Graduate Portfolio
Riya Chadha

Selected Works 2021-2022 | Columbia GSAPP
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UD Studio Spring Semester
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UD Studio Summer Semester
Newark, New Jersey
Rewilding Caye Caulker

Resiliency through knowledge generation, conservation and scientific tourism

Type: UD Studio III
Team: Avani Agarwal, Lamisa Haque, Rhea Pai
Role: Team Project
Date: Spring 2022
Location: North Caye Caulker, Belize

By creating a National Park Alliance, Caye Caulker can become a model for redefining protected areas. Dissolving arbitrary borders value is redefined through ecosystem services with long-term landscape first strategies. This framework of knowledge production, conservation, and scientific tourism increases civic engagement and empowers the local community to protect the Barrier Islands as critical infrastructure - restoring and rewilding the inherent ecological balance.
The diversity of natural resources is visible in red while the peaks in black indicate commodified land used to create profit value, a short-term planning strategy.
The goal is to create a National Park Alliance among the Barrier Islands to empower the local community to protect their home. Through this we shift the current trajectory of development to a ‘Landscape based approach’ by redefining protected areas. The future resilient landscape enhances the inherent interconnectedness between the human and natural ecosystems.

**KNOWLEDGE PRODUCTION**

**CONSERVATION**

**SCIENTIFIC TOURISM**

The residents of Belize understand the importance of the natural environment and its role in the local economy. The Government of Belize has recognized the need for a comprehensive approach to protect and conserve the natural resources of the island. The University of Belize Environmental Research Institute (UB ERI) plays a crucial role in conducting research and providing education to the local community. Scientific tourism is encouraged to raise awareness and support the conservation efforts.

**University of Belize Environmental Research Institute (UB ERI)**

- Residents of Belize
- Preservation of Caye Caulker & Belize City
- Conservation of marine life
- Strengthening social bonds
- Promotion of sustainable tourism
- Empower local stewardship

**University of Belize**

- Administration & Science Centers
- Environmental Research Institute

**Government of Belize**

- Belizean Ecosystems
- Belize National Parks
- Belize Wildlife Reserves
- Belize Marine Reserves

**2003**

- Forest Reserve
- Mangroves
- Commercial Cut
- Pier
- Dirt Road
- Fill

**2021**

- Forest Reserve
- Mangroves
- Commercial Cut
- Pier
- Dirt Road
- Fill

**KNOWLEDGE PRODUCTION**

**CONSERVATION**

**SCIENTIFIC TOURISM**

The future resilient landscape enhances the inherent interconnectedness between the human and natural ecosystems.
The aim to create a holistic environment by looking at the entire ecosystem as a continuum and operating at the intersection of economy and ecology. This entails striking a balance between people’s needs and environmental protection and conservation. This is accomplished through adaptive management of resources, mangrove restoration and repair, retrofitting of existing resorts and the development of mangrove based housing typologies.
At the harbours edge one can see systems of climate monitoring, hurricane warning, weather tracking. Integrated mangrove ecosystem provides nurseries for fishes and enriches the marine life. Soil research, water temperature and carbon sequestration all provide data that allow for a better understanding of how to create a dynamic living edge that exists in harmony with human and ecology.
Tools of community science is used to increase civic engagement and empower the local community to protect their home. Integrating into the existing systems the new residential clusters on the left show communal living to accommodate homestays allowing the tourists to immerse themselves within the local culture. Communal dining around local food production and retaining the culture of local handicrafts strengthens social bonds, enabling stronger interaction with locals, tourists and nature.
Spatial Exclusion through the pedestrianization of Chandni Chowk Market, Old Delhi

Public Spaces: Rhetorics & Practices
Urban Design Elective Spring 2022

Through the analysis and critique of Chandni Chowk market, the essay focuses on the evolution of the relationship between the various stakeholders like shopkeepers, tourists, residents and street vendors in a social space that is full of culture, history and heritage. Can it be considered a successful public space? Is pedestrianisation always better?
"It’s an iconic, historic area. This is state-sponsored vandalism. In my opinion, doing nothing is a better alternative than desecration.” AGK Menon, former convener of INTACH.

Chandni Chowk is a dynamic, many-layered market street in Old Delhi, India. Dating back from the mid-17th century the market had come under pressure to modernize, reduce congestion, enhance the flow of goods and increase tourism. In 2020, it was redeveloped as a pedestrian-only street.

This dramatic change elicited a range of reactions from residents, shopkeepers, local visitors and tourists, historians and architects. While some residents were thrilled by the absence of cars, others were disappointed by the spatial exclusion that was evident in the planning. The conflicts of values that shape the experience and use of public spaces like Chandni Chowk were apparent.

The basic design decision split the 26-meter wide Chandni Chowk street in half, disrupting the integrity of the whole settlement. It also created broad sandstone walkways, clean storefronts & manicured landscaping.

The top-down approach toward a ‘world-class street design’ led to a significant change in local people’s relationships with the built environment. Impractical solutions have resulted from the use of street guides and toolkits produced in the Global North for implementation in the Global South.

The redevelopment plan could have been an excellent opportunity to reaffirm the historic significance of this major Mughal ceremonial boulevard, which is an ode to asymmetry and irregularity. The street design could have also carefully analyzed the importance of daily vendors and included them in the proposed scheme. However, it aims to assist specific types of business owners and promote typical tourists to use the space. This raises the questions about why cities and other entities of power are given the almost complete authority to decide how shared spaces and infrastructure should be used and changed.

Having gone from one of the dense crowds to one of car-free tranquillity, this design questions the feasibility of doing so without sacrificing the culture, history, or identity of the space.

The full essay can be found [here](#).
03.

**Enclave of Resistance**

*Pratt Pullman Yard*

Type: UD Studio II  
Team: Bianca Bryant, Avani Agarwal, Gloria Mah  
Role: Team Project  
Date: Fall 2021  
Location: Atlanta, Georgia

Imagining a world after property, we envision an equitable environment focused on social capitalism and community resources that benefit all. Divesting wealth from property and into a collective fund enforces housing as a human right, prioritizes a sense of belonging, and fosters community wealth building beyond boundaries.
Pratt-Pullman Yard is a site rich with history. It originated as farmlands in the early 1900s and eventually became a railroad hub in 1926. The neighborhood historically has been home to increasing numbers of African Americans due to industrial work opportunities and white flight. For roughly the last two decades, Pratt-Pullman remained vacant until 2016, when Atomic Entertainment bought the property with plans to develop a “creative city” - a new film production district. This development proposal threatens the existing community by gentrifying the city at an alarming rate.
It is multi-phase strategy that begins with the local community taking collective ownership of the land surrounding Pratt Pullman stating that no cars are allowed other than local traffic, putting pressure on Atomic Entertainment’s external access and revenues. Once the trust grows large enough, through the strategy of eminent domain, the trust reclaims Pratt-Pullman Yard as a mobility hub and drives out Atomic Entertainment.
As the community land trust grows, so would systems of mutual aid, thus building community wealth by pooling both tangible and intangible resources. A new formal fabric emerges, defining the trust in a physical manner by blurring the lines between what is existing and what is new.
PHASE 3 | COLLECTIVE HOUSING
REGENERATING URBAN FABRIC | SOCIAL STRATEGIES

OPT IN
+ DONATE PROPERTY
+ DONATE CAR
+ WORK AT AN ANCHOR

OPT OUT
+ ACCESS ANCHORS

AFTER
PROPERTY

LEGACY
RESIDENTS

OBJECTS
HOUSE
LAND
RESOURCE
The physical form of the land trust emerges through the deconstruction of the single family home. By expanding and merging, dissolving boundaries and morphing into a rhizomatic structure it creates fluid, multi-generational relationships between the individual and the collective.

The single family home is deconstructed by removing individual backyard boundaries. This is followed by the addition of platforms anchored by the existing houses, which furthers the process of dismantling the rigid, car-dependent grid. The platforms are perforated to preserve existing trees on site. Lastly, the trust will build up volumes above, below and around the platforms as needed over time, creating more housing and civic amenities as the collective grows.
Enclave of Resistance

Enclave of Resistance Atlanta After Property | Fall Semester 2021

Regenerating Urban Fabric | Floor Plans

Ground Floor

Upper Floor
The new fabric combines the principles of porosity with the spirit of the longhouse typology, where walkability is preserved on the ground floor creating a continuous flow between the interior and exterior. This perforated yet interconnected built environment fosters a symbiotic relationship between humans and ecology, instilling a sense of care for both human and environmental surroundings. Structures have the ability to grow and overflow on upper levels, providing more space for individual living and clustering of community activities.
03.

Samples, Sites & Readings

UD Studio II: Atlanta After Property


Sample 01: Kumbh Mela, India
Spatio-temporal flux

Site 01: Bowen Homes - Atlanta, GA
“This complexity must be displaced or replaced, in time, by invoking transitions and systems. The variants of housing allow the experts to both be relieved of the responsibility of planning and yet be able to plan. The plan, instead of being an instrument of organizing space, becomes one of organizing time.”
Allowing the natural environment to dictate the space and time when the community can use the land defies preconceived bounds of the built environment and the regime of property. The unpredictable expansion and contraction of environmental factors determines the way people adapt and live with nature and not against it, as is evident on the site of Kumbh Mela.
In 2009, Atlanta demolished its last public housing project - Bowen Homes - due to high rates of violent crime, drug use, and vandalism. Bowen Homes falls into the regime of property as its failure can be attributed to its lack of maintenance, security, and governmental support of its low-income African American population.
Beyond Walls
Reinventing Springfield neighbourhood & its learning environment through its vacant lots

Type: UD Studio 1
Team: Jiaxin Li, Qiqi Huang, Rhea Pai
Role: Team project
Date: Summer 2021
Location: Newark, New Jersey

The Education system in Newark has induced decades of segregation and community disputes. The occurrence of this phenomena creates unequal and uncollaborative learning spaces. To begin to address this issue, Beyond Walls prompts residents a new methodology of interaction and develop a system of learning that goes beyond schools into the vacant spaces in the city aimed to puncture the current system to bring about systemic change.
Urban policies and systemic inequality structures have led to disinvestment in Newark both in housing as well as education and urban amenities. There is a high degree of disparity & unfairness that predominantly black & brown children face in Newark. Through this project, the aim is to look at bridging this inequality that is by creating more sensitive urban design interventions & modules to better integrate these communities within the built environment.
Schools and their surrounding communities are constantly shaping & being shaped by one another. This plan envisions a neighborhood-wide integrated system of schools that pool resources to build new facilities for people of all ages. This benefits the community and their spaces while also reducing redundant educational structures. The new facilities are created based on the existing education system and extracurricular activities offered in the chosen schools.
In order to strengthen the sense of participation in the community, strategies like buildable libraries on the sidewalk, urban farming, lego-style children’s furniture are included. The proposal also focuses on identifying different functions of the same building. Interventions such as movable study pods in identified vacant lots enable students to learn in different social spaces thereby making their streets safer. Other interventions include community center and consultation center to expand the opportunities for all residents of the neighbourhood.
SHARED ENVIRONMENT | HARRIET SCHOOL

Community Centre

Tactical study pods

Multi Functional Zones