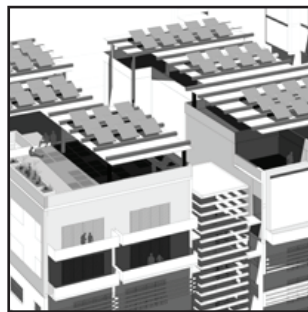
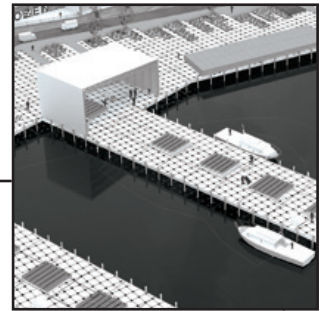




Urban Narratives

Sharvari Rajee

MSAUD 2020 | Columbia GSAPP



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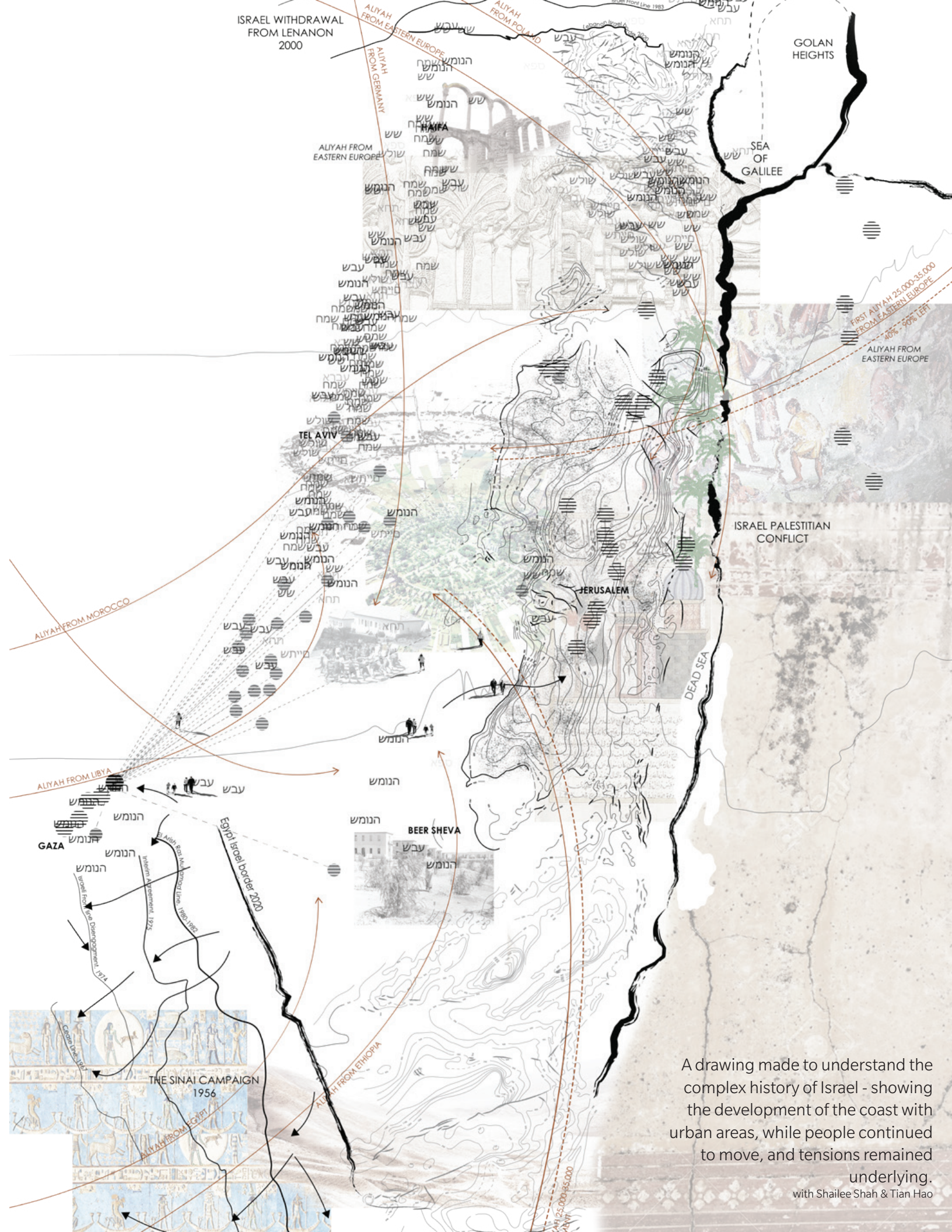
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The Shape of Sound



SPRING STUDIO 2020

Tel Aviv-Yafo, Israel

Cold winds, torrential rain and heaps of information are the few things that defined our studio trip to Tel Aviv-Yafo. Among the many things that we learnt on this trip, one thing that stood out to me was the uniqueness of the country's culture. Carrying the heavy weight of not one, but many historical events, the country presented itself as a trepidus landscape full of opportunity.

A drawing made to understand the complex history of Israel - showing the development of the coast with urban areas, while people continued to move, and tensions remained underlying.
with Shailee Shah & Tian Hao

Social Solar

A renewable energy landscape for Bat Yam

Team : Hugo Bovea, Kunal
Mokasdar, Nina Ndichu



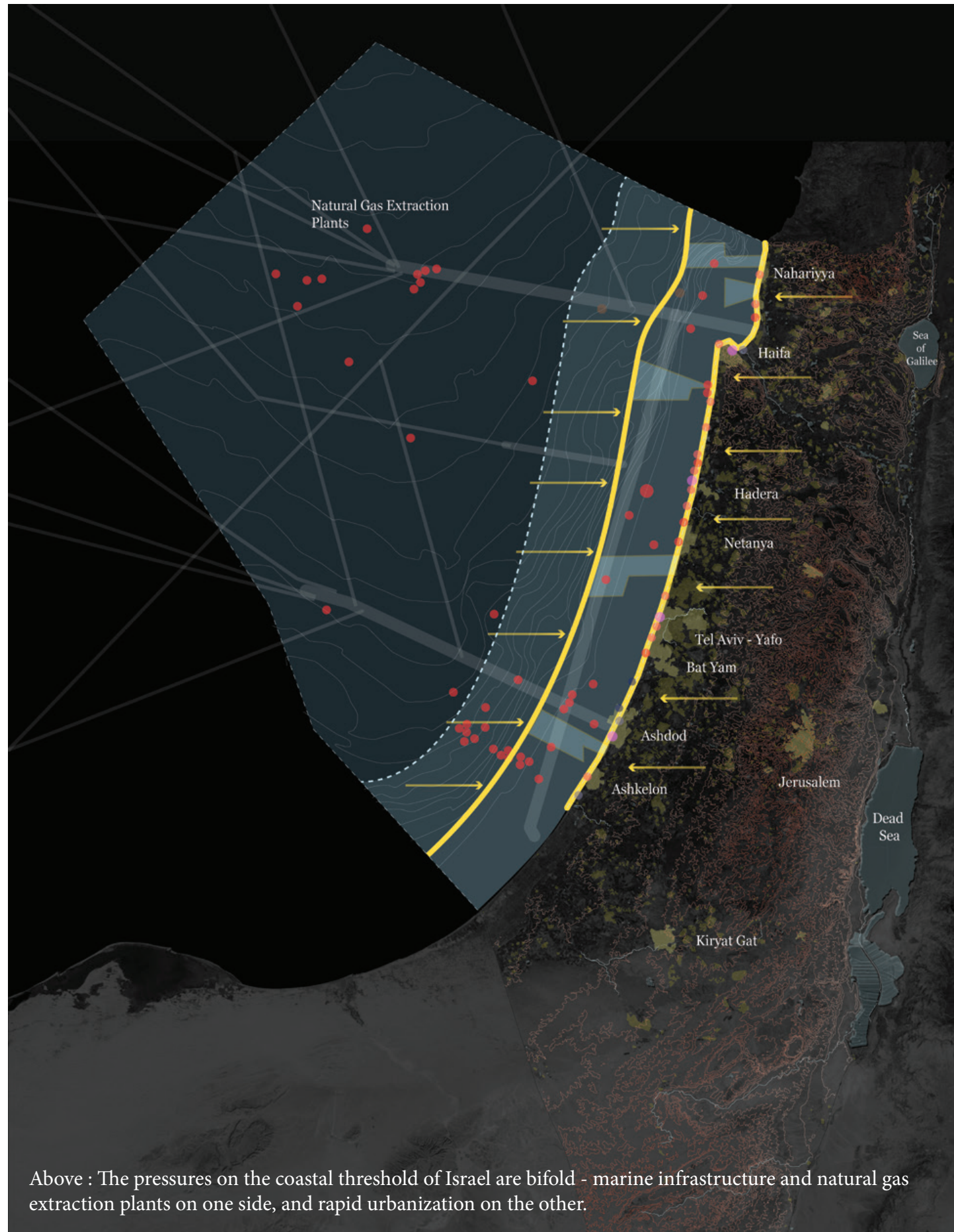


Social Solar is a pilot project in Bat Yam, a city located just south of Tel Aviv, that combines renewable energy and urbanism to design a more sustainable system that will achieve the transition towards a resilient city for the future. The project creates a decentralised energy landscape in the city by reducing dependency on non-renewable sources, and fostering a respectful relationship between energy, ecology and society to combat the future scenarios of extreme climate events. The idea is for Bat Yam to become a model for the rest of the country.

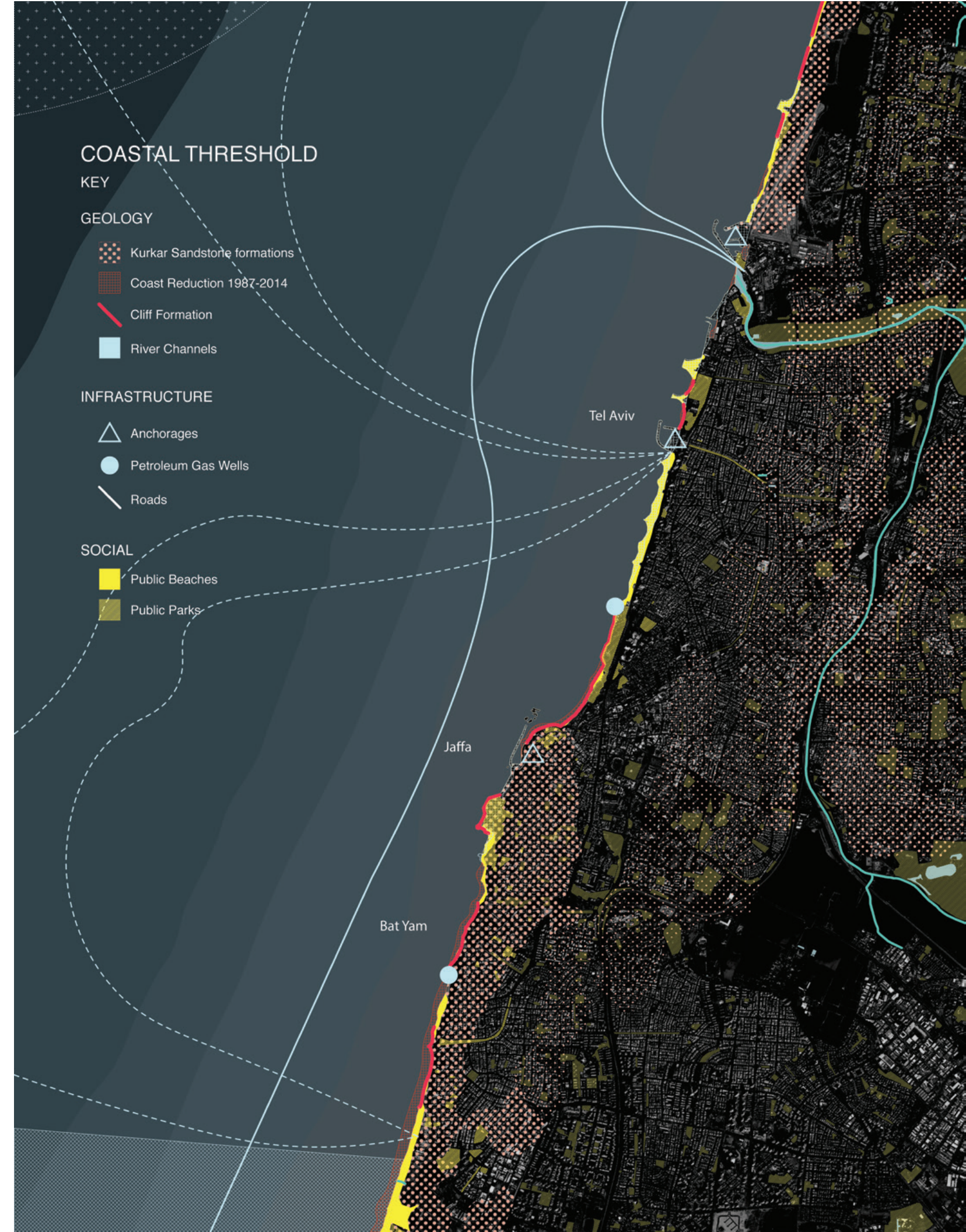
The recent discovery of one of the world's largest offshore natural gas reserves in the Exclusive Economic Zone of Israel has created a huge dependency on fossil fuels and the country is no longer looking to invest in renewable energy sources. While this would be enough to provide the country with energy for over 40 years, the impacts of the offshore drilling platforms are felt on the coastal threshold that is already damaged by the continual damming of the Nile for hydroelectric power and water reservoirs. These dams obstruct the flow of sediments and nutrients towards the Mediterranean in the north, increasing erosion on its coastal front.

The social and ecological impacts of this system are huge and unaccounted for. The toxic cycle of energy production and consumption in Bat Yam is threatening the stability of the coastal threshold, which is a typical condition along the entire Israeli coast. The coastline has receded by about 50 to 100 feet in the past 30 years, which is a consequence of the abundant infrastructural development. In a region with the solar potential to satisfy almost 92% of the total energy demand, this project is proposing a paradigm shift by designing a new renewable energy generation system to be tested in Bat Yam, that could be replicated countrywide.

Left : A map showing the damming on the Nile. The solid circles are dams that have already been built, whereas the hollow circles are proposed dams. The scale of this map goes to show the wide ranging impacts of locally made infrastructural decisions.

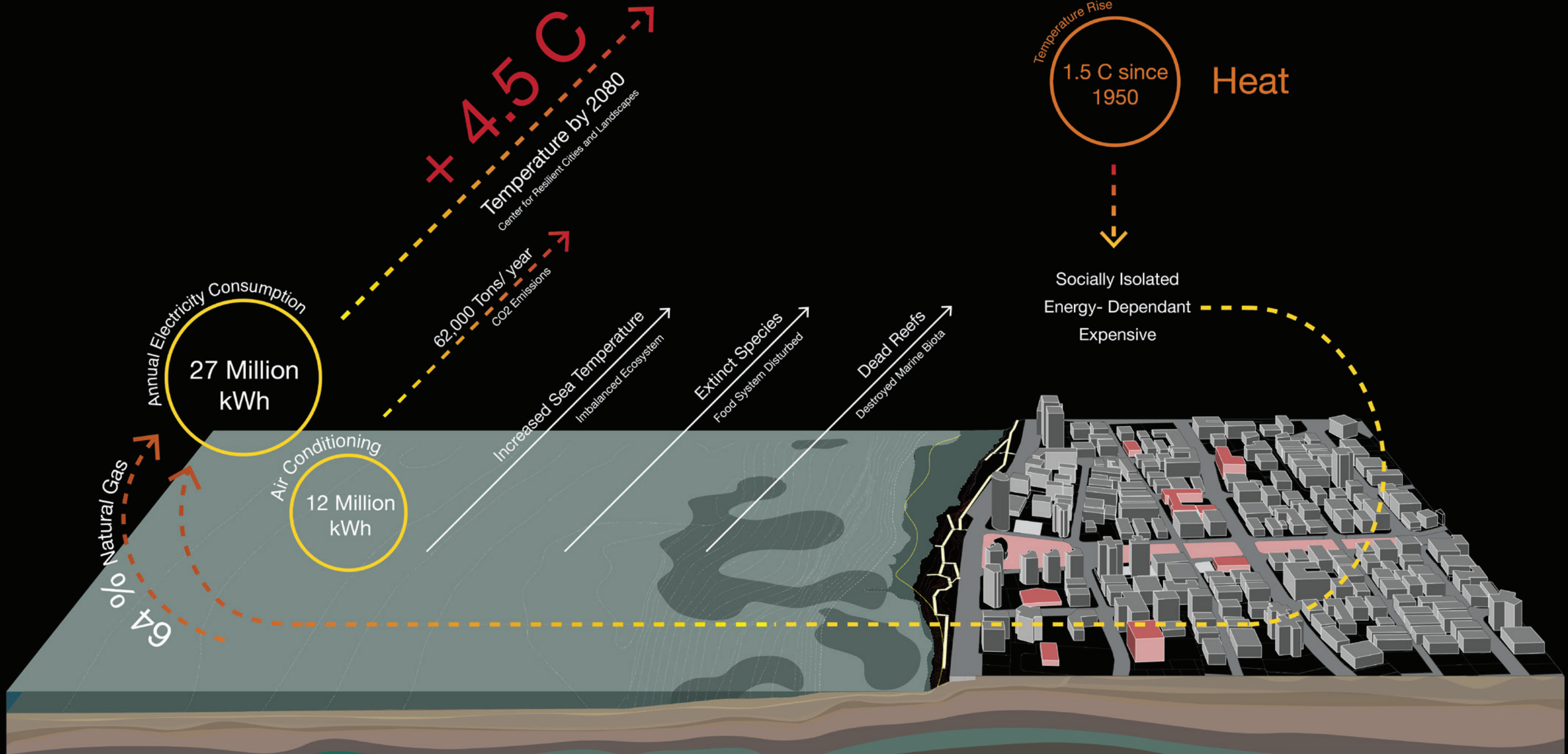


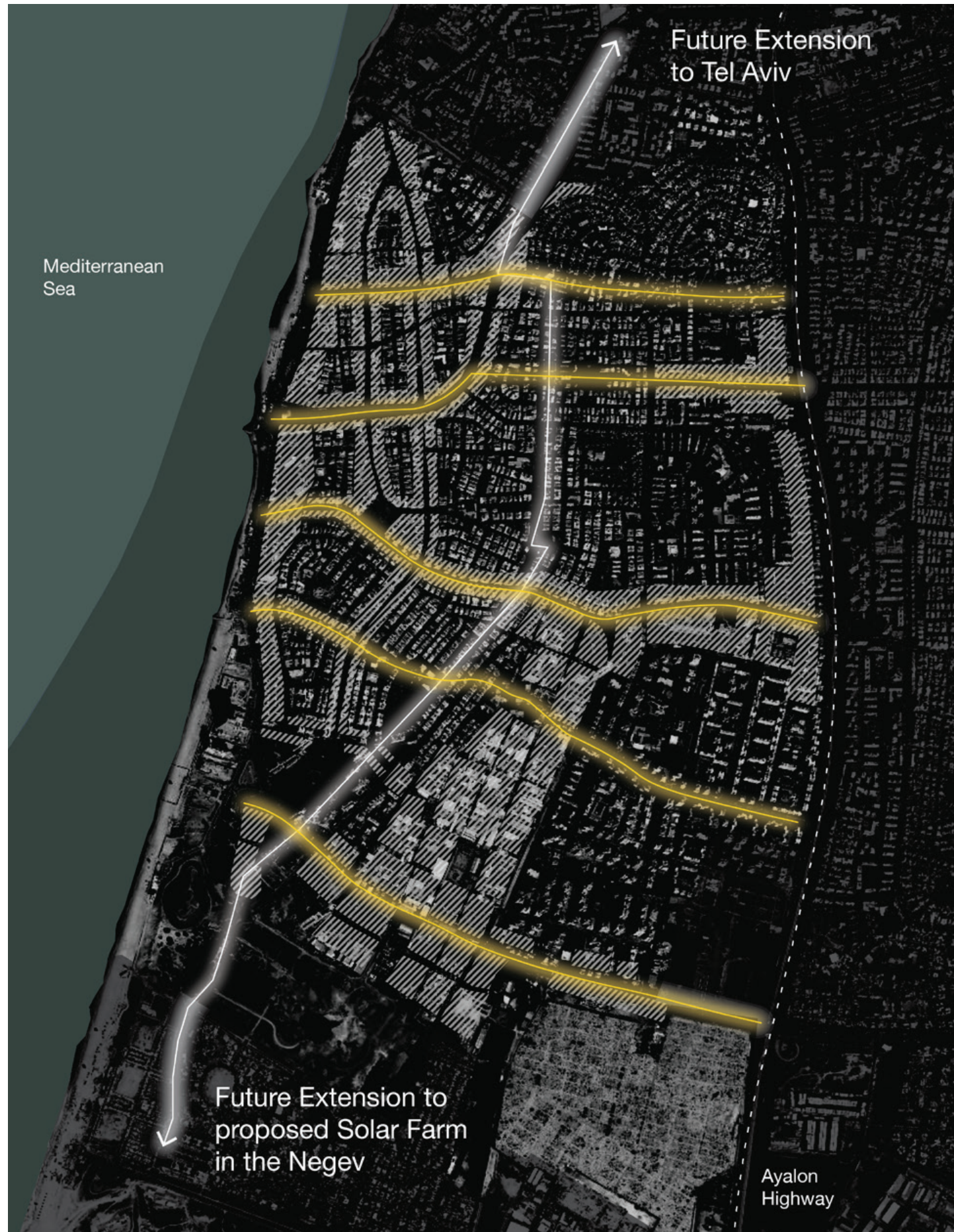
Above : The pressures on the coastal threshold of Israel are bifold - marine infrastructure and natural gas extraction plants on one side, and rapid urbanization on the other.



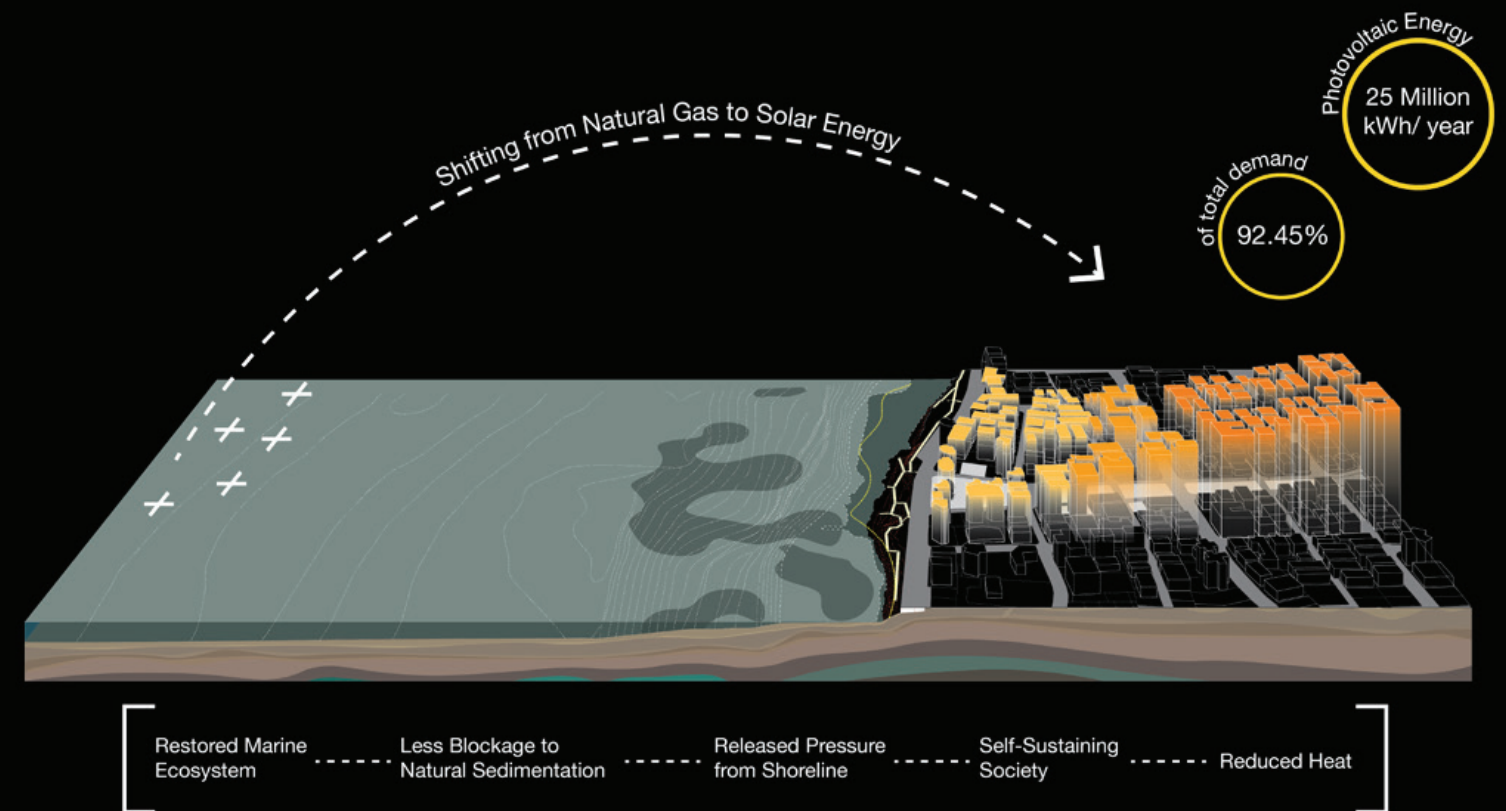
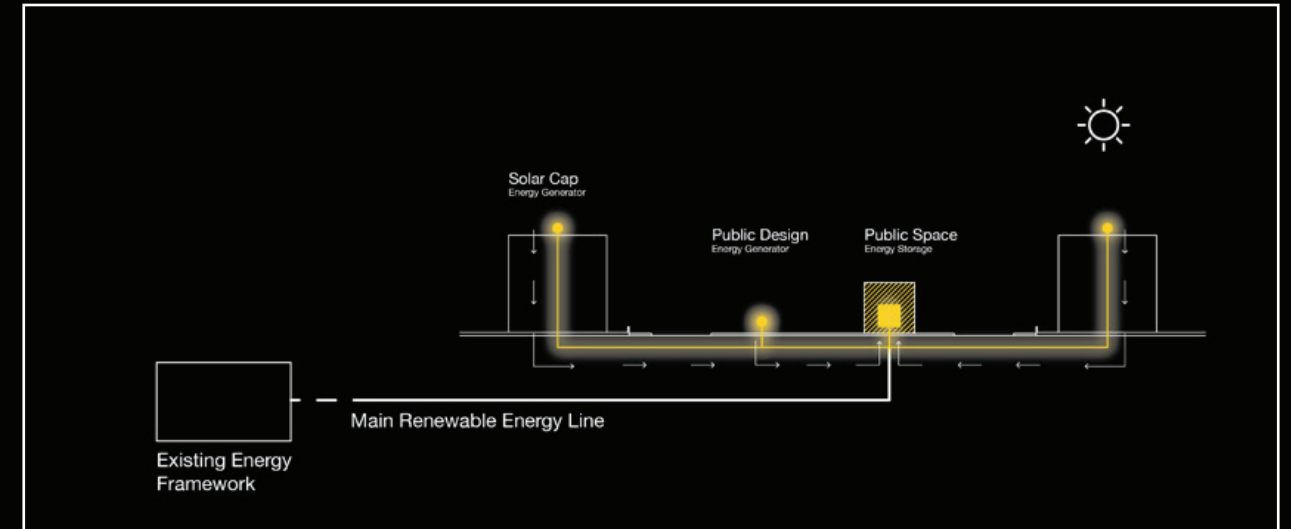
The Toxic Cycle :

Rapid urbanization aggravated by the larger phenomenon of climate change has resulted in an average temperature increase of about 1.5 degrees celsius since 1950. On studying a transect in the city, it was found that the annual energy consumption is about 27 million kwh, more than 45% of which comes from the use of air conditioning and 64% of it is generated using natural gas. The most striking impacts of this is seen in the projected temperature increase of 4.5 degrees celsius by 2080.





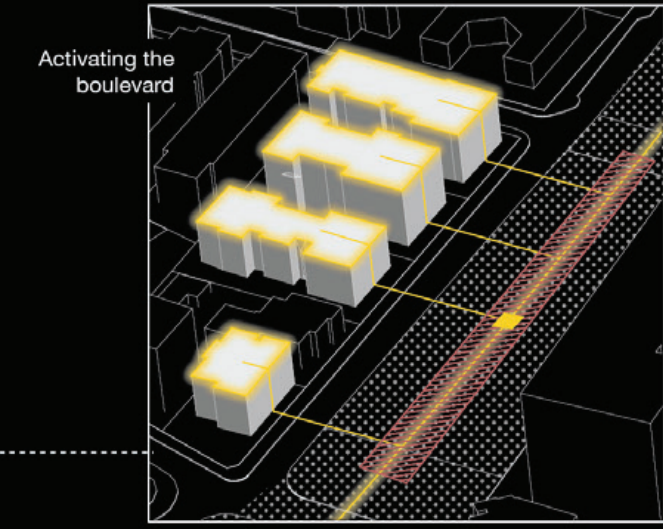
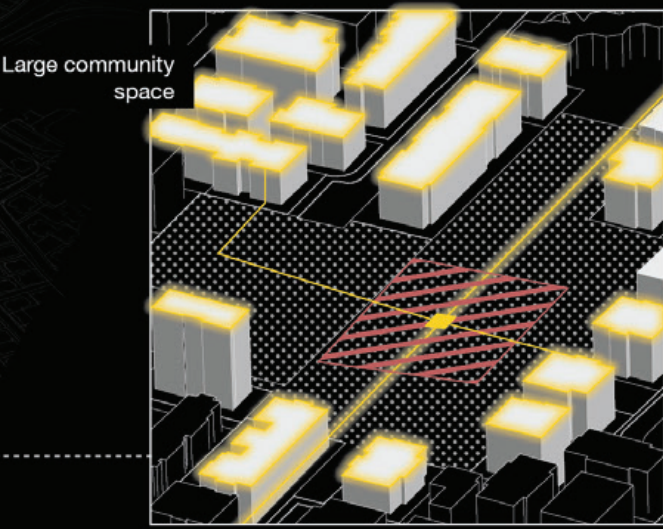
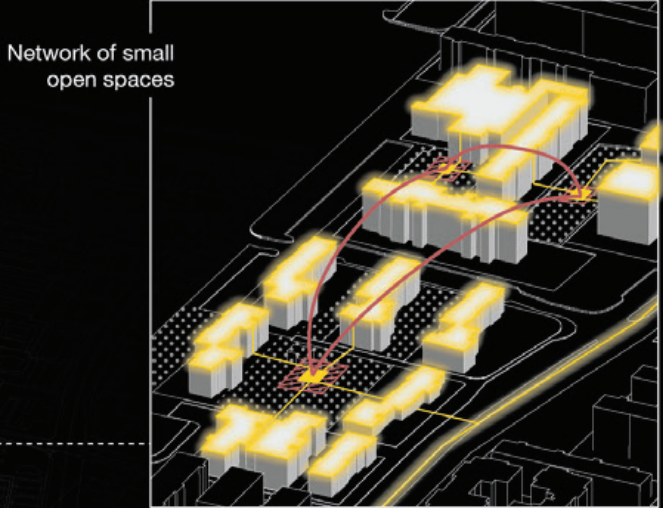
Introducing Microgrids :



A new energy landscape :



Energy as Catalyst

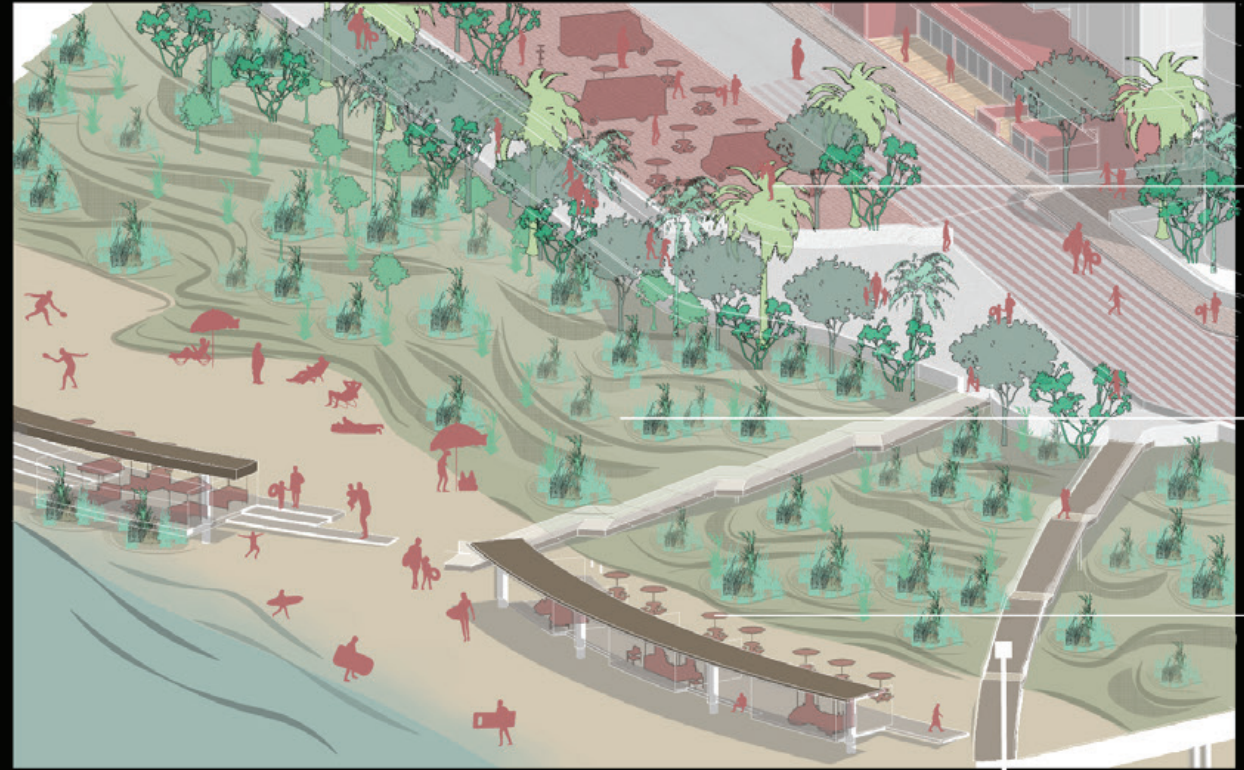
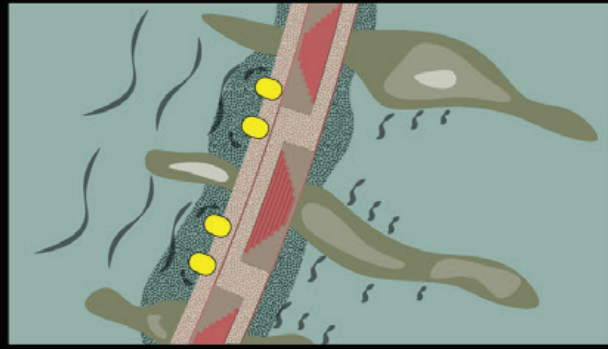




Board Walk

Tidal Turbines

Retrofitted Reefs



Temporary Commercial

Cliff Stabilization

Pocket Beaches



Energy Generation

Retrofitting Nature Based Infrastructure

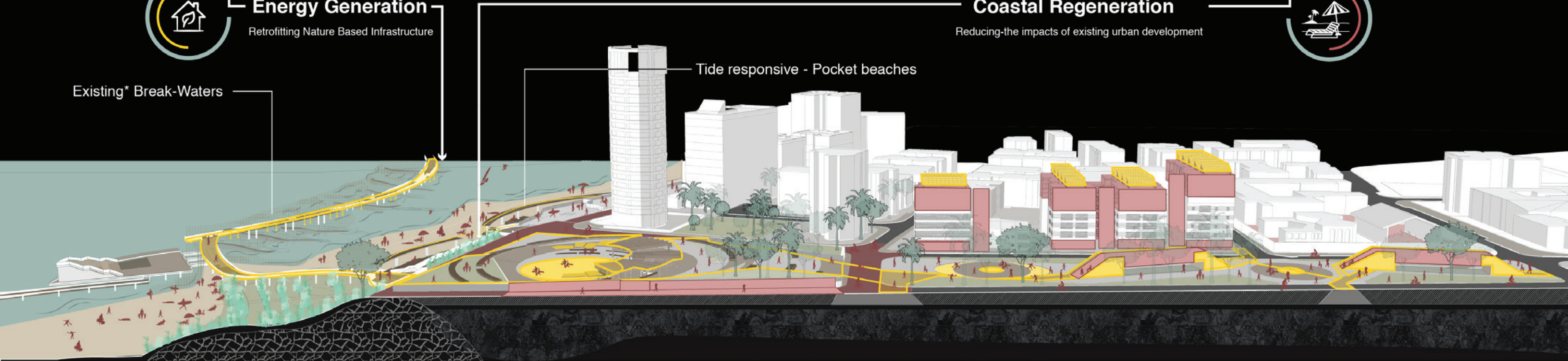
Existing* Break-Waters

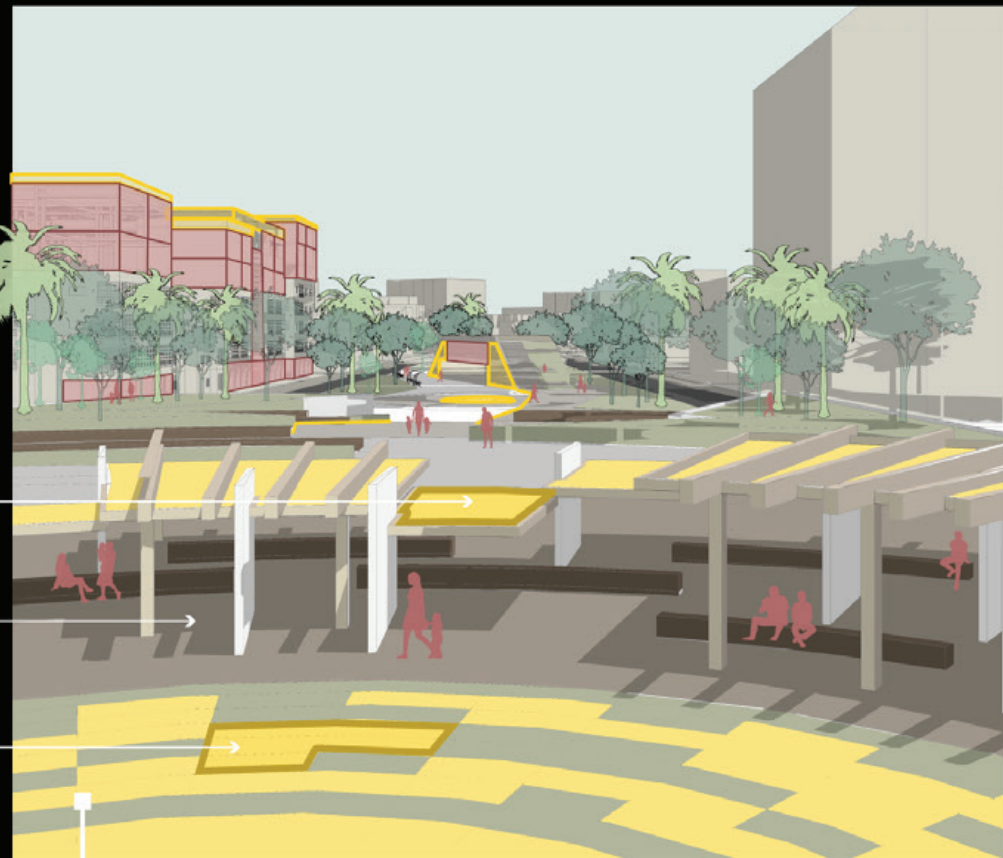
Coastal Regeneration

Reducing-the impacts of existing urban development



Tide responsive - Pocket beaches





Solar Panels

Shaded Seating

Solar Pavement



Tree Canopy

Speed Table

Commercial Store Fronts



Cultural Center



Pedestrian Focused Zone

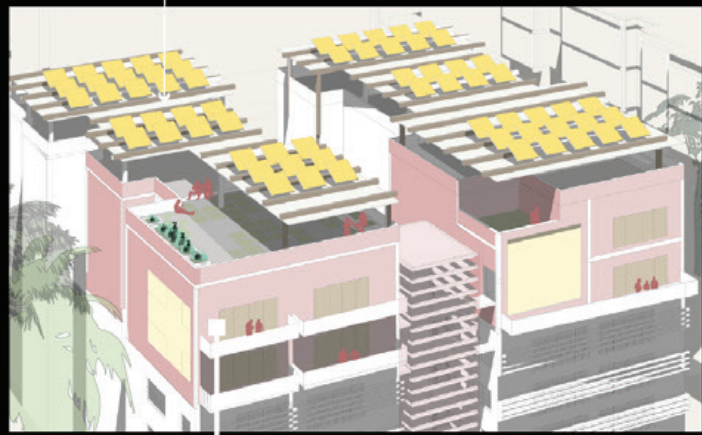
Existing Amphitheatre

Cultural Event Space



Additional Density
Boardwalk Boulevard

Solar Panels



Battery Storage

Makerspaces

Market



Energy Retrofit

Climate responsive design to use solar energy

Micro-grid

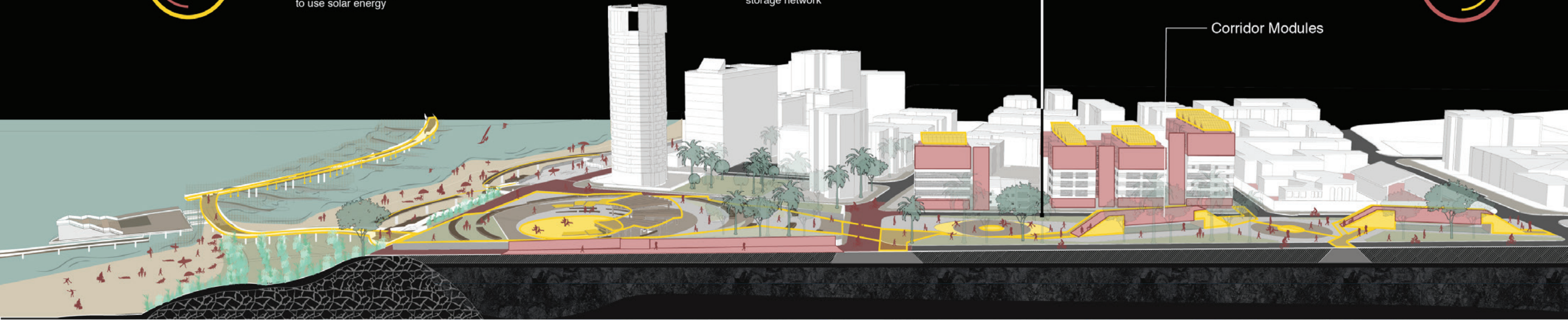
Public Space - local energy generation and storage network

Public Programming

Shaded areas to reduce heat



Corridor Modules





Lighter boardwalk- like structures are proposed on the beach to rehouse the displaced commercial programming on site in a more sustainable manner.



The cultural center hosts events such as the Bat Yam Biennale, as well as weekly performances and exhibitions by local artists and groups.



The existing underused amphitheater transforms into a cultural center, providing a venue for the Bat Yam's recent art and cultural revival.



Corridor Modules are designed along the boulevard that house batteries which store the generated energy.



FALL STUDIO 2019

Hudson Valley, New York

Systems, systems, systems. What began with a study of the multiple tangible and intangible systems ended with one thought - urban design fails if it does not address and challenge the orthodox mechanisms within which the current landscape functions. This semester, therefore, became a series of conversations about combining and creating new frameworks for cities and towns in New York.

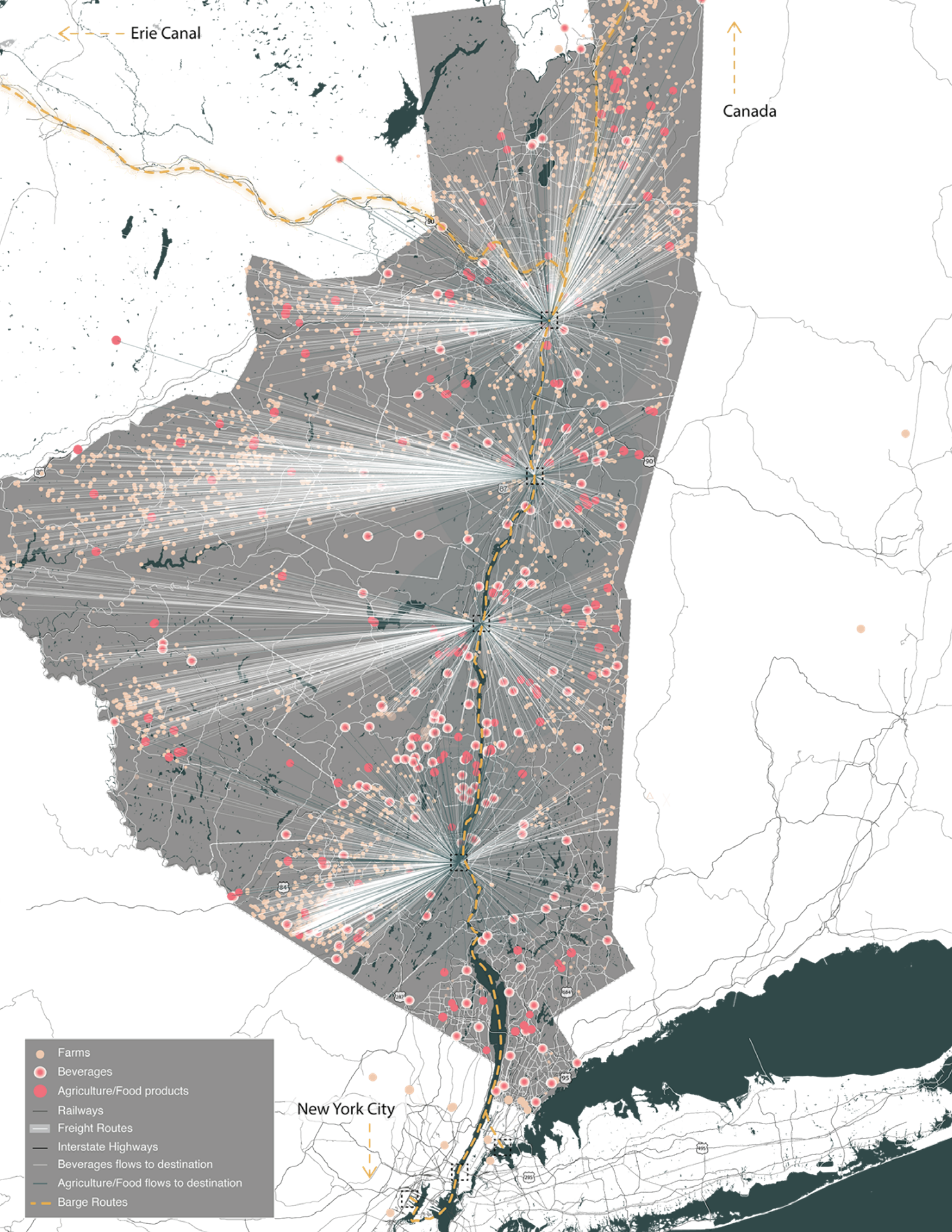
An underused train track, with an abandoned industry



GOOD(S) SHIFT

Revitalising the Port of Newburgh

Team: Antonia Medina Abell,
Hugo Bovea, Tal Fuerst

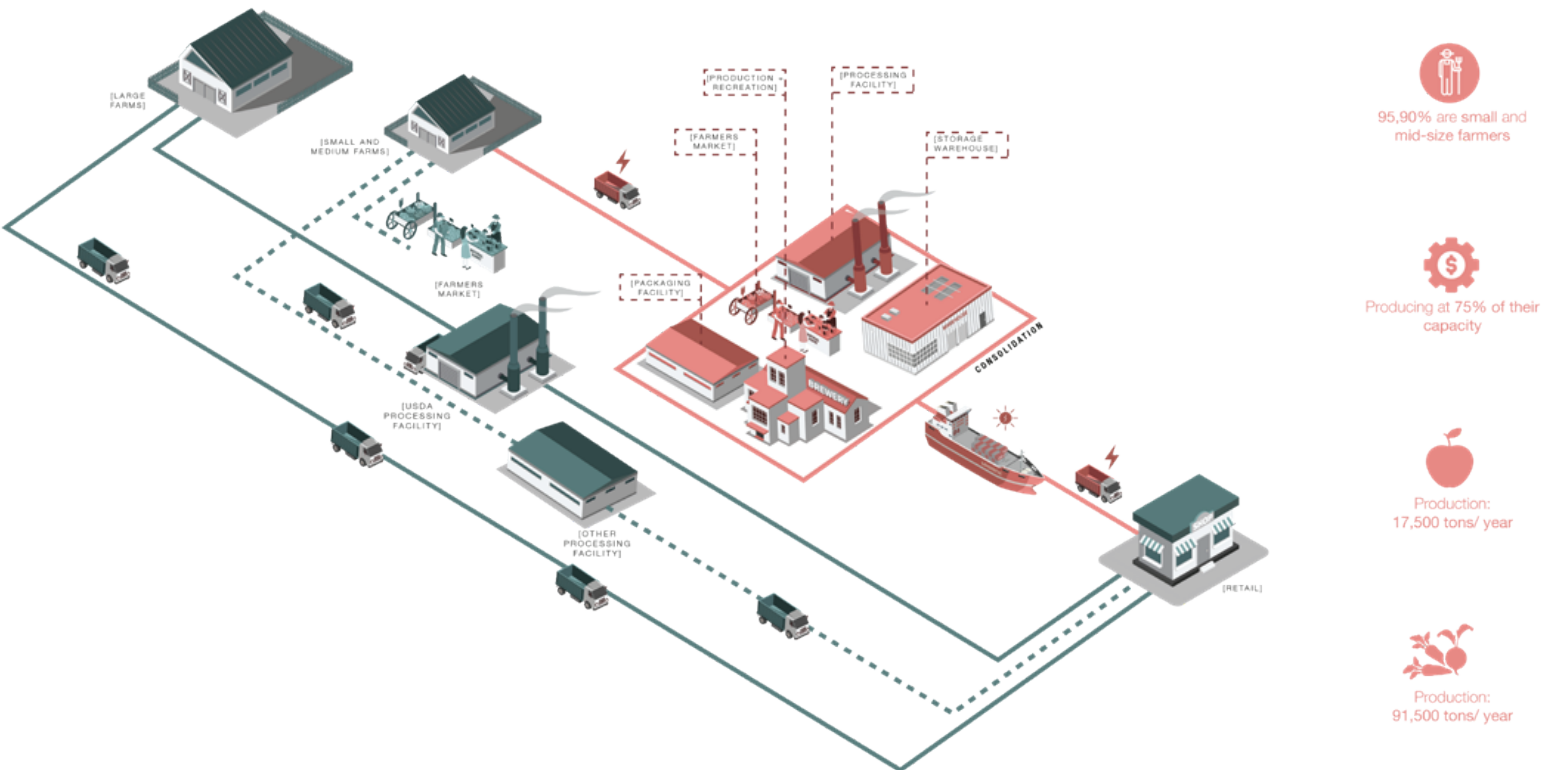


Good(s) Shift is proposing an industrial working waterfront that agglomerates two vital segments of the Hudson Valley’s agricultural operations: processing and distribution. This will become one of a series of hubs that integrates diverse and intermodal operations, modeling the transition towards a less carbon-intensive transportation infrastructure for the Hudson Valley.

Trucks are one of the largest contributors to air pollution in the region, and function within a system that is imbalanced. Highways are maintained by local taxes of each town or city, and are freight movement’s primary means of transportation, with trucks doing most of the infrastructural damage. In New York State, 94% of freight transportation is powered by fossil fuels. On the other hand, Hudson Valley is a region well known for its agricultural products, which are mostly moved and distributed by truck. The systems for food production, processing and distribution are heavily disaggregated. It is baffling how many individualized and truck based distribution systems there are, each with their own logistics.

We are therefore proposing a network of ports along the Hudson River that consolidate all the intermediary processes and mark a return to using waterways as the primary mode of transportation.

Video URL : <https://vimeo.com/380162308>



The Port of Newburgh :





This project reimagines a processing and distribution hub, creating an industrial and publicly accessible waterfront in the cities of Newburgh and New Windsor.



Operational and recreational circulation are separate but in constant interaction. This is achieved by splitting it into two different levels.





SUMMER STUDIO 2019

Sunset Park, New York City

Embracing the role of a flâneur, Sunset Park came to me as a neighborhood misplaced in time and space. With a dramatic backdrop of downtown New York, it exuberated an odd sense of calm among the city's chaos. Why?

Left: A model made for the derive studio exercise

Sunset Bazaar

A secondary food network

Team: Danwei Pan, Hugo Bovea, Yuan Qin



SUNSET BAZAAR
日落集市 · EL BAZAR SUNSET

E
B
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A
P

SUNSET BAZAAR

Sunset Park

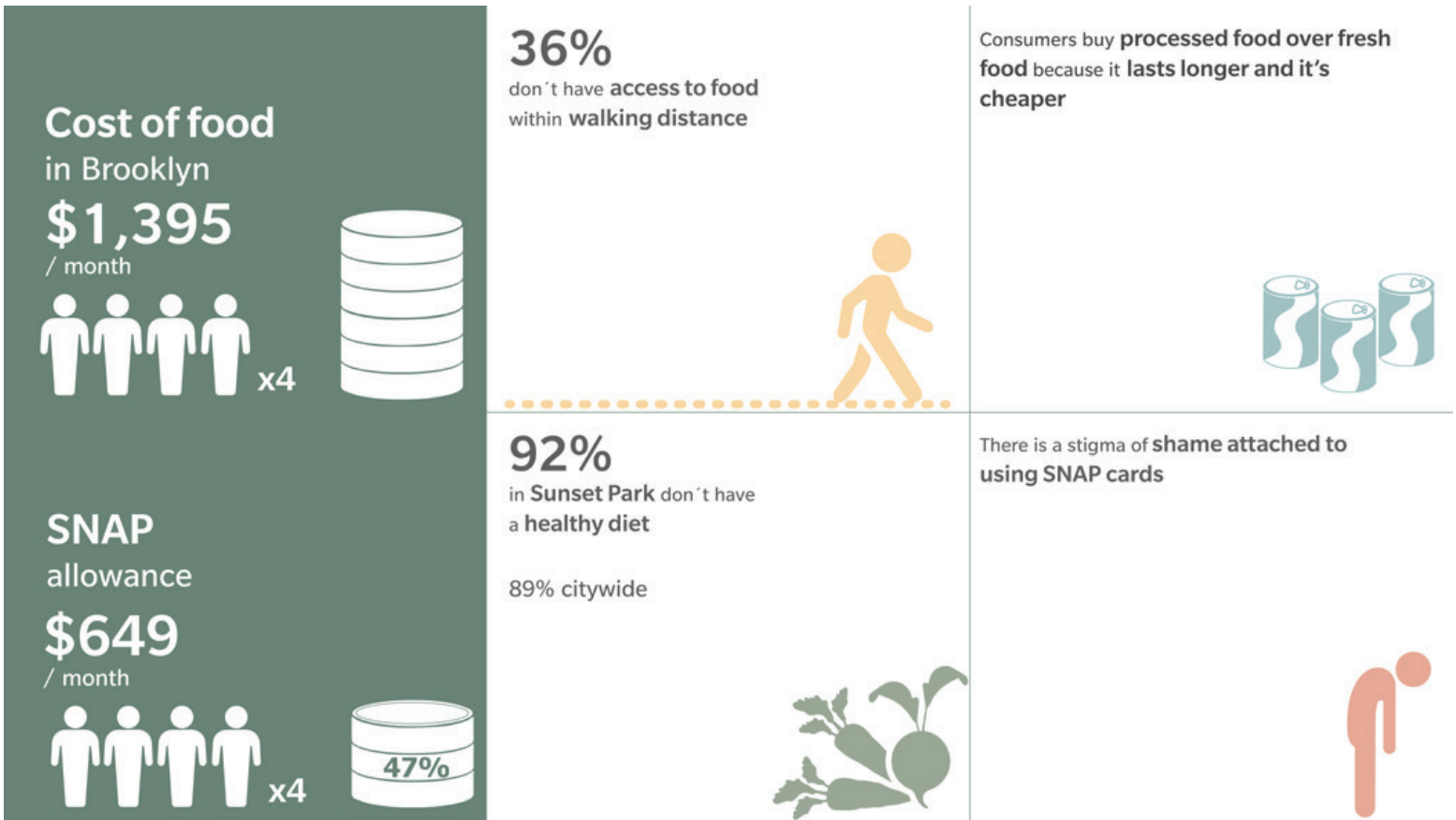


Sunset Bazaar is a proposal to introduce a new system within the existing food network in Sunset Park to bring access to fresh healthy food to the community. A startling 30% of the population is facing food insecurity and receiving food stamps, also known as SNAP benefits, compared to just 8% citywide; 29% is below the federal poverty level and 46% don't even have a high school degree.

On top of that, the average cost of food for a family of four in Brooklyn is \$1,395 a month, while the maximum SNAP allowance for a family of four is \$649, which represents around 47% of the average cost. This leads to them buying processed food over fresh food because it is cheaper and lasts longer, which is possibly also the reason most residents have an unhealthy diet. Over a third of Sunset Park's population don't have access to food within walking distance and, most importantly, there is a stigma of shame attached to using SNAP cards.

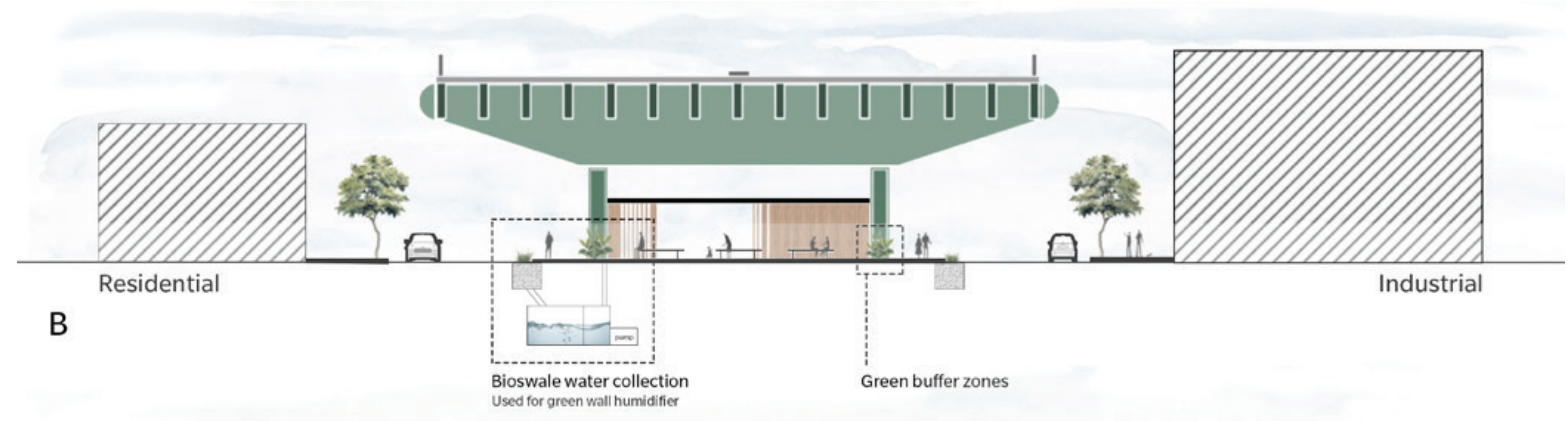
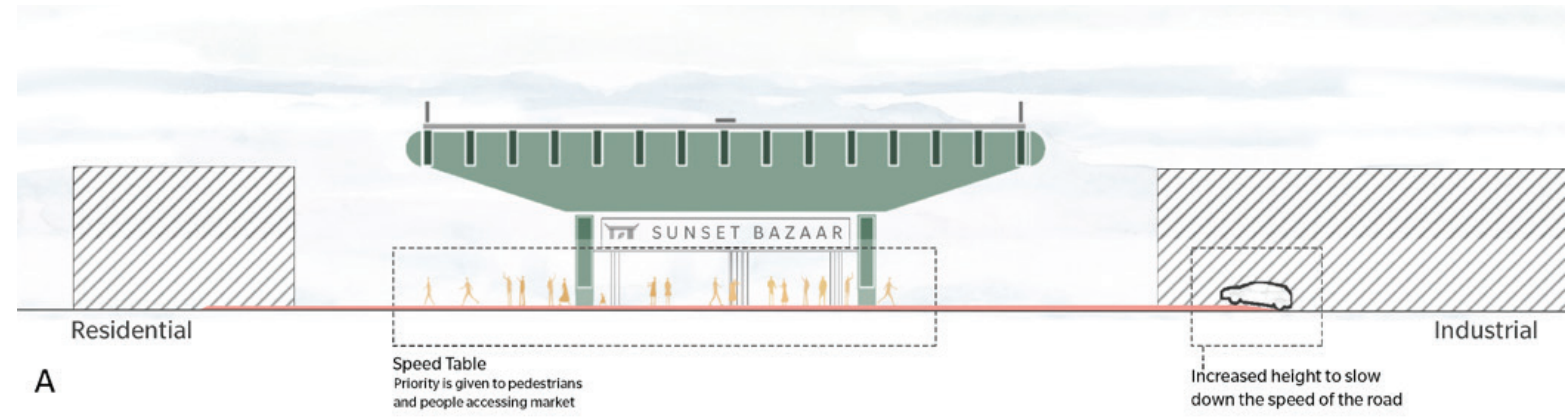
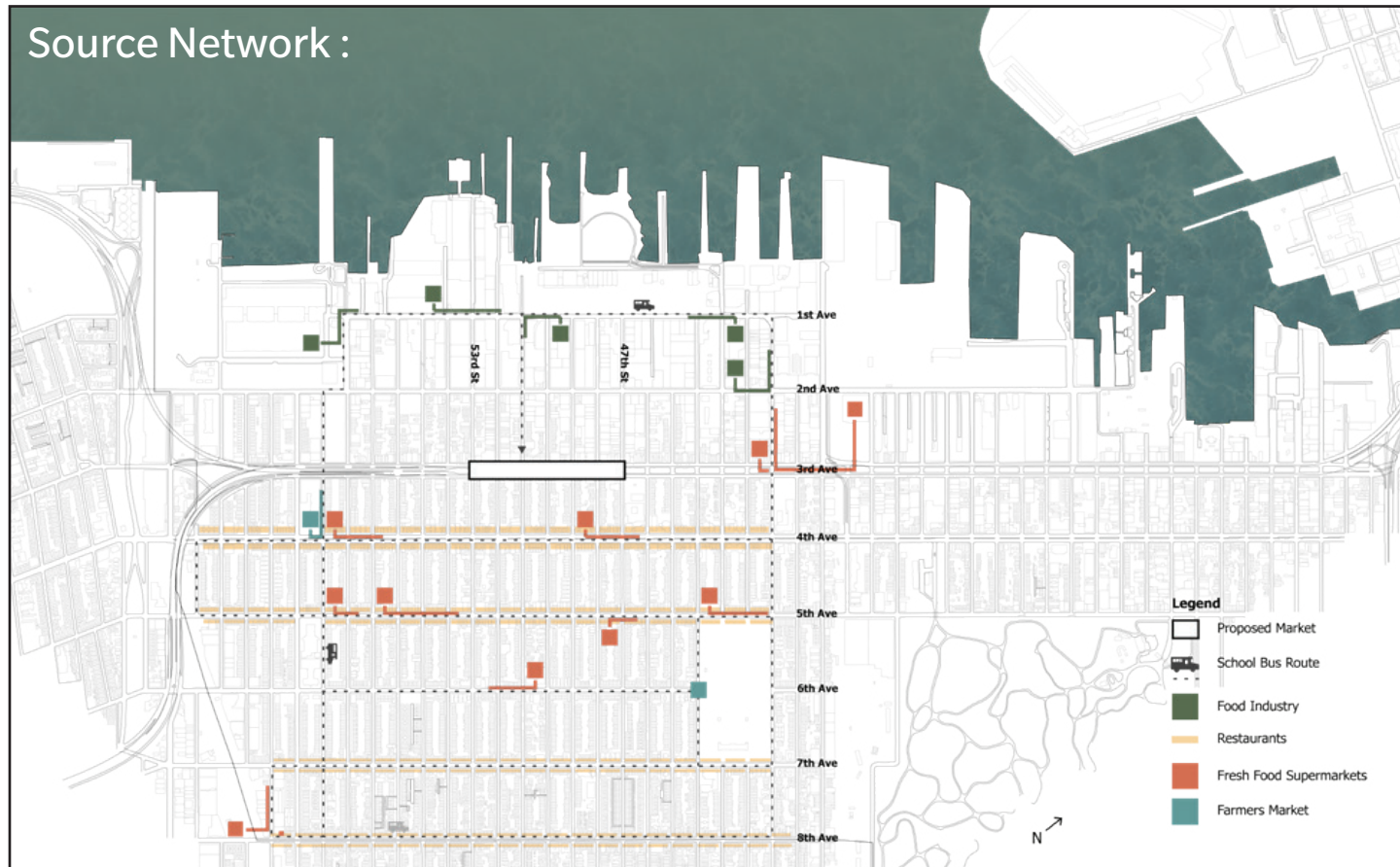
Therefore, this project seeks to create a secondary network to bring affordable fresh food to the neighborhood by creating a local network of food sources and distribution locations- the biggest of which is a market located in one of the most underused spaces in the neighborhood - under the Gowanus highway.

Video URL : <https://vimeo.com/354209734>

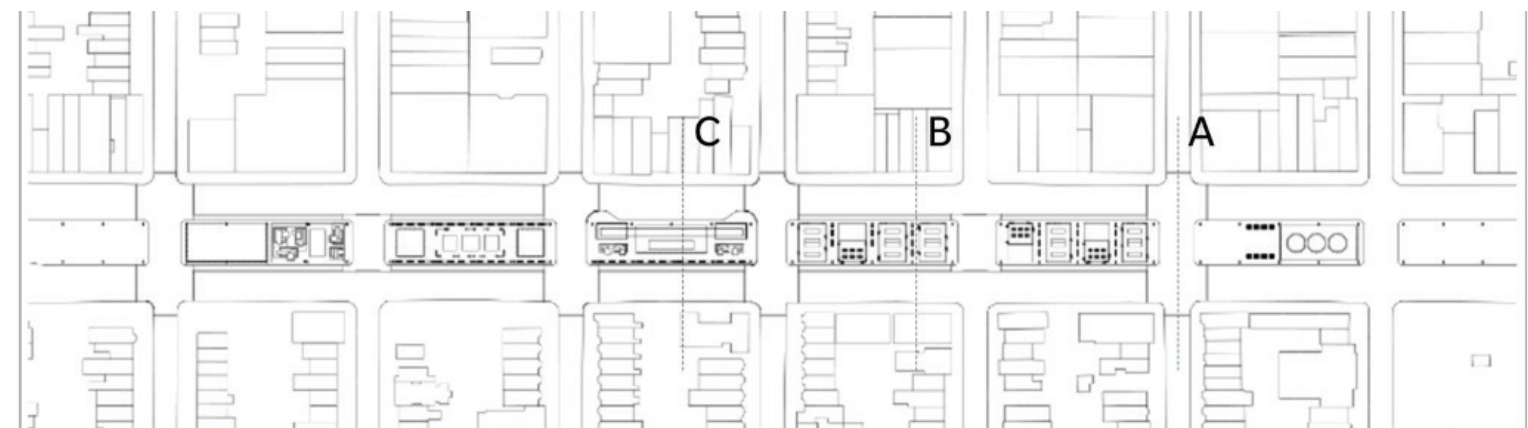
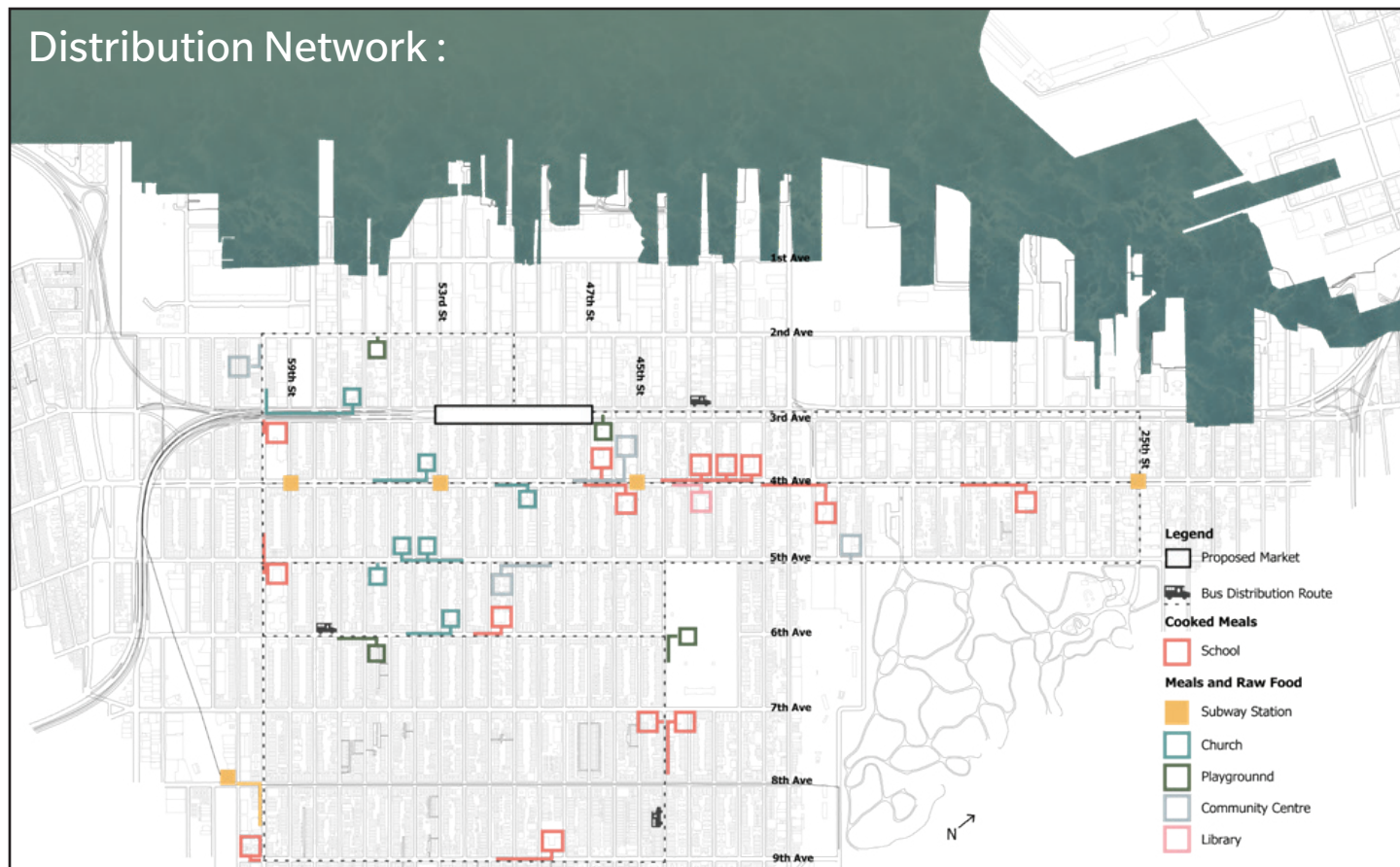


Left: Images that represent the challenges facing the Sunset Park community.

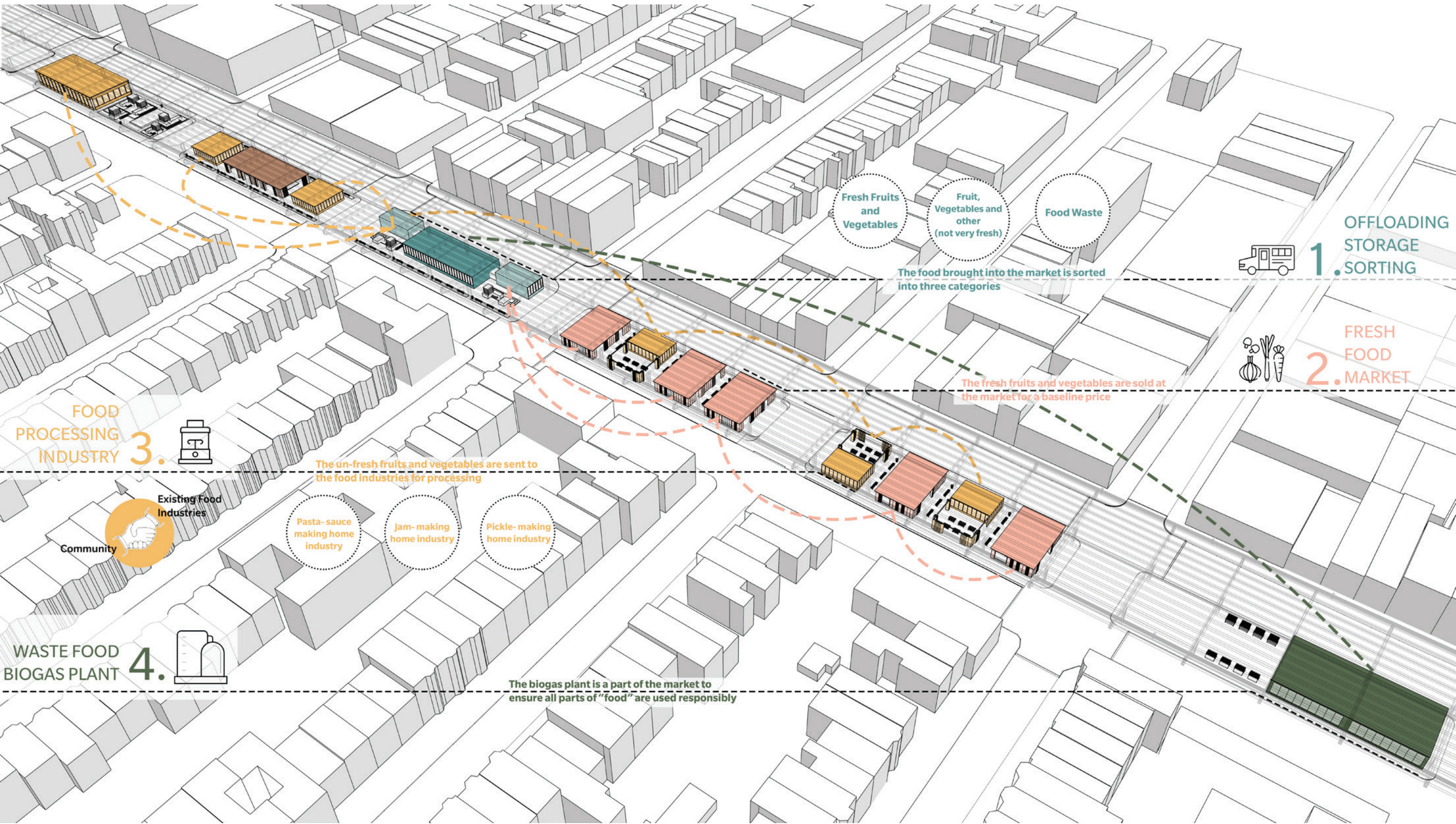
Source Network :



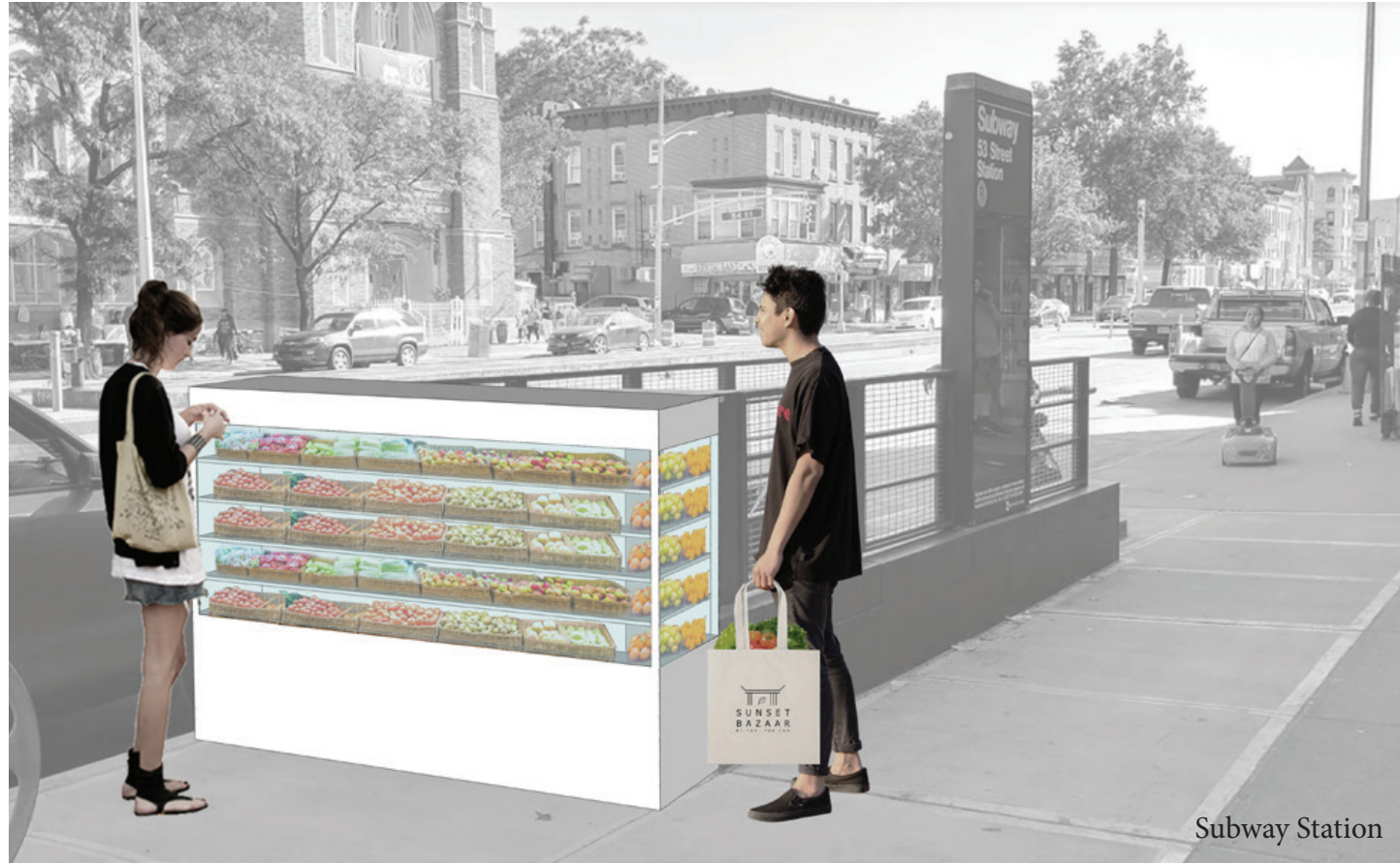
Distribution Network :



Multi-functional Market :



Distribution Locations :



Subway Station



Church



Library



Playground

SUNSET EL BAZAR

日落集市 · EL BAZAR

People are making fresh jam at the kitchen!

I love to chill in this little green area!

Let's go get some healthy meals!

Check out this freshly cooked food!

TODAY'S DEAL
2 bags of
only \$2.99

SUNSET BAZAAR
BY YOU. FOR YOU

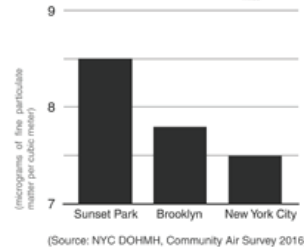
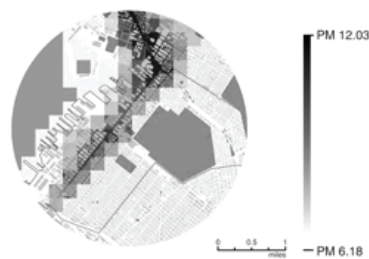


SUNSET BAZAAR
BY YOU. FOR YOU

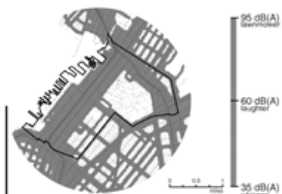


ARGUMENTS AND ELECTIVES 2019-20

In just how many ways can you tell a story?

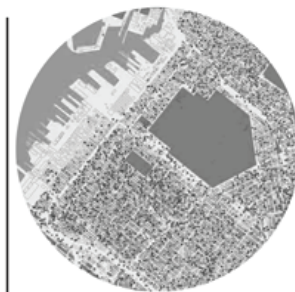


AIR POLLUTION
The density levels of the most harmful air pollutant, fine particulate matter (PM2.5) are higher in Sunset Park than they are in Brooklyn, and New York.



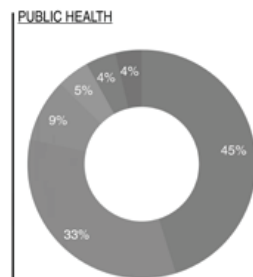
NOISE POLLUTION
The constant noise pollution along the truck routes and the Gowanus Expressway reaches up to 95 dB(A). This decibel level is equivalent to listening to a lawnmower.

TRAFFIC ACCIDENTS
Sunset Park has the highest traffic accident fatalities in Brooklyn.

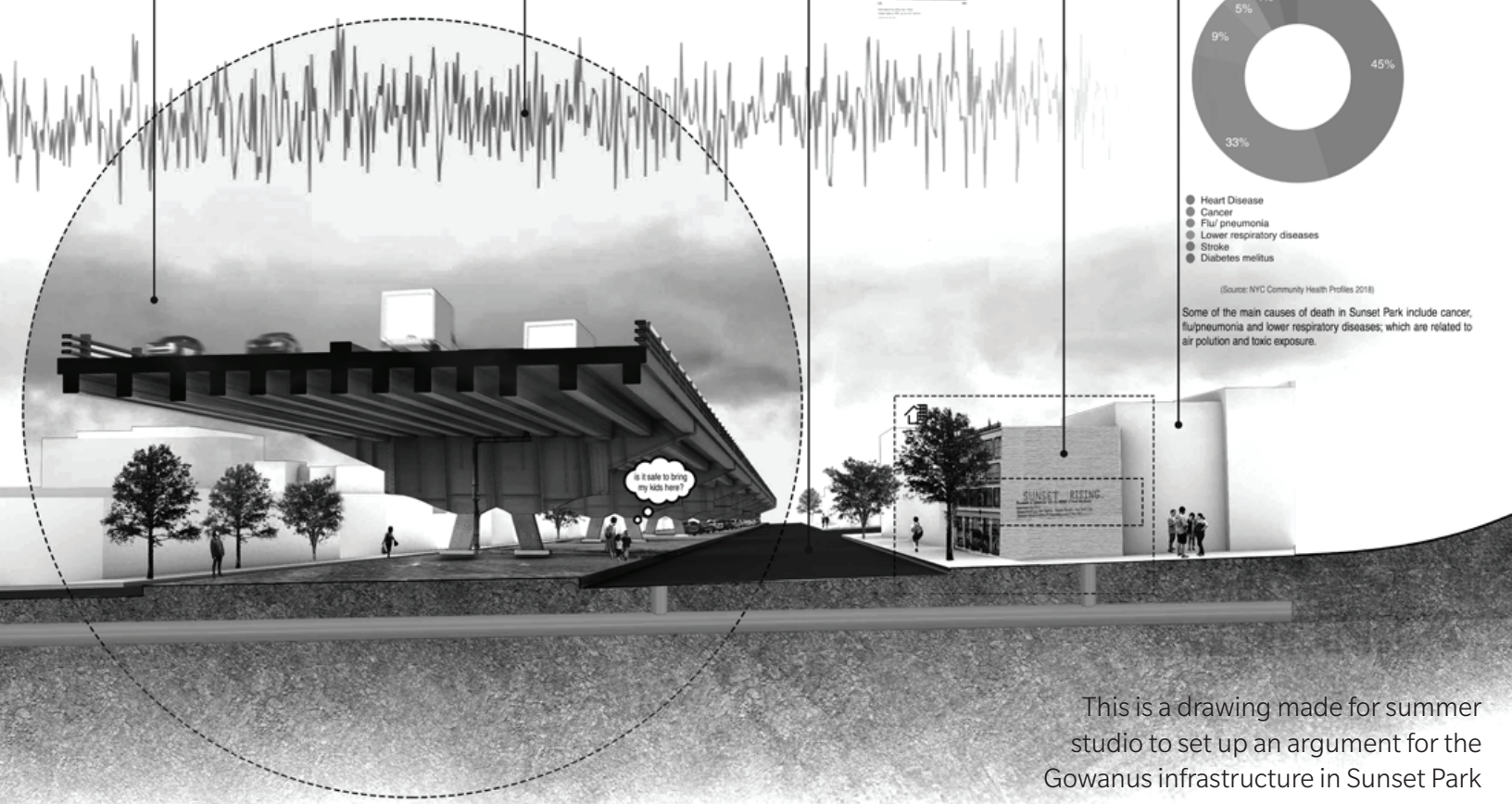


- Less than \$10,000
- \$10,000 - \$14,999
- \$15,000 - \$19,999
- \$20,000 - \$24,999
- \$25,000 - \$29,999
- \$30,000 - \$34,999
- \$35,000 - \$39,999
- \$40,000 - \$44,999
- \$45,000 - \$49,999
- \$50,000 - \$59,999
- \$60,000 - \$74,999
- \$75,000 - \$99,999
- \$100,000 - \$124,999
- \$125,000 - \$149,999
- \$150,000 - \$199,999
- \$200,000 or more

INCOME
Placing the employability of Sunset Park next to its household income statistics, it can be assumed that most residents have blue collar jobs.



PUBLIC HEALTH
Some of the main causes of death in Sunset Park include cancer, flu/pneumonia and lower respiratory diseases; which are related to air pollution and toxic exposure.



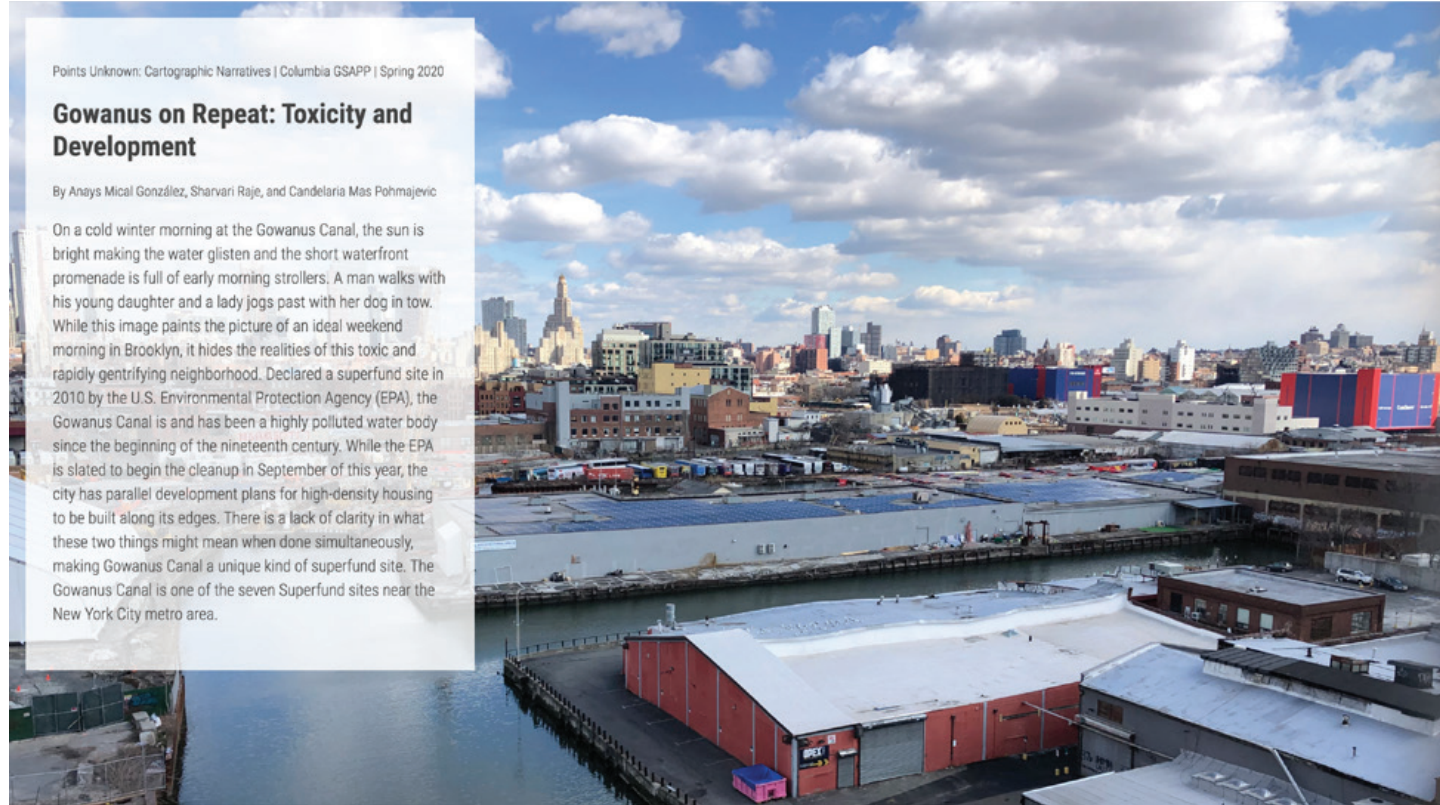
This is a drawing made for summer studio to set up an argument for the Gowanus infrastructure in Sunset Park

with Jaime Palacios & Danwei Pan

Gowanus on Repeat

Points Unknown // Spring 2020

Team: Anays Gonzalez Sanchez, Candelaria Mas Pohmajevic



On a cold winter morning at the Gowanus Canal, the sun is bright making the water glisten and the short waterfront promenade is full of early morning strollers. A man walks with his young daughter and a lady jogs past with her dog in tow. While this image paints the picture of an ideal weekend morning in Brooklyn, it hides the realities of this toxic and rapidly gentrifying neighborhood. Declared a superfund site in 2010 by the U.S. Environmental Protection Agency (EPA), the Gowanus Canal is and has been a highly polluted water body since the beginning of the nineteenth century. While the EPA is slated to begin the cleanup in September of this year, the city has parallel development plans for high-density housing to be built along its edges. There is a lack of clarity in what these two things might mean when done simultaneously, making Gowanus Canal a unique kind of superfund site. The Gowanus Canal is one of the seven Superfund sites near the New York City metro area.

The EPA “Superfund” program came into being in the late 1970s as a response to mitigate the major human health and environmental impacts caused by toxic waste that manufacturing facilities, processing plants, landfills, and mining sites left behind. The Superfund cleanup program is a long multi-phase process that takes an average of 20 to 30 years to be completed. The aims of the Superfund program include making responsible parties pay for cleanup work and involving the community in the process. The final phase of the process is called Site Reuse / Redevelopment Plan, the purpose of which is to return the site to productive use after it is declared safe for human use.

Continued on : <https://candelariamasp.github.io/gowanus-canal/>



The Enabling of Public Space

Rhetorics of the Pedestrian // Spring 2020

Individual Work



Understanding the context of public space is crucial to its eventual development. This context is not manifested in easy words such as social, cultural, economic and political. It dwells also in the minds of the inhabitants, the explorers, the professionals, and the collective minds of advocacy groups, with each mind comprehending it slightly, or vastly differently. It holds space in the conversations about the weather, and in work meetings about the ideal location for a certain restaurant, in hushed newspaper articles and on evening strolls in the neighborhood. This is not to romanticise the concept of context, but to highlight the value of including all actors of urban space in the process of inception and creation.

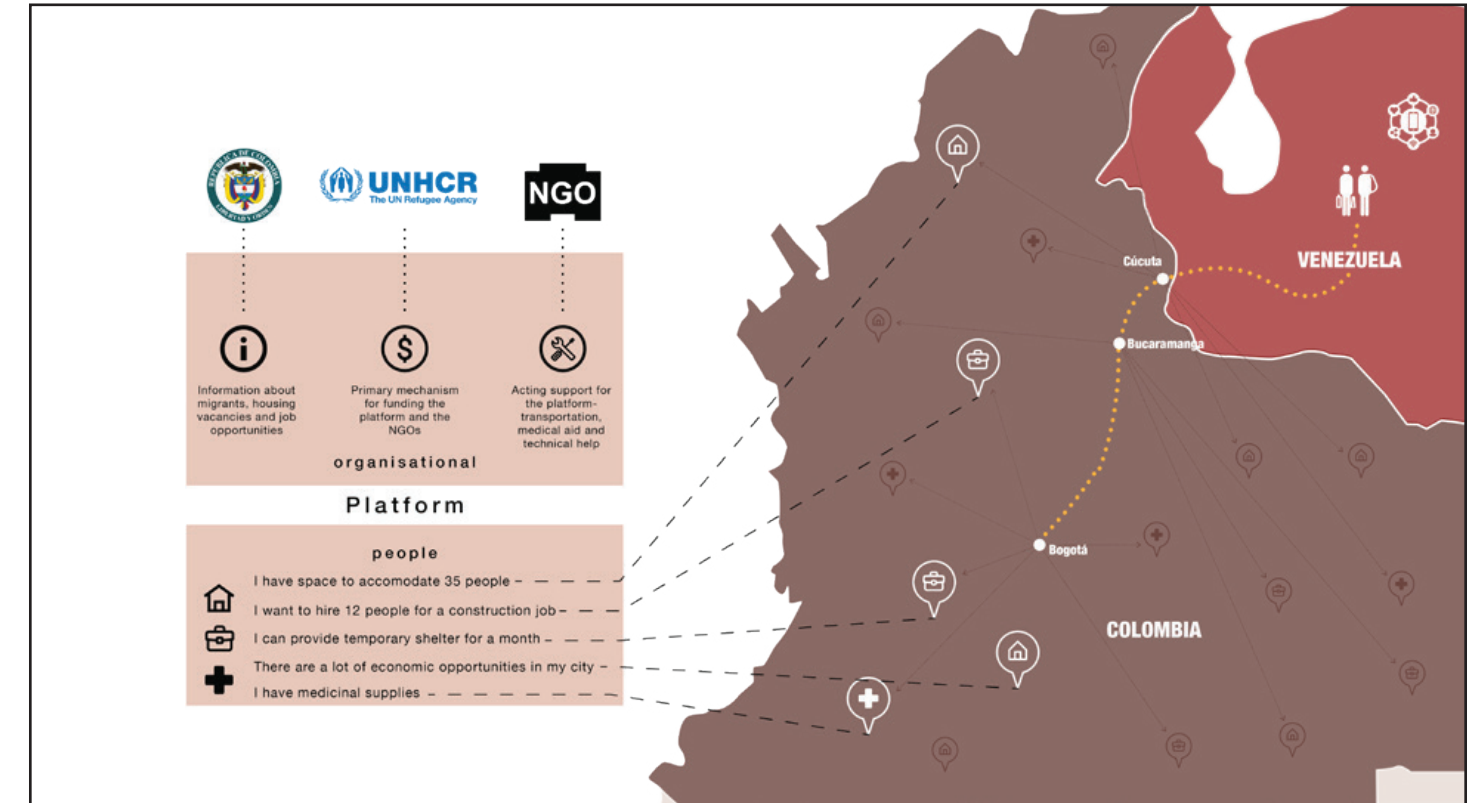
The selected projects range from temporary to permanent public spaces that were conceived by a combination of citizen groups, and private and public entities. Working within the same governance structure of Mumbai, India, these projects explore informal collaborations across various professional fields simply on the basis of having a vested interest in an urban goal. The study highlights the “enablers” of the spaces created, expressing the dynamics that led to their creation, and also explore their shortfalls. While highlighting the success of the methods followed, the projects are also thought of critically and engaged with in projected scenarios about how these methods can be expanded on to be more holistic.

Essentially, the last project is the kind that this argument is building up to, but not without its challenges. It brought to surface the major need for restructuring the city’s institutions and mechanisms for people to participate in the democratic process. In general, the three projects also highlight the structure of power- however civic minded, they were initiated and conducted by people who had the means and the reach to formulate this scale of action. **How can we reconcile power with the democratic processes necessary to create “good” public space?**

The Role of Empathy

Difference and Design // Fall 2019

Team: Mary Allen



This project started with an investigation of refugee camps as the main strategy used by the UNHCR (United Nations High Commissioner for Refugees) to house large populations of refugees. The camps are used in a variety of global contexts to house large amounts of people in temporary shelters. The camp model originally developed mimicking the development of army camps, a model that emphasizes quick deployment. Additionally these camps can grow or shrink to meet the demand of the influx of people. For the UNHCR, camp structures makes it easier to keep active records and manage the number of refugees. Overall allowing an efficient method to understand resource allocation to provide medical service, food and educational resources.

Globally, in 2018 70.8 million people were forcibly displaced worldwide. This displacement was caused by various persecutions, conflicts, acts of violence and human rights violations. Of the 70.8 million displaced people, only 25.9 million are recognized as refugees. An additional 41 million are displaced internally within their countries, and an additional 3.5 million people seek asylum globally. This number does not take into account the millions of people that seek asylum illegally crossing borders. This crisis is not one that is temporary, or one that is going away anytime soon. With increasing conflicts and projected disruption due to the climate crisis, the number of refugees globally has been predicted to increase. The UN predicts that there could be between 25 million and 1 billion environmental migrants by the year 2050.

The project then chooses to not focus on refugee camps as an area of design. Instead this project focuses on a holistic approach of integration, **studying the role of empathy in refugee patterns, and questioning what role this sensitivity can play in the future of migration.** This case study focuses on one crisis in particular - the Venezuelan migration.

The Shape of Sound

Reading New York Urbanism // Summer 2019

Team: Danwei Pan, Hugo Bovea, Jaime Palacios Anaya



The Sunset Park neighborhood, located in Brooklyn, is a complex hybrid of residential, industrial and commercial activities. The co- existence of these disparate urban characters builds the very unique identity of this neighborhood. This also creates a very interesting sonic environment, ranging from peaceful residential streets to a noisy, rumbling highway. This sonic environment influences the way one inhabits space. It defines our experiences, our learnings, and the way we interact with certain spaces.

Sunset Park creates a dynamic soundscape as one walks the zones; industrial, commercial and residential. The contrast of the industrial zone with its truck routes, heavy machinery and toxic expressway, with the quiet residential streets where one can hear birds, rustling of the leaves and the occasional social chatter is representative of hybrid cities worldwide. The very particular quality of this neighborhood shines in the intersections at the commercial streets, which are busy with restaurants, shopping, grocery stores, and a clash of cultures and languages. It is almost like you get transported to another place, another moment. This exploration was carried out in the months of June-July, 2019.

Video URL : <https://vimeo.com/363214931>



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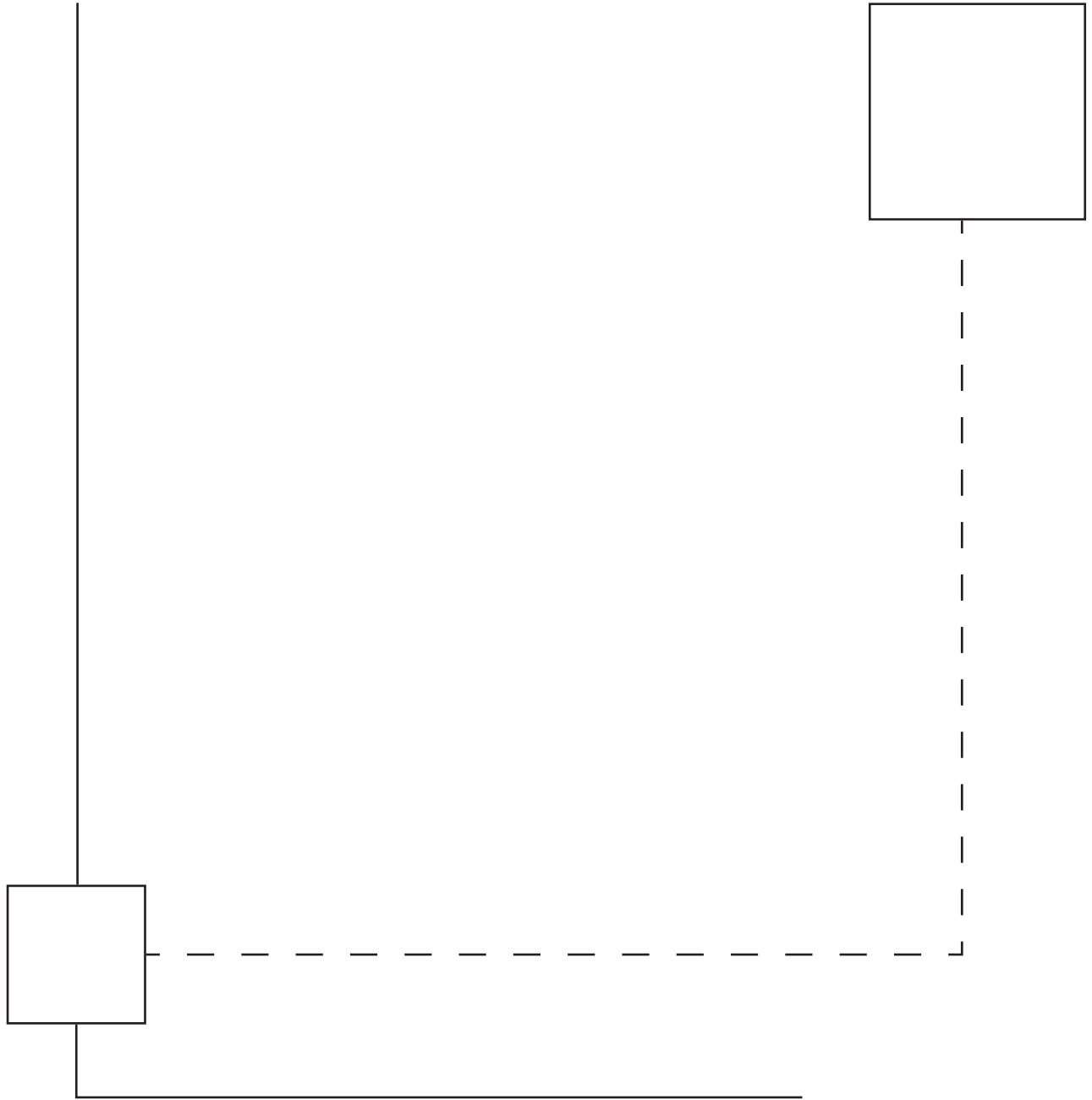
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