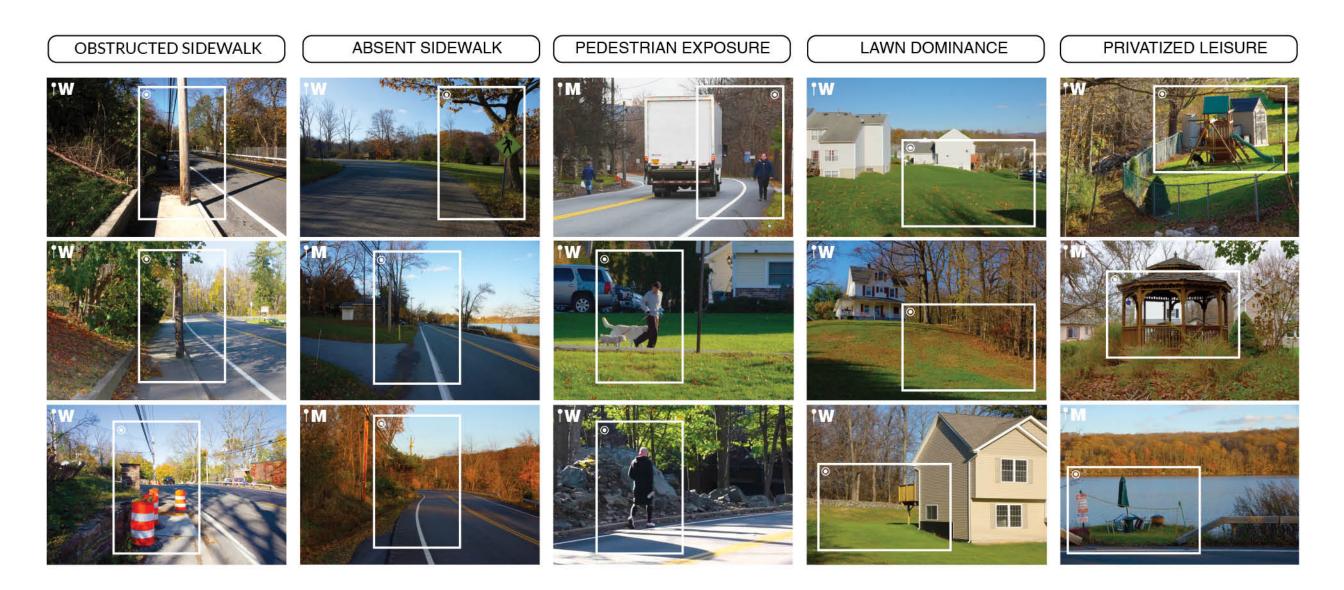
23

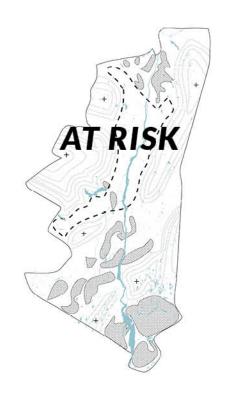
- (iii) by reducing the risks posed by climate impacts; and
- (iv) by ensuring that any infrastructure bill considered by Congress addresses climate change;
- (C) meeting 100 percent of the power demand in the United States through clean, renewable, and zero-emission energy sources, including—
- (i) by dramatically expanding and upgrading renewable power sources; and

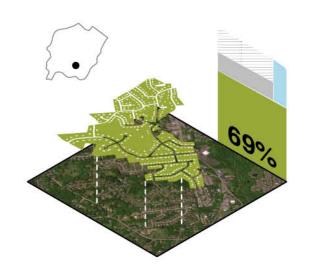
(ii) by deploying new capacity;

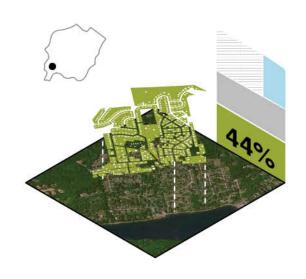
•HRES 109 IH

WHY DO WE PREFER CARS?

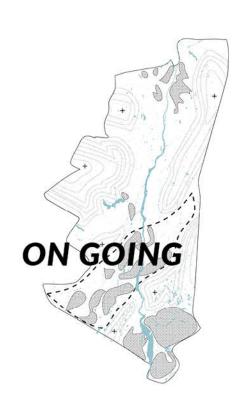


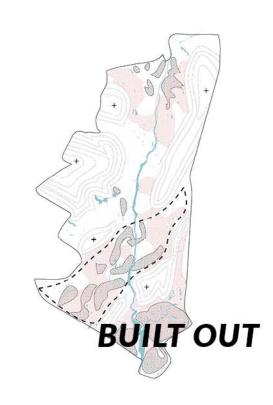


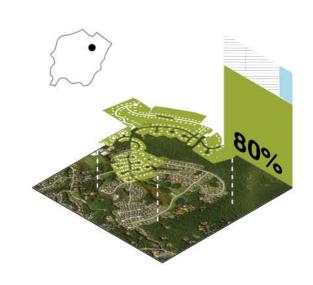


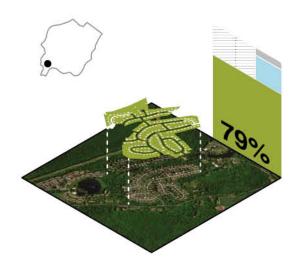


SPRAWL'S LAND USE





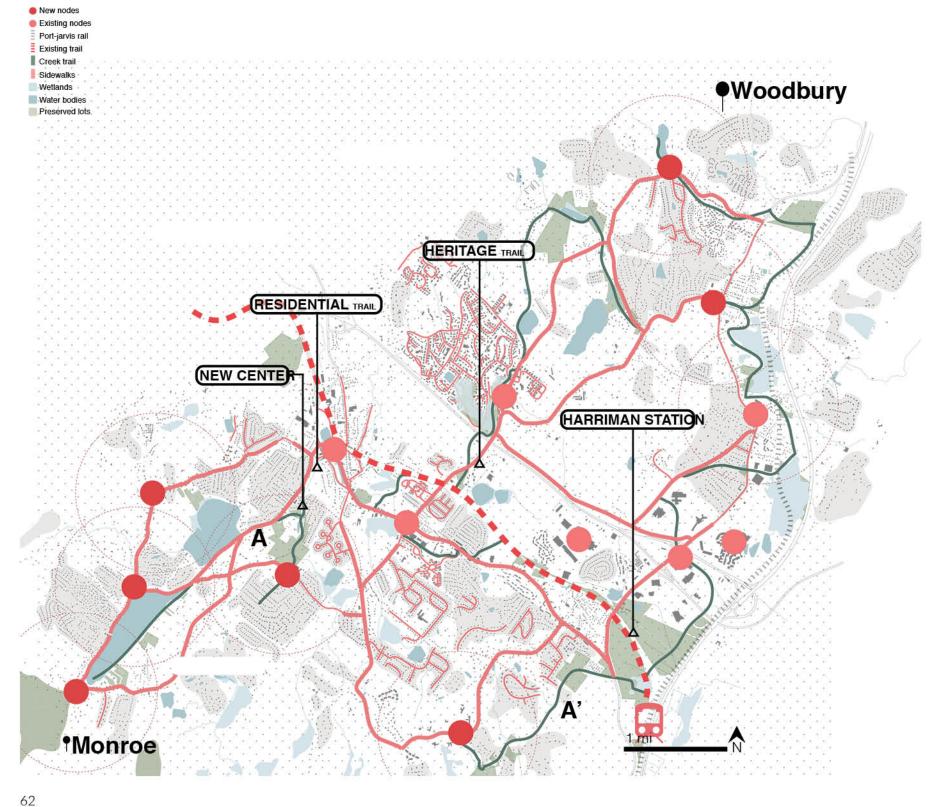


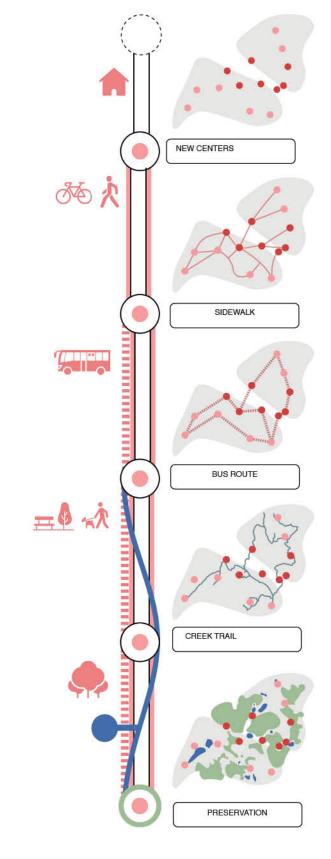


ACTIVITY NODES ARE DISCONNECTED BETWEEN THEM AND WITH MOST OF THE SITE. **EXISTING DISCONNECTION** Port-jarvis rail Existing trail Closed trail Existing sidewalks existing nodes Sprawl **●**Woodbury Vacant lands Wetlands NEW CENTERS Water bodies 参次 TO MIDDLETOWN SIDEWALK LAST TRAIL EXIT BUS ROUTE END OF TRAIL CREEK TRAIL PRESERVATION ● Monroe

PROPOSED
PATHWAYS AND NEW
CONNECTED NODES,
TAKE ADVANTAGE OF
EXISTING
INFRASTRUCTURE TO
MITIGATE PERSONAL
VEHICLE
DEPENDENCE.

PROPOSED NETWORK

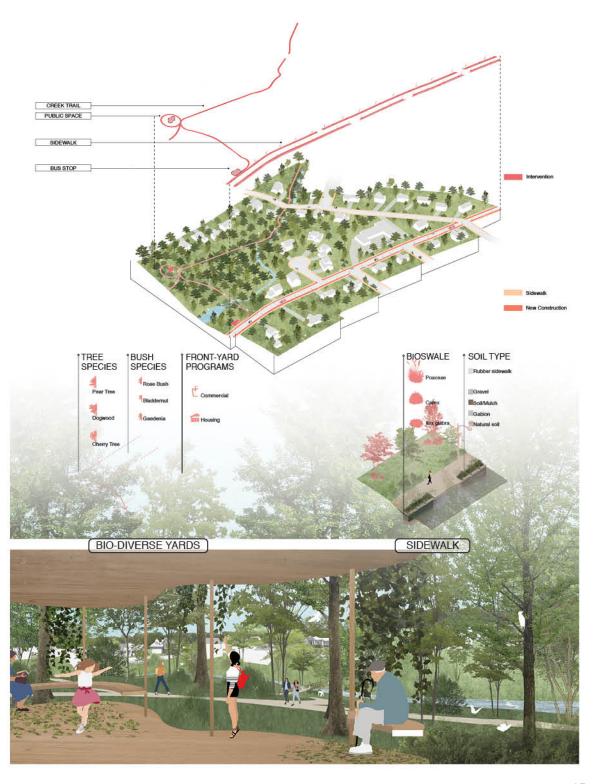




New Center

SENIOR CENTER FARM MARKET CO-WORKING RESTAURANT ROOF GARDEN WAREHOUSE BUS STOP †NEW PLUG-†BUSH SPE-SCHOOL BUS/ REPROGRAM-PUBLIC TRANSPORTA-School Bus: 6:00 -- 8:30 14:00 CREEK TRAIL REPROGRAM-

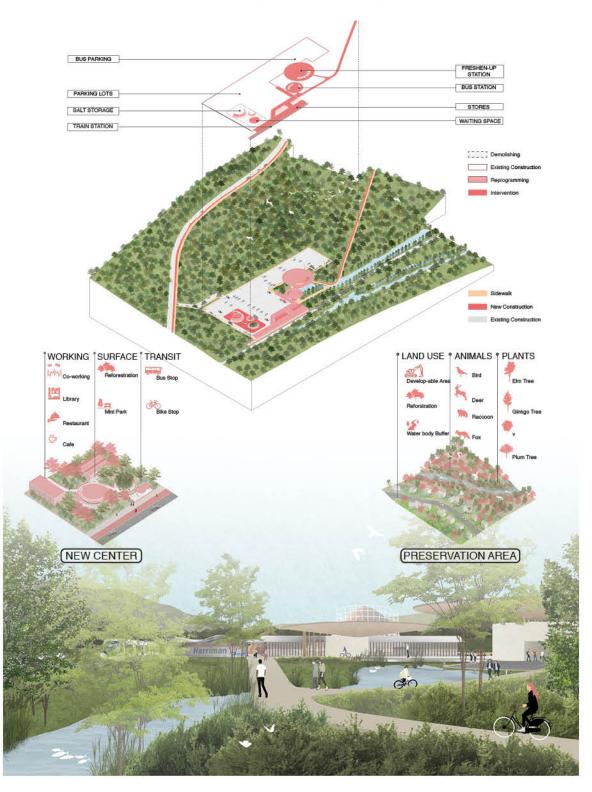
Residential Trail



Heritage Trail



Train Station



78% of the land occupied by sprawl in Woodbury and Monroe is lawn.

Workshop Questions

- 1. There are already regulations in place that could facilitate the completion of this project (D.E.P. regulations defining setbacks and buffer zones along wetlands and water bodies, A.D.A. Standards, etc.), these regulations are not currently enforced, should there be a different type of overseeing? or is there a way we could promote compliance by incentives?
- 2. Our proposed system connects public and private properties via trails. What would this public/private partnerships look like? who would have a stake in managing and maintaining the spaces? what would a new commission look like?





02. Speculative City

Woodbury, NY

Columbia University Urban Design Studio, Spring, Jan 2020 - Apr 2020.



Managed Retreat For the Suburbs

Kunal Mokasdar | MSAUD | GSAPP Spring 20 | Speculative City | Prof. David Eugin Moon

Decades of failed policies and speculation have enabled Sprawl to spread pollution across the Hudson Valley. The GND presents itself as an opportunity to create mechanisms that empower the large scale moves that trigger reversal of this trend.

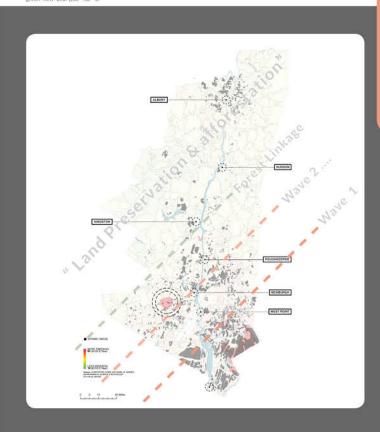
The upstate sprawl Bomb¹ has been one of the major contributors to the increase in carbon emissions, due to its dependence on private vehicles, and by replacing natural carbon sequestering landscapes with

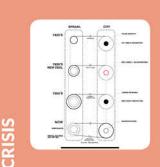
The proposal speculates the rapid shift towards walkable density and conversion of lawns into land preservation and afforestation?.

1. Fleischer, Peter, Angie Schmitt, Noah Kazis, Gary Toth, and Aaron Donovan, "Why NYC Residents Should Care About the Upstate Sprawl Bomb." Streetsblog New York City, June 4, 2010. https://www.streetsblog.org/2010/06/04/why-nec-residents-should-care-about the Upstate Sprawl Bomb." Streetsblog New York City, June 4, 2010. https://www.streetsblog.org/2010/06/04/why-nec-residents-should-care-about the Upstate Sprawl Bomb." Streetsblog New York City, June 4, 2010. https://www.streetsblog.org/2010/06/04/why-nec-residents-should-care-about the Upstate Sprawl Bomb." Streetsblog New York City, June 4, 2010. https://www.streetsblog.org/2010/06/04/why-nec-residents-should-care-about the Upstate Sprawl Bomb." Streetsblog New York City, June 4, 2010. https://www.streetsblog.org/2010/06/04/why-nec-residents-should-care-about the Upstate Sprawl Bomb." Streetsblog New York City, June 4, 2010. https://www.streetsblog.org/2010/06/04/why-nec-residents-should-care-about the Upstate Sprawl Bomb." Streetsblog New York City, June 4, 2010. https://www.streetsblog.org/2010/06/04/why-nec-residents-should-care-about the Upstate Sprawl Bomb." Streetsblog New York City, June 4, 2010. https://www.streetsblog.org/2010/06/04/why-nec-residents-should-care-about the Upstate Sprawl Bomb." Streetsblog New York City, June 4, 2010. https://www.streetsblog.org/2010/06/04/why-nec-residents-should-care-about the Upstate Sprawl Bomb." Streetsblog New York City, June 4, 2010. https://www.streetsblog.org/2010/06/04/why-nec-residents-should-care-about the Upstate Sprawl Bomb.

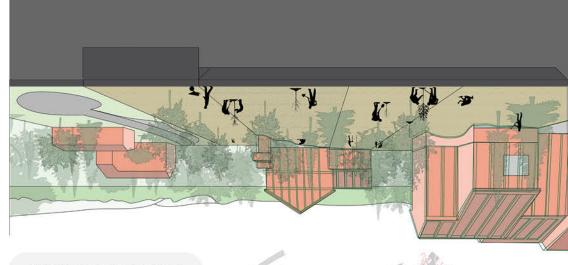
the unstate sprawl-bomb/.

2. Ocasio Cortex, Alexandria. **I-Res.109 - 116th Congress (2019-2020): Recognizing the Duty of the Federal Government to Create a Green New Deal? Oragress,gow, February 12, 2019, https://www.congress.gow/bill/116th-congress/house-resolution/109?q=[Search*]*green+new+deal*]i8s+48r=1.









The proposal takes the case of Woodbury located right next to Harriman train Station in Orange county, NY to demonstrate retreat of suburban settlement. Taking advantage of the Green New Deal, preservation of landscape can become a new way of earning increased FAR in the designated areas marked out in collaboration with the town planning department.

O

One of the major factors that drive this project is the existence of public trail over decayed industrial infrastructure. The Cultural and communal activities are concentrated along this trail amidst sporadic SFH sprawl. This occurrence becomes an opportunity to respond walkable neighborhoods and workspaces. The new density brings together the ideas of incremental growth, collective public spaces, pedestrian infrastructure and mixed use commercial development.

This project is imagined over a 50 years time frame where the incoming population can get accommodated along with owners opting for the exchange. Also this speculation evokes the sense of urgency and asks will there sequestering ability?



be a threshold? Can we define what's peak sprawl? Can rapid retreat heal the climate and its



Population Density/sq.mile - 3250



Population Density/sq.mile - 2000

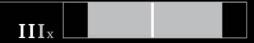


Population Density/sq.mile - 7500

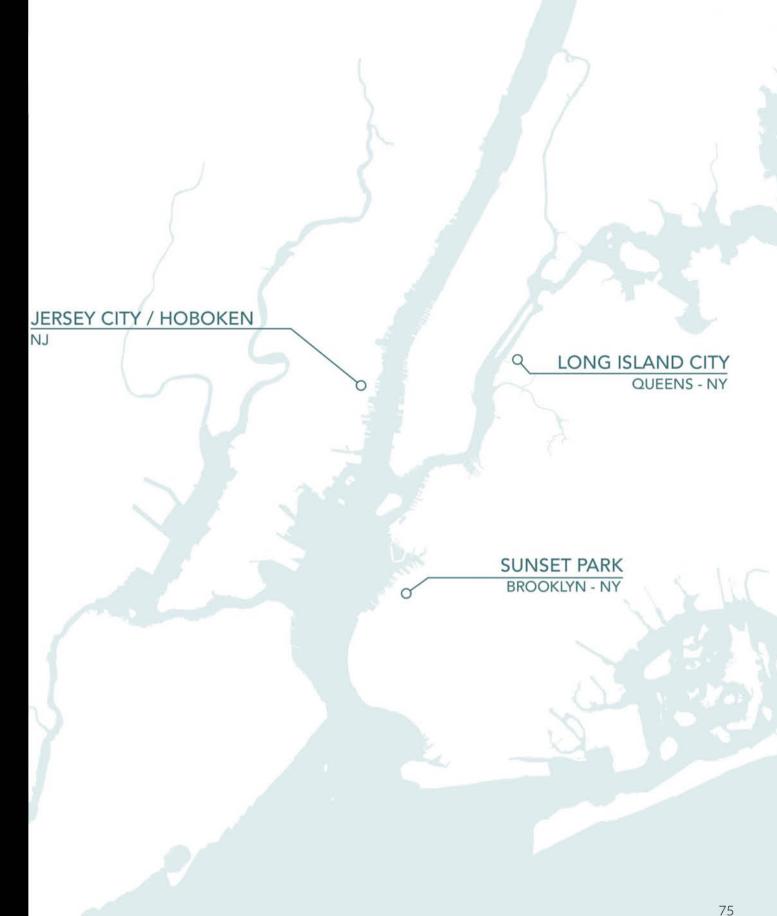




Urban District



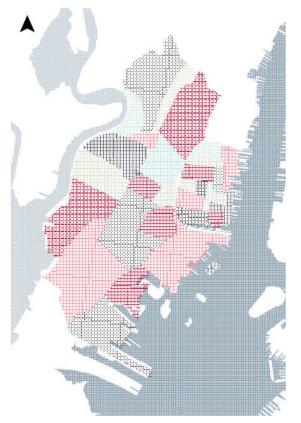
Urban District is a swatch of study within a larger city context. Urban district scale helped us define many conceptual ideas. Understanding of Neighborhoods, Zoning Laws, ecosystems, etc. This scale is what introduces us to urban design. We zoom in further and further to understand details, Layers, community and people. The Idea of Derive; wondering without a fixed route to explore is what becomes a tool. Walking around on foot absorbing information with all our senses and collating this in a communicative way was the learning. This section presents a series of study areas that were in and around New York.





Urban Derive

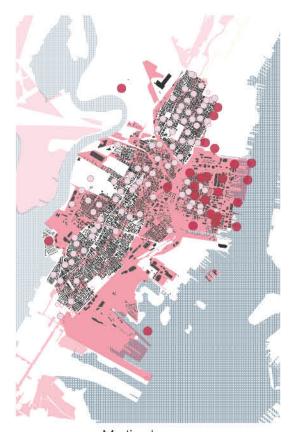
Model Constructed from on site materials.







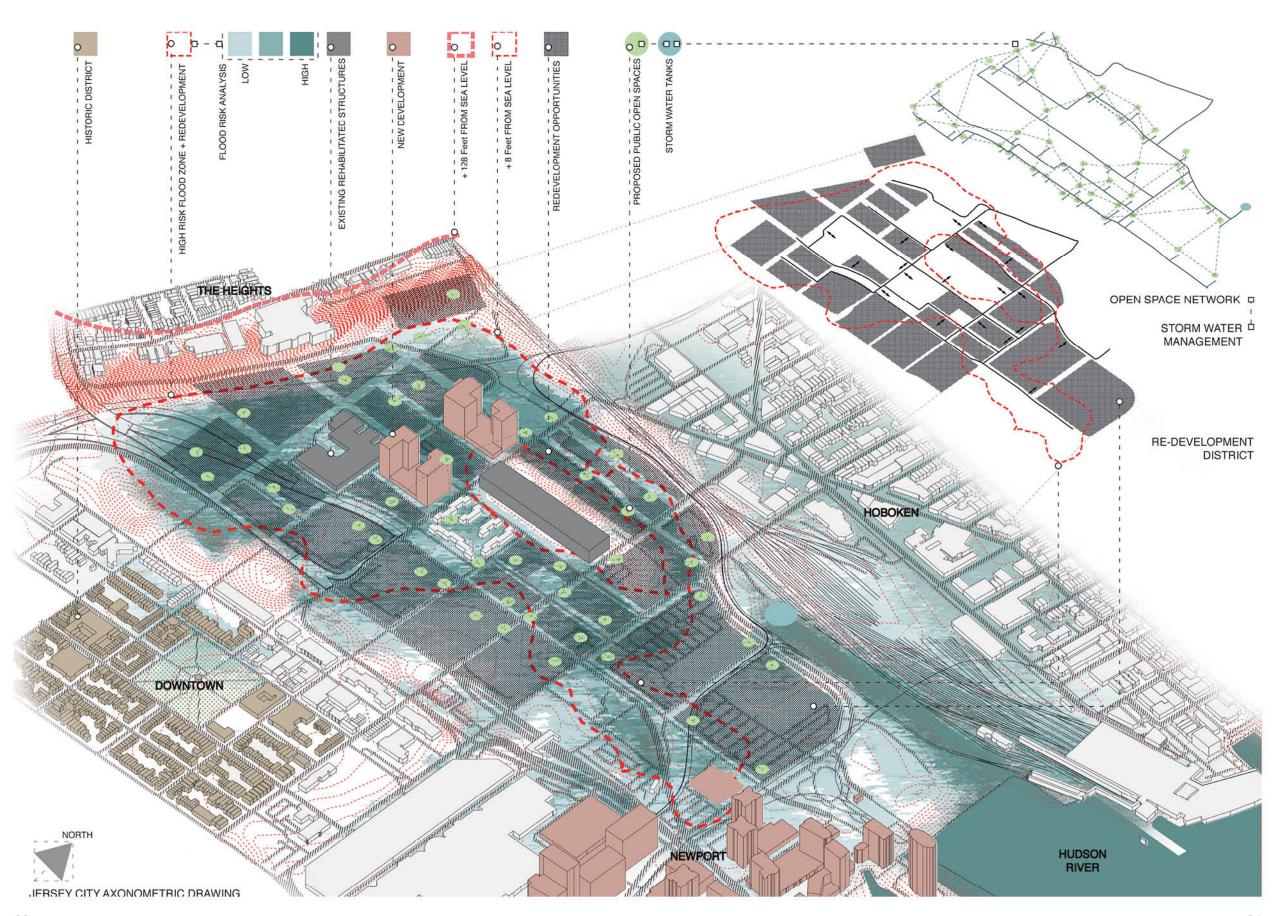
Land form & Green Spaces



Site Construction Jersey City, NJ



Median Income



01. Re-Development Climate District

Blah Blah Blah Description one liner

Hudson Valley, New York

Columbia University Urban Design Studio summer, June 2019 to Aug 2019

Team Members: Moneera Al-Ajaji, Alvi-R-Kha



How often do we get an opportunity to rethink our cities?

Jersey City today, has 33 percent of its area under redevelopment. Does this give us the chance to re-imagine the city? The way we construct it? The way we address public spaces and the influx of population Can the new development look forward to mitigating looming climate threats?

We are proposing a set of strategies addressing this development. A set of guidelines that overlay sectionally on the existing planar zoning. Through these strategies, we want to achieve resilient built forms with inclusive public spaces.

Goals

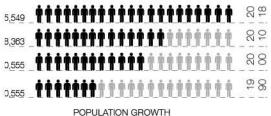
Encourage and support resiliency on new development throughout the current and future floodplains. Introducing resilient temporary programs in the ground level. The programs are driven by the needs of the users to improve current street-scape

The city is growing, and its growth is at a rapid pace. It's accommodating more and more people, optimizing the available floor area. The graph of density is escalating at an exponential rate.

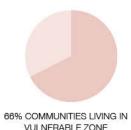
Now is the time to iterate the way we envision our cities.



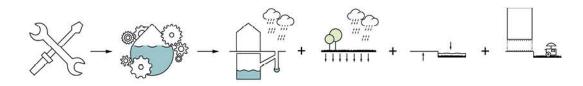




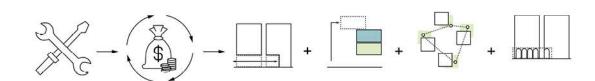




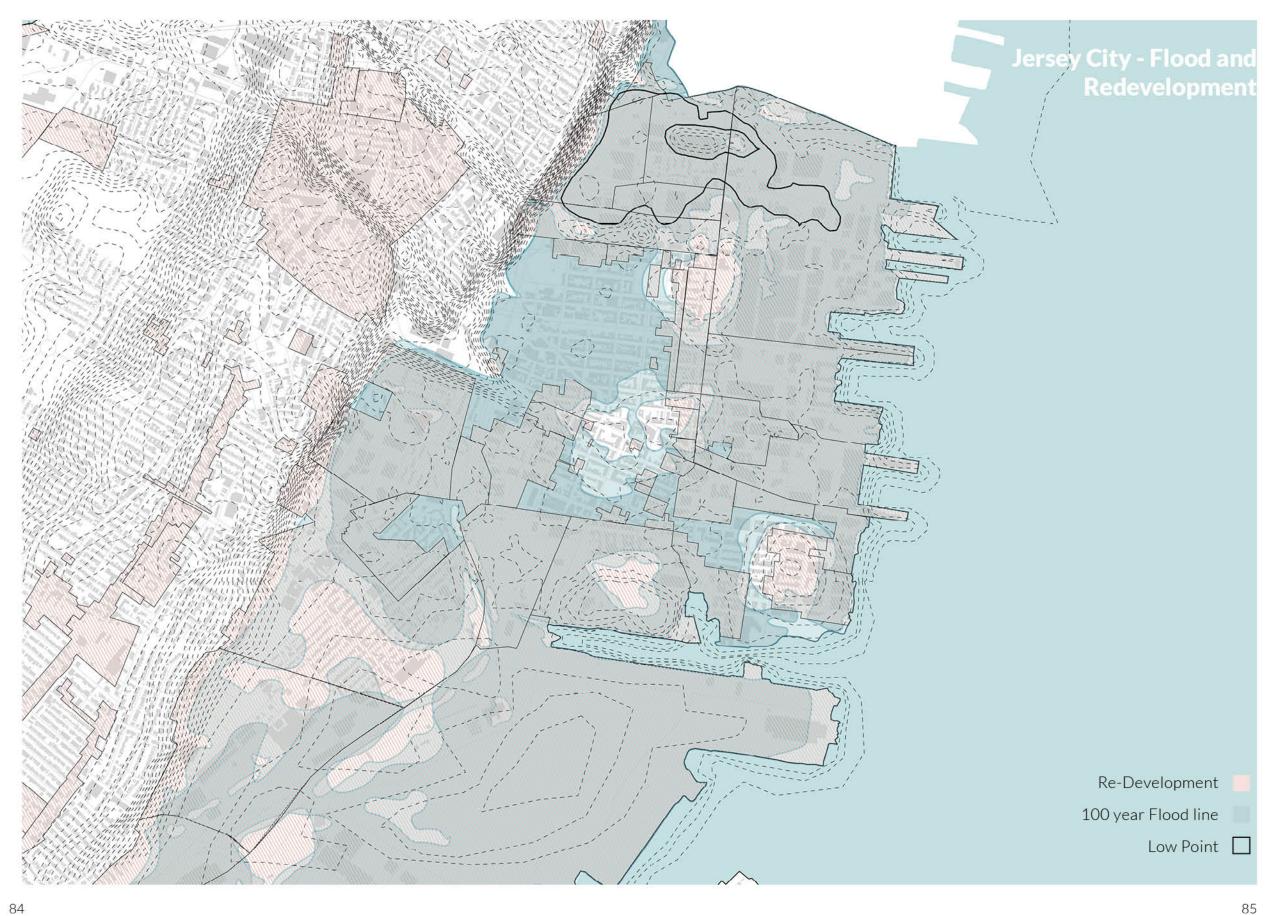
TION GROWTH 30.5 %
REDEVELOPMENT ZONE

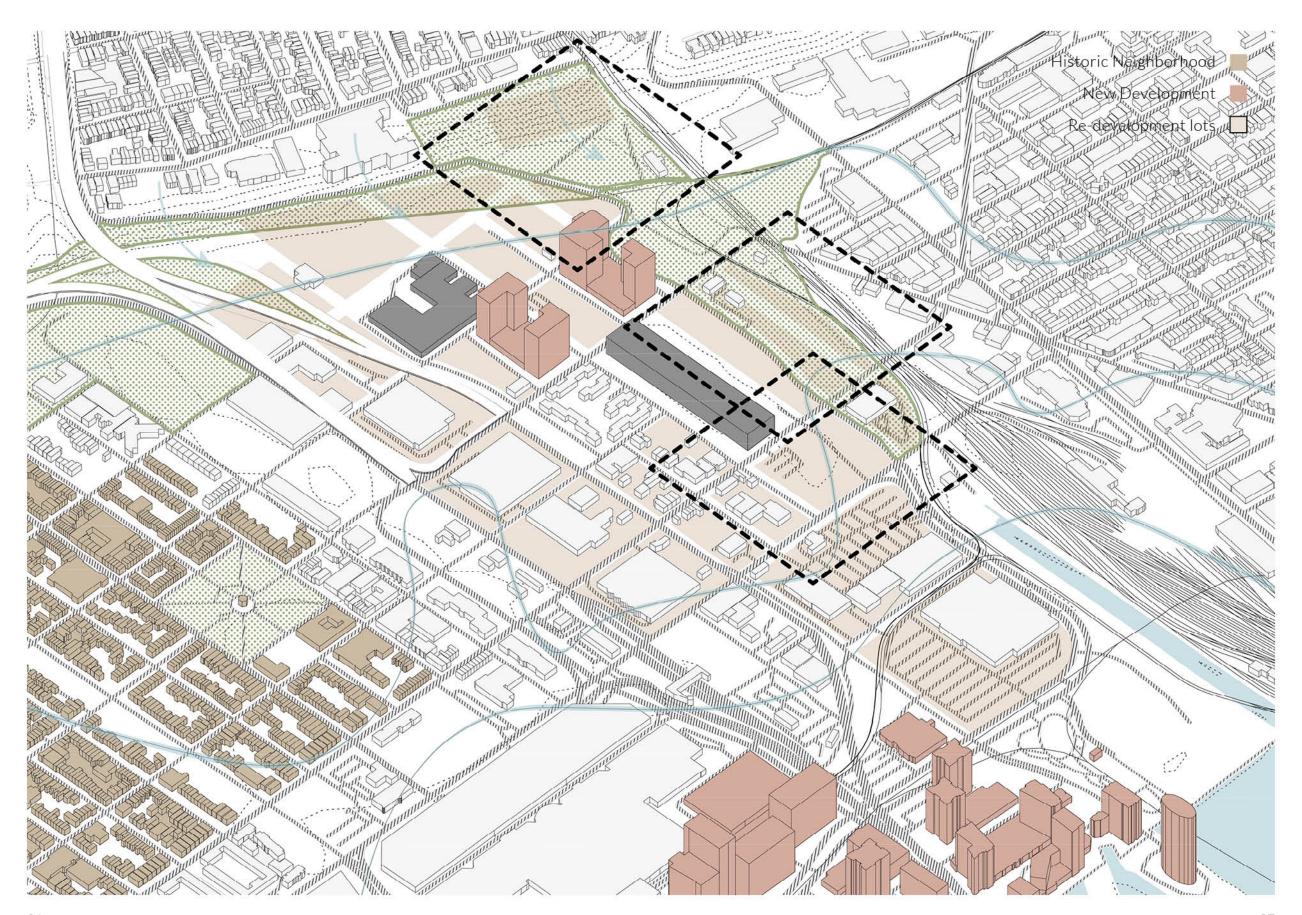


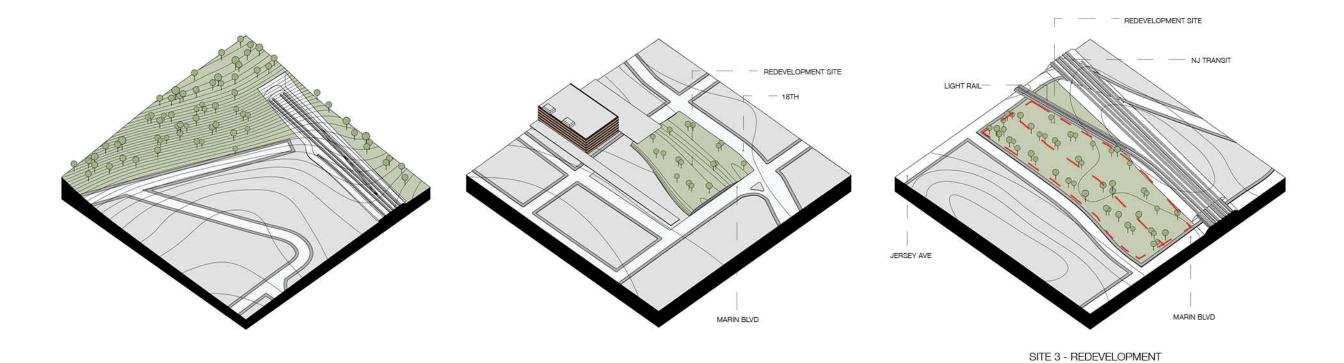
RESILIENT REDEVELOPMENT

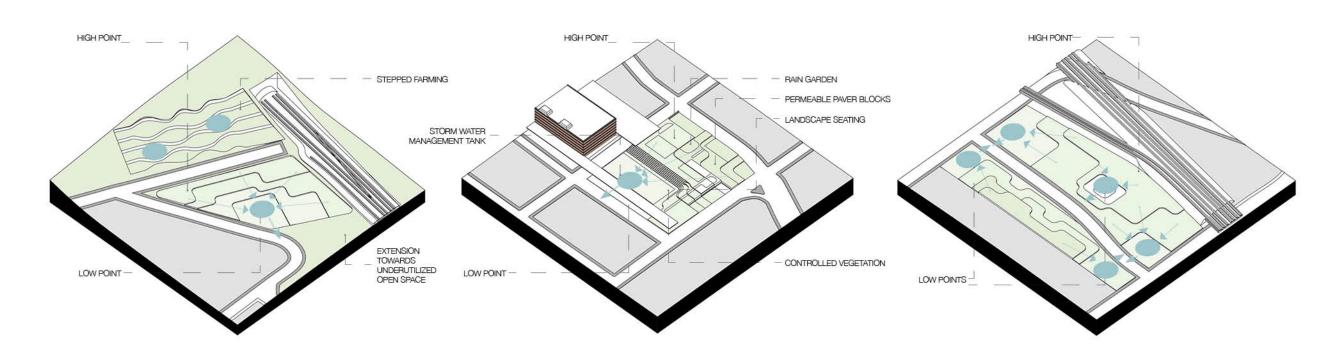


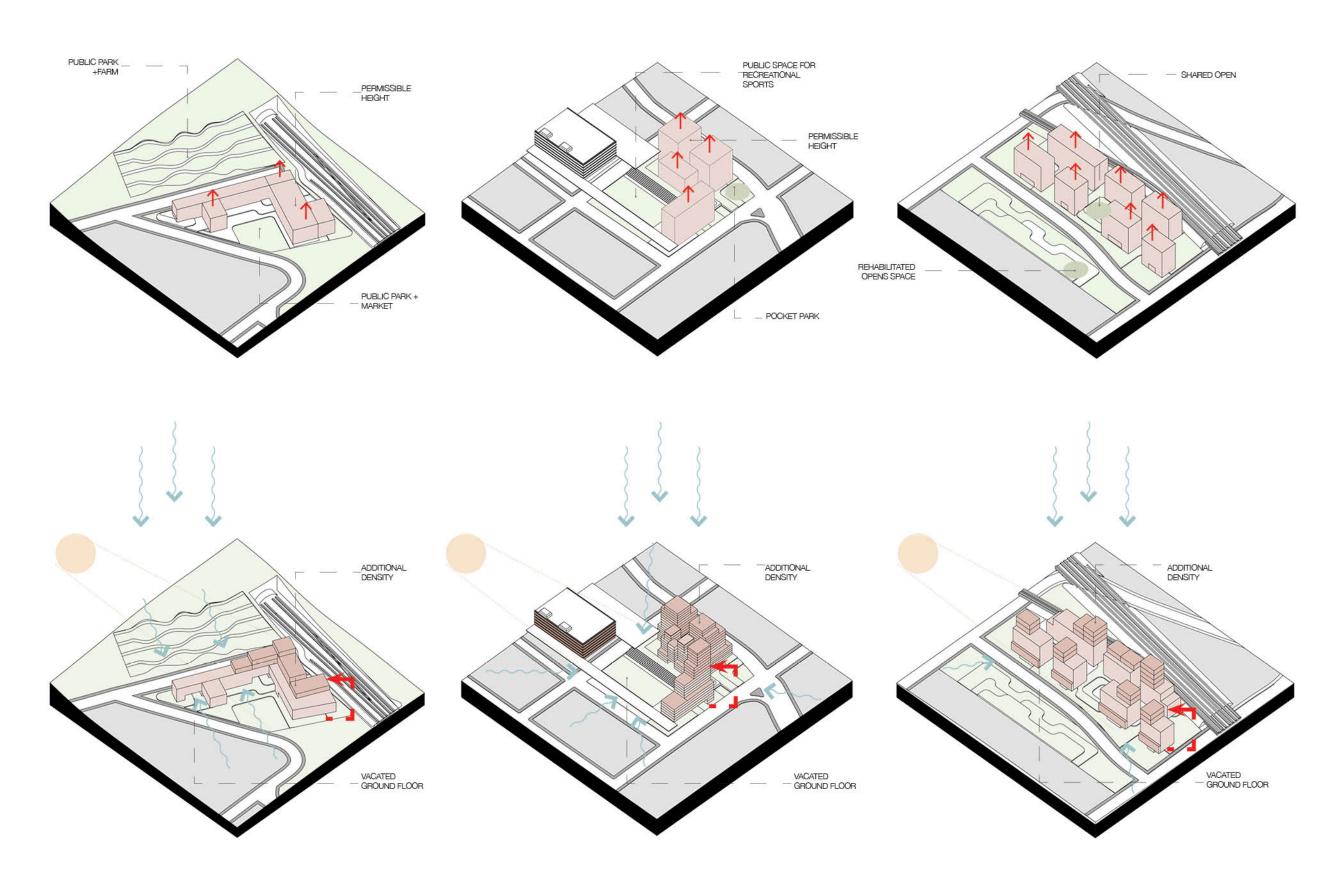
PERMEABLE GREEN SPACE NETWORK

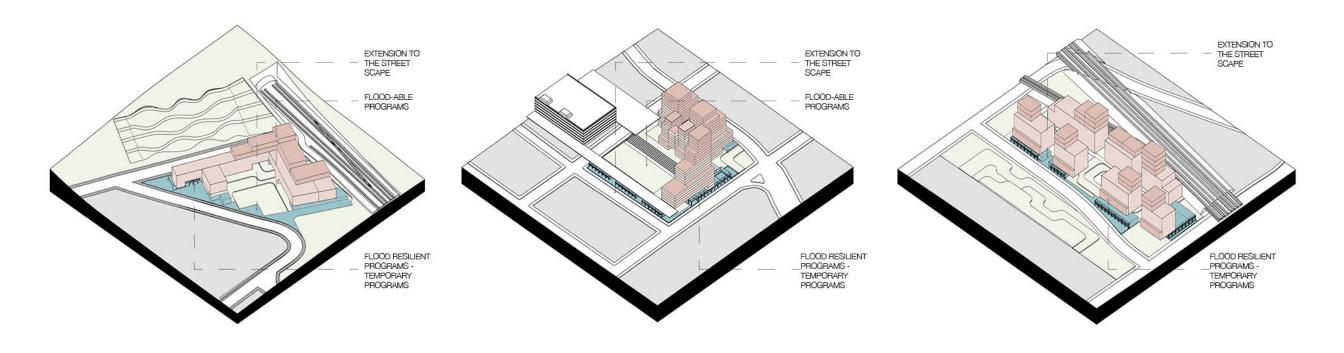


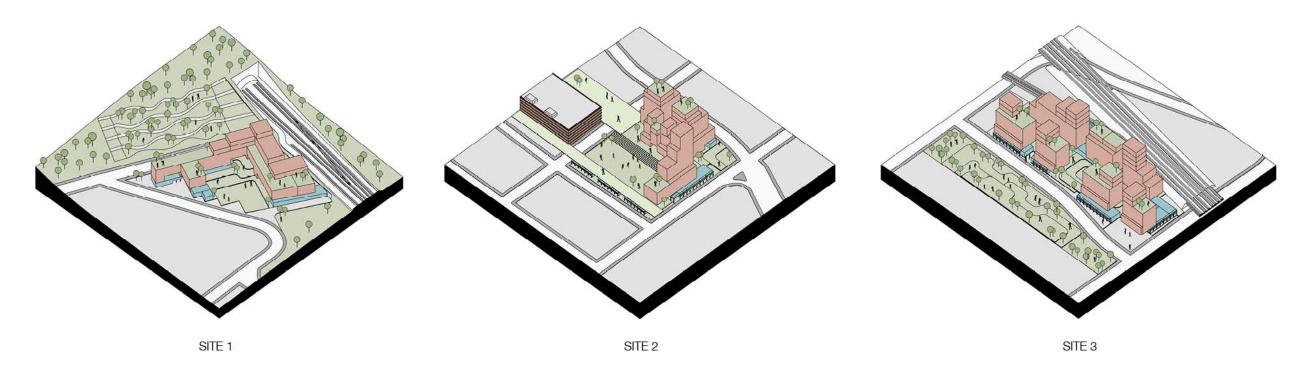












02. Reading New York Urbanism

Hoboken, NJ

Columbia University Urban Design Studio, summer, June 2019 to Aug 2019

Team Members: Kuan-I-wu, Zhou-Wu





















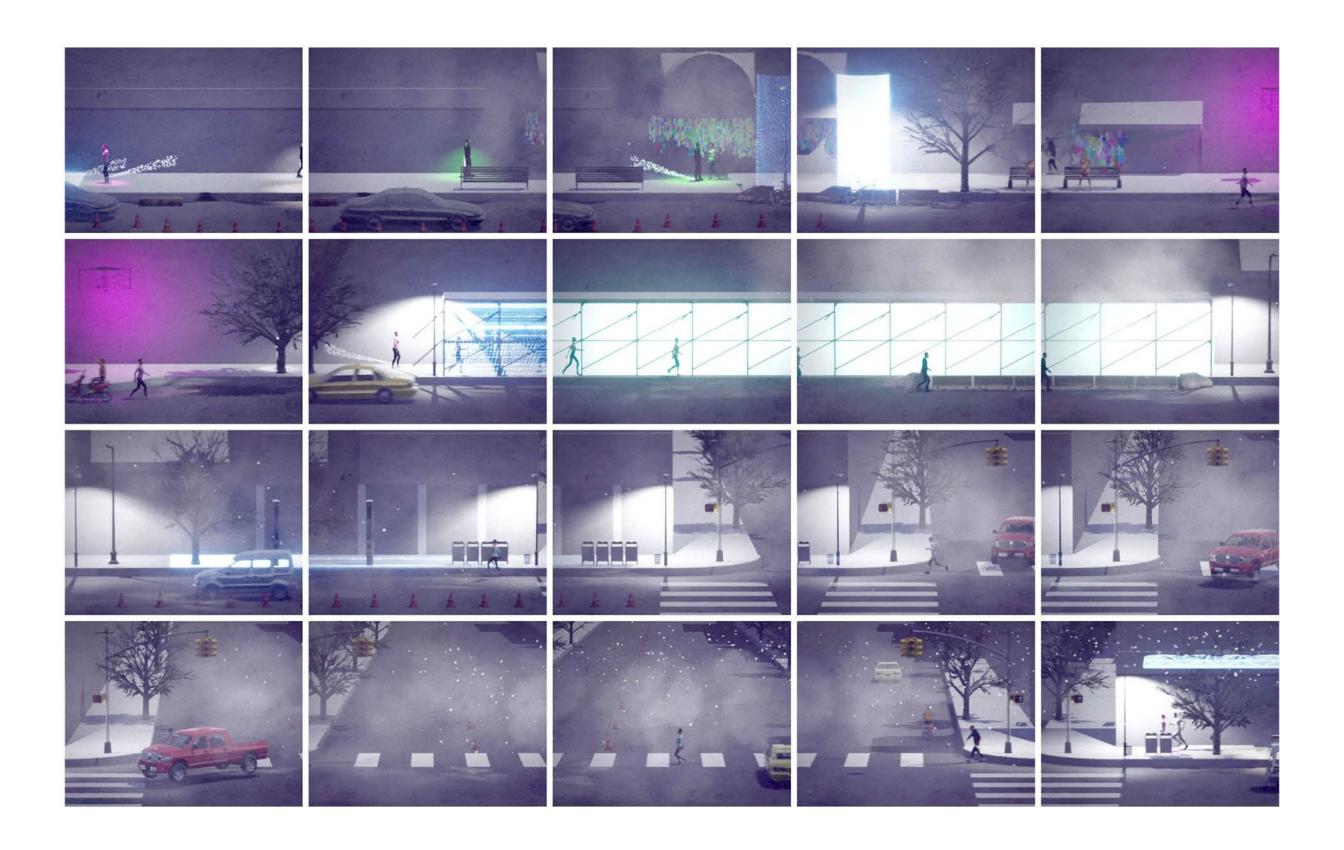
03. Unreal

Somewhere In, NY

Columbia University Urban Design Studio, Fall. Sep 2019 - Dec 2019.

Team Members : Elie Zinoun





04. Points Unknown - Cartographic Narratives

Inwood, NY

Columbia University Urban Design Studio, Spring, Jan 2020 - Apr 2020.

Team Members: Nupur Roy, Helen Winter

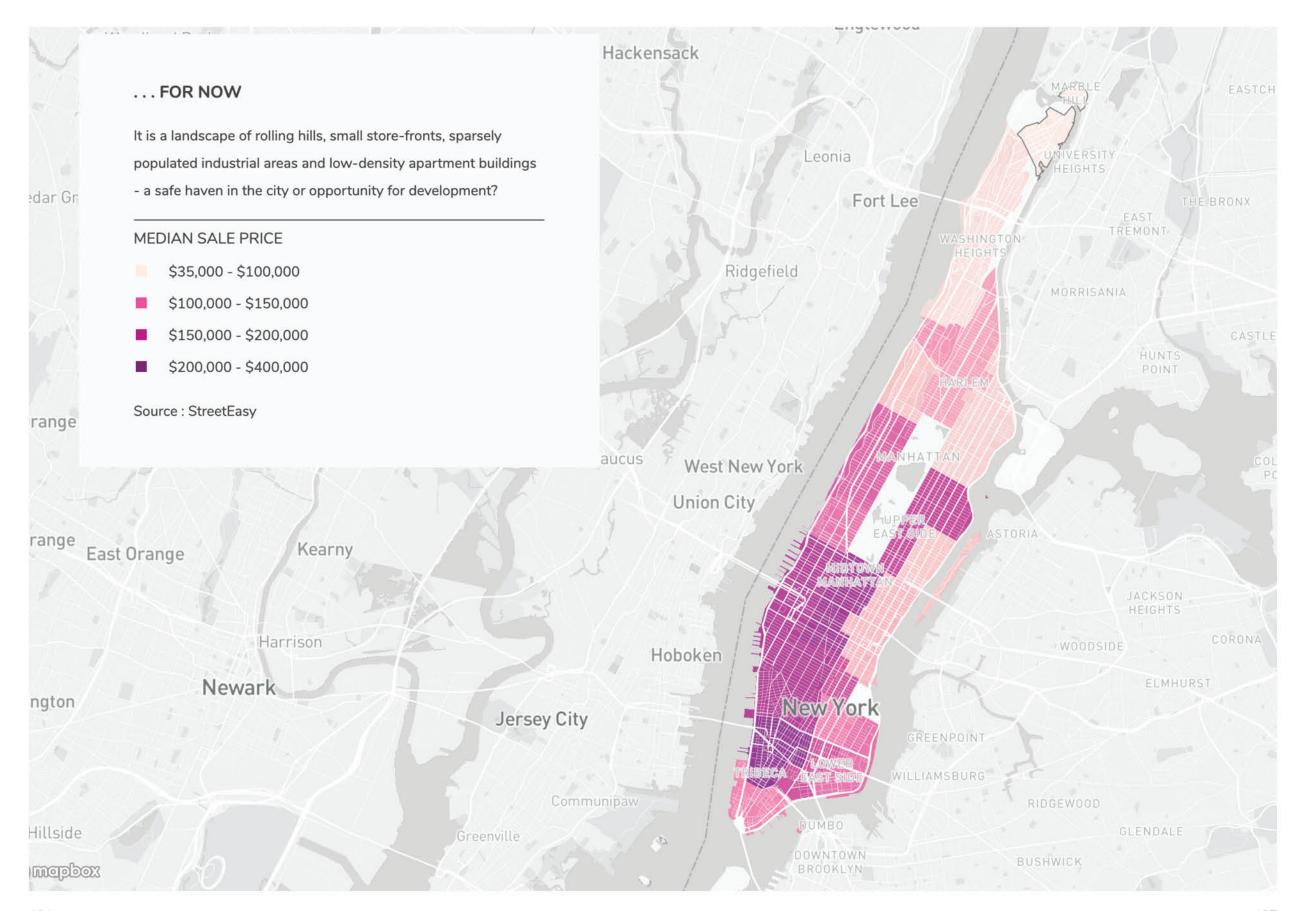
Inwood Rezoning - It's only a matter of time...

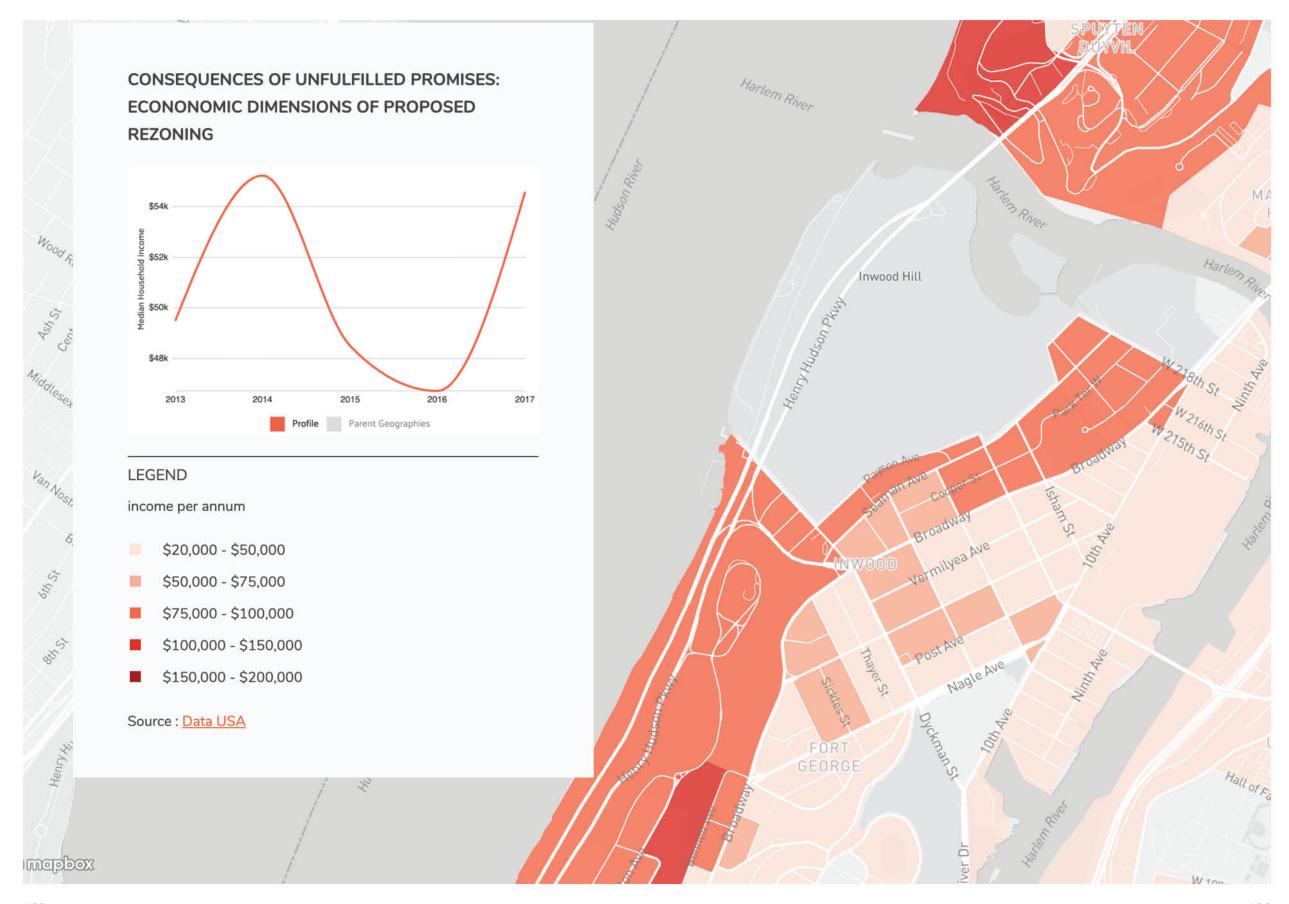
At the mouth of the Harlem river, ensconced within a landscape of rolling hills and natural forest, the sleepy neighbourhood of Inwood is a far cry from its high-density, high-rise neighbors to the south. The neighborhood, which occupies the northern tip of Manhattan, has long been considered the last affordable district in New York's most exclusive borough--but the landscape is shifting. At present, it is a landscape of large lots, sparsely populated industrial areas and low-density apartment buildings. These spaces, often archetypal examples of urban disuse and disinterest, became for the people of Inwood, the glue keeping a community together and the center of a hard-fought legal battle with the City of New York.

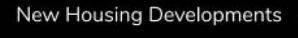
The progress of rezoning efforts since 2014 in Inwood will be a focus of our investigation. We propose a study of conditions arising with de Blasio's "Housing New York Plan", regarding MIH requirements for rezoned neighborhoods as a means of framing a larger issues related to uneven development of New York City. The aim would be to examine local cultural dynamics by investigating community perspectives to identify the consequences of policy.

The Inwood Rezoning Plan was an essential part of mayor Housing New York's promise to create 200,000 units of affordable housing through MIH (Mandatory Inclusionary Housing) requirements for rezoned areas in New York City. Local opposition of the intended zoning cited the city's review of the proposed zoning as "profoundly negligent" in their assessment, and many citing the potential displacement of low-income renters and locally-owned businesses that the rezoning could engender. A Supreme Court judge's decision annulled the 2018 Inwood rezoning plan due to an incomplete review of the project's environmental impacts, indicating demographic and other conditions had not been fully assessed. The study aims to deepen and diversify the story of current housing policy's impact and the legal mechanisms which govern it. We will investigate the intertwined racial, cultural and economic conditions of uneven development and displacement in New York City.









Median Household Income - Thousands Median household income \$50,000

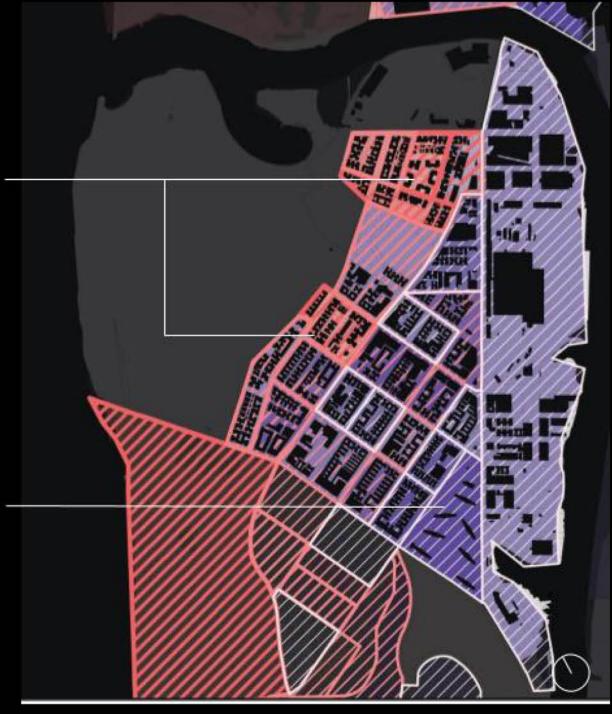
Less than 20
20-40
40-60
60-80
80 & more

Rezoned Industrial waterfront

Hispanic 50%

White 15%

Source: Us census data - 2017 - Ethnicity and Median household income



GSAPP