

STORIES OF PLACE AND COMMUNITY

SELECTED PROJECTS IN WESTSIDE NEIGHBORHOOD-ENGLISH AVENUE

VOLUME II: 2021-2023

GEORGIA TECH SCHOOL OF ARCHITECTURE



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Aerial view of the Westside Neighborhood, English Avenue framed against the Downtown Atlanta skyline. Photo by Danielle Willkens.



FLOURISHING COMMUNITIES COLLABORATIVE

A combination of design, technology, research, and entrepreneurship, Flourishing Communities Collaborative (FC2) is a replicable curricular model that builds relationships between students, faculty, practitioners, and the community in applied design thinking and problem solving for disadvantaged communities. Through the work of the lab, we offer courses that integrate student involvement in real projects; community outreach; service to disadvantaged communities; interdisciplinary involvement focused on collaboration; and sustainability in design and construction.

FC2 sharpens the real-world application of Public Interest Technology, which is defined as a set of practices to design, deploy, and govern technology to advance public interest. FC2's practice empowers the community with tools aimed at investment of local expertise, amplifies impact for disadvantaged community members, and offers a replicable framework for smart, sustainable development. We seek to enhance leadership capacity while producing sustainable and creative projects. FC2 offers a platform between the academy and practice as a mechanism for community outreach and engagement. In a mutually-beneficial relationship, faculty, practitioners, and students work together to provide essential services for the community.

The Flourishing Communities Collaborative team engaging in lively dialogue with English Avenue residents in Westside Neighborhood. Photo by Julie Ju-Youn Kim.

Central Guiding Aims

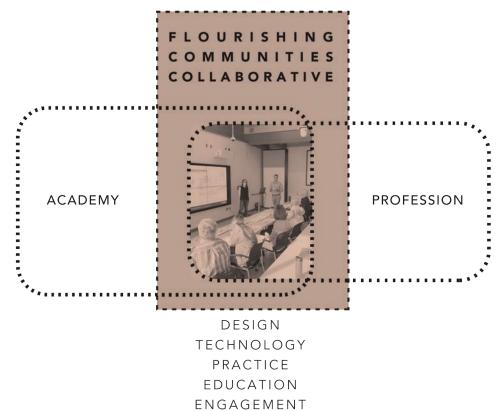
+ How might we best prepare students to apply inventive approaches to problem finding and problem solving across scales and disciplines?

+ What is the value of building connections between students and practitioners who can model best practices in communication, collaboration, and design thinking?

+ How do we leverage our activities in teaching and serving by working with and for communities?

+ How can people be key operators in inspiring and creating new ecological, equitable, and flourishing urban environments and spaces?

Flourishing Communities Collaborative is inextricably rooted in community engagement, outreach, and education. We foster connections between the stakeholders, students, and professionals under the umbrella of the academic setting. Flourishing Communities Collaborative operates in the common ground between the academy and practice, building connections between the community, practitioners, and students through the process of the work.



OUTREACH

Organization diagram of the Flourishing Communities Collaborative at the nexus of academia and profession, bridging design, technology, practice, education, community engagement, and outreach.

A BRIDGE BETWEEN THE ACADEMY AND PRACTICE

Rooted by goals of building equitable, just, and inclusive environments, FC2 provides the opportunity for teaching, scholarship, practice, and service in solidarity, informed by the social, technological, and environmental priorities of our institution. We empower through design by engaging communities. We believe good design is a human right and should be accessible to all.

The architectural field provides no comparable arrangement found in the medical profession to its students, who receive training only at architectural practices structured through the Architecture Experience Program (AXP). These internships are largely disconnected from the university educational effort, with minimal faculty involvement. The model proposed by Flourishing Communities Collaborative addresses and solves this disjuncture. This proposal focuses on greater collaboration in the educational environment, improving business/communication skills, and the application of technological skill through leadership in the integrated design process.

Faculty and practitioners teach students to administer, among with other skills central to environmental stewardship, sustainable performance analytics, and material literacy, along other technical expertise. Aligned with Georgia Tech's motto, Progress and Service, we are invested in establishing a sustainable and innovative educational model that builds the capacity of our students to effect positive impact on our local communities.

Our internal team is small and nimble. The leadership team devotes time and resources aimed towards outreach efforts to bring exposure to the organization. Even as we continue to broaden our reach, we strive to maintain the agility required to address design problems effectively and efficiently.

FC2 offers a bridge between the academic and professional environments. Not just a hypothetical studio exercise, students develop an understanding and appreciation for the implications of the design decisions associated with complex problems. Upon completion of an FC2 project, students leave armed with the skills and knowledge to easily transition into professional practice.

WHAT'S AT STAKE?

Architecture is a complex profession that requires expertise from many disciplines to succeed. Learning to effectively collaborate with people in other disciplines including engineering, construction, real estate development, and building technology has become essential to future generations of architects.

FC2 extends the challenges set forth by "Design for the other 90 [percent]" where designers, engineers, students and professors, architects, and social entrepreneurs from all over the globe are devising cost-effective ways to increase access to food and water, energy, education, and healthcare for those who most need them.

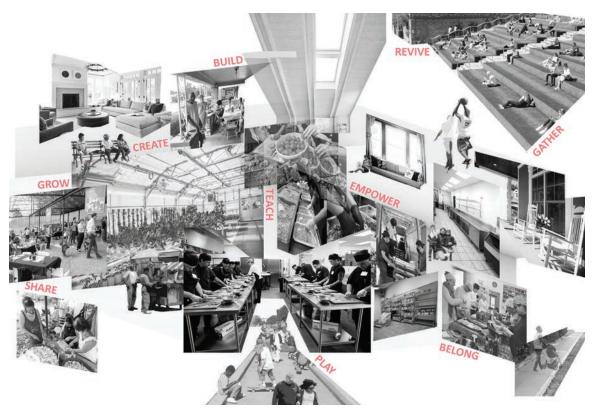
FC2 seeks to lead and serve by:

+ Providing opportunities for community outreach and engagement.

+ Fostering interdisciplinary work in design, construction, and engineering.

+ Supporting student interaction with the professional community.

+ Educating leaders for current and future local and global urban landscapes.



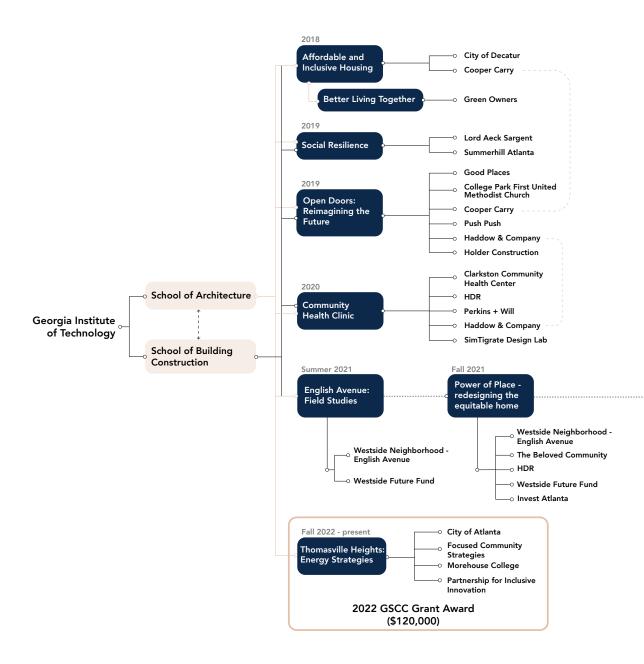
Collage illustrating the core objectives of the Flourishing Communities Collaborative. Collage by Monica Rizk and Rand Zalzala, 2021.

OUR VALUES

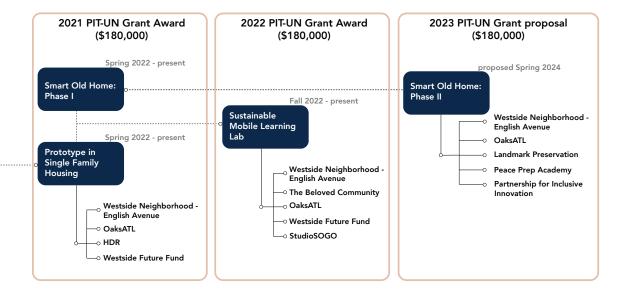
Community Engagement: We empower through design by engaging communities who would not otherwise have access to technology, architecture, construction, or engineering. FC2 serves as a platform for cultivating careers in public interest and social engagement while ensuring our student pipeline includes diverse races, ethnicities, abilities, genders, and socioeconomic status. We empower community partners by providing design methodologies and enable the application of design thinking to their problem-solving pursuits.

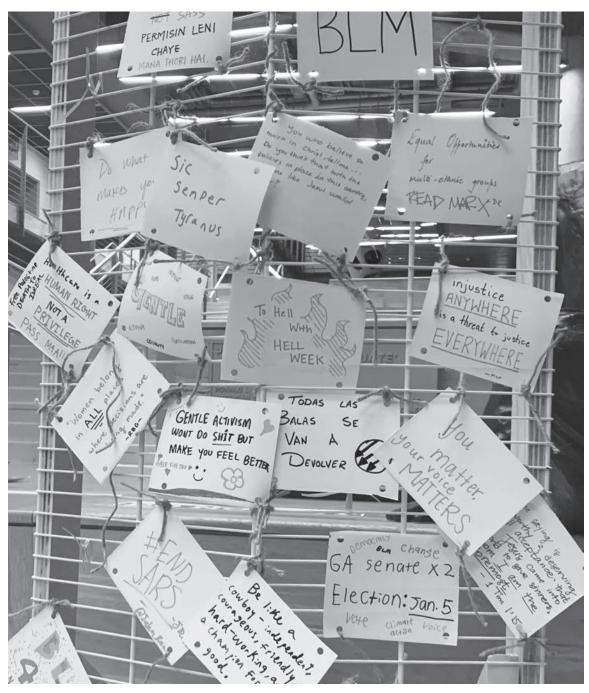
Expanding Access: FC2's equity-focused, impact-oriented approach to creative scholarship and teaching is directly aligned with the priority aims outlined in the Georgia Tech 2020-2030 Strategic Plan. We expand access, amplify impact, and lead by example.

Equity, Diversity, and Inclusion: Rooted by goals of building equitable, just, and inclusive environments, FC2 provides the opportunity for teaching, scholarship, practice, and service in solidarity, informed by the social, technological, and environmental priorities of our institution. We are committed and motivated to increasing access to food and water, to energy, education, healthcare, retail, and affordable housing through actionable, equitable, and creative design proposals and feasible strategies for implementation. FC2 empowers through design by engaging communities. FC2 inspires current and future citizen architects who will create more equitable built environments.



Schematic representation of the Flourishing Communities Collaborative, highlighting its organizational structure, project initiatives, grant procurements, and strategic partnerships.





Installation at Georgia Tech in the Clough Undergraduate Learning Commons (CULC). Katelyn Dimopolous initiated the installation as part of the the studio project in Fall 2020.

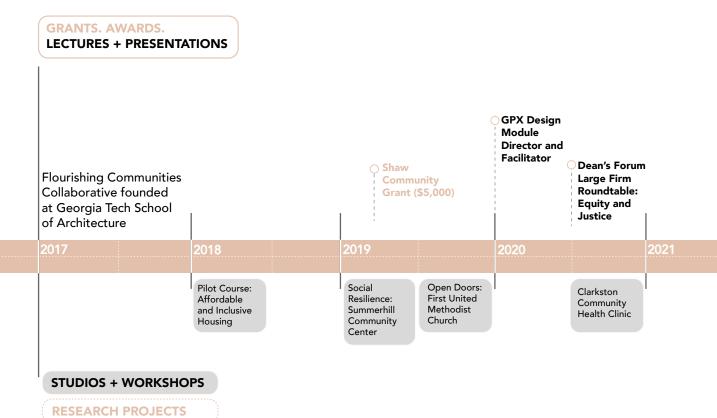
PROJECT ACTIVITIES AND WORK PLAN

Our outreach efforts are offered via design studios and workshop seminars so our students can earn course credit while gaining invaluable experience working with a larger community.

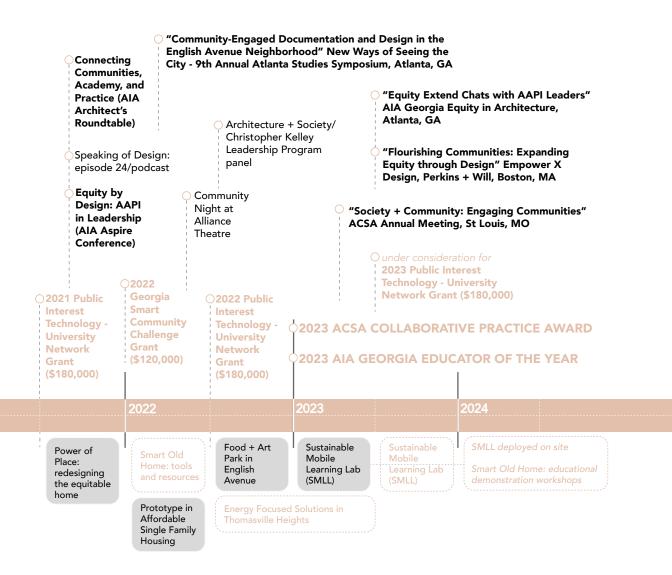
Design studios/Workshop seminars/Independent Study courses: We offer upper-level undergraduate and graduate courses that integrate interdisciplinary partners across the Institute as well as community partners. With at least one FC2 design studio and workshop seminar each academic year over a 15-week semester (August to December; January to April), these courses are grounded by clear design thinking through research-based methodologies. The research question helps prepare our students to critically confront challenges of today. The projects are rooted in structured collaboration in team-based projects with architecture students alongside students in other disciplines.

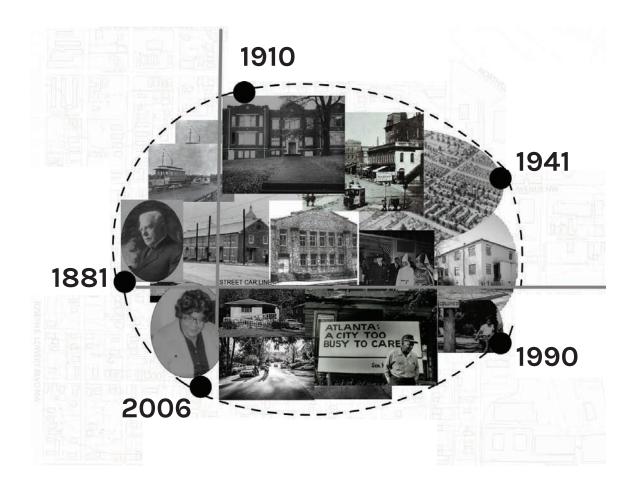
Directed by the scale and scope of the project, students engage in creative listening sessions followed by development of materials for presentation and discussion. Workshop meetings with the community stakeholders take place every third to fourth week.

Summer internships and work-study opportunities: Summer internships allow students to continue to work on projects from the spring semester and/or lay the groundwork for projects for the fall semester.



Timeline showcasing the cumulative impact of the Flourishing Communities Collaborative from 2017 to the present.





The namesake of English Avenue connects this Westside neighborhood to an influential figure in rebuilding and expansion of Atlanta in the decades after the Civil War. Jame W. English was a Civil War captain and Atlanta's mayor from 1881 - 1883.

English Avenue School opened in 1910 to serve white, working-class students from the nearby community, but during the Atlanta Student Movement mobilization in December 1960, the English Avenue Elementary School was bombed.

Along the eastern edge of the neighborhood near the Southern Railway tracks, the Atlanta Housing Authority built Herndon Homes as a segregated public housing complex for African Americans. In 1950, the City of Atlanta changed the racial designation of English Avenue School from white to black, a move that reflected changing demographic trends in the area.

In the late 1990s and early 2000s, violence and the illegal drug trade came to dominate popular perceptions of the neighborhood and the media helped to propogate this perception.

The brutal 2006 killing of 92-year old Kathryn Johnston, a resident of Neal Street, by three Atlanta police officers brought the use of excessive force and police brutality against Black Atlantans to greater public attention. This prompted a reorganization of the City's drug investigation unit. Further, the killing precipitated a renewed push for community mobilization and improvement. A number of organizations and churches have worked for over a decade to build parks and gardens, restore homes, and rebuild community in English Avenue.

Collage by Lauriane Donang and Palav Patel, 2021.

HISTORICAL CONTEXT

The English Avenue neighborhood was first purchased in 1891 by James W. English Jr., son of the Atlanta Mayor. It was initially created to be a working-class white neighborhood and faced many evolutions of racial diversity over the proceeding 130 years.

After the 1917 fire and into the 1940s, the great need for housing brought a more diverse collection of residents. English Avenue and its southern border neighborhood, Vine City, enter its "heyday" in the 1950s and 60s. The two neighborhoods became a hub for civil rights activists. Dr. Martin Luther King Jr. and his wife Coretta Scott King moved into English Avenue in 1967, joining the thriving community. Hunter Street that ran through the core of the neighborhood, named after one of the largest slave owners in the state, was renamed to Martin Luther King Drive in 1976.

Suburbanization started to show its effects in the 1970s when the area's population began to decline leaving large numbers of homes vacant. The boarded-up homes and empty lots provided a space for crime and drug dealing. English Avenue Elementary school followed by closing in 1995. The neighborhood now stands in a similar state with more abandoned houses than occupied ones.

NEIGHBORHOOD CONTEXT

The English Avenue Neighborhood was originally created for white working-class families in the late 1800s. Serving as a racial buffer in Atlanta for over 100 years, English Avenue, as a neighborhood, has had a constant tension. As seen in today's context, there has been a continued debate between outside developers and long-time residents of the neighborhood, which creates other forms of tension as well.

Community stakeholders and partners with Georgia Tech students and faculty engage in active conversations to think about the opportunities to revitalize and create a flourishing community.



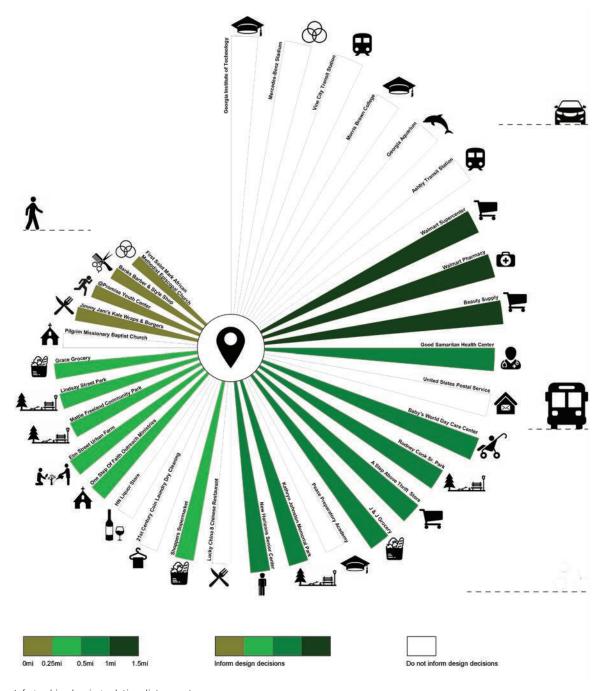
EXISTING CONDITIONS

The English Avenue Neighborhood lies in an interesting part of the city of Atlanta. Most of Westside Atlanta was originally used for industrial purposes, therefore the infrastructural needs, environmental conditions, and accessibility are all at a disadvantage in comparison to other parts of the city.

The zoning of the English Avenue Neighborhood also lies in a major watershed zone, especially in the south end of the community. Water has a difficult time escaping into the drainage system due to the lack of infrastructural capabilities in the area. Homes in this area are thus prone to molding, flooding, and destruction due to this site condition.

Accessibility to healthcare facilities, everyday shopping needs, and green spaces are at a minimum as well. Integrated with designing at the residential scale, designing for these types of programs are other key programming components that help create a flourishing community.

Collage displaying the existing condition of houses on the English Avenue captured through their street-facing facades. Collage by Monica Rizk, 2021.



Infographic showing relative distances to services from the center of the English Avenue of the Westside Neighborhood. Image by Lauriane Donang and Palav Patel, 2021.

ENVIRONMENTAL CONTEXT

The temperature of the air measured by the ordinary thermometer is called as the dry bulb temperature of air, commonly referred as DBT.

+ Summer shading is recommended for the weather throughout the day from June to September.

+ Operable window shades and roof overhangs are ways to mitigate heat during the summer months and allow heat gain during the winter months.

The most effective passive strategy to reduce the heating load for an Atlanta home is by capturing the heat emitted from natural and artificial sources. Solar heat, as well as heat emitted from appliances and the human body, are sources of energy that are as effective as 35% throughout the year in reducing heating loads and keeping the homes warmer during cold weather conditions.

Operable windows and sun shading devices are other passive strategies that reduce the summer heat effect and keep the homes cooler. Active strategies like efficient HVAC systems with environmental controls contribute close to 52% in maintaining comfort conditions.

DESIGN GUIDELINES

Orient solar glazing within 15° of true south in the Northern Hemisphere, or true north in the Southern Hemisphere, and no more that 25° from either orientation.

Screened porches and patios can provide passive comfort cooling by ventilation in warm weather and can prevent insect problems.

Open layouts and window positions in north and south along the wind direction allows cross-ventilation through the main spaces.

Provide double-panel high performance glazing (Low-E) on west, north, and east, but clear on south for maximum passive solar gain.



In this climate, air conditioning will always be needed but can be greatly reduced if building design minimizes overheating.



Vegetation along the west and east can bring cooled air inside as compared to radiated heat from the hard surfaces.





Extra insulation (super insulation) might prove cost effective, and will increase occupant comfort by keeping indoor temperatures more uniform.

A Direct Gain passive heating system integrates the components of the system, solar glazing, and thermal mass, directly into a building.

Large solar glazing areas, sized to admit sunlight for heating in winter, will also admit sunlight during warm periods when it is not wanted.

Roof overhangs help manage heat gain and glare to maximize passive solar benefit and protect from rain, hail, and the effects of overheating and ultraviolet radiation.



A building's envelope—the barrier between the inside and outside of a building—moderates the transmission of heat, air, and moisture.



The most important factor in collecting the sun's energy is the placement and size of glazed openings.



Summer 2021 Field Study: Westside Neighborhood - English Avenue

Fall 2021 Proposal for Socia Production: The Porch



Fall 2021 Proposal for Socia Production: Moment Home/ Momentum

turning theory into practice



Diagram showing the inter-related projects initiated since 2021 in the Westside Neighborhood-English Avenue.

2022 PIT-UN Grant Award

ideas inform this recently awarded proposal

Spring 2023 - present Sustainable Mobile Learning Lab

Spring 2021 - present Prototype: Affordable Single-Family House and Accessory Dwelling Unit

2021 PIT-UN Grant Award



2023 PIT-UN Grant application

Spring 2021 - present Smart Old Home: Online Resource



Fall 2023 -Smart Old Home: educational workshops

Market & Pharmacy

The and

OPEN

BUSY

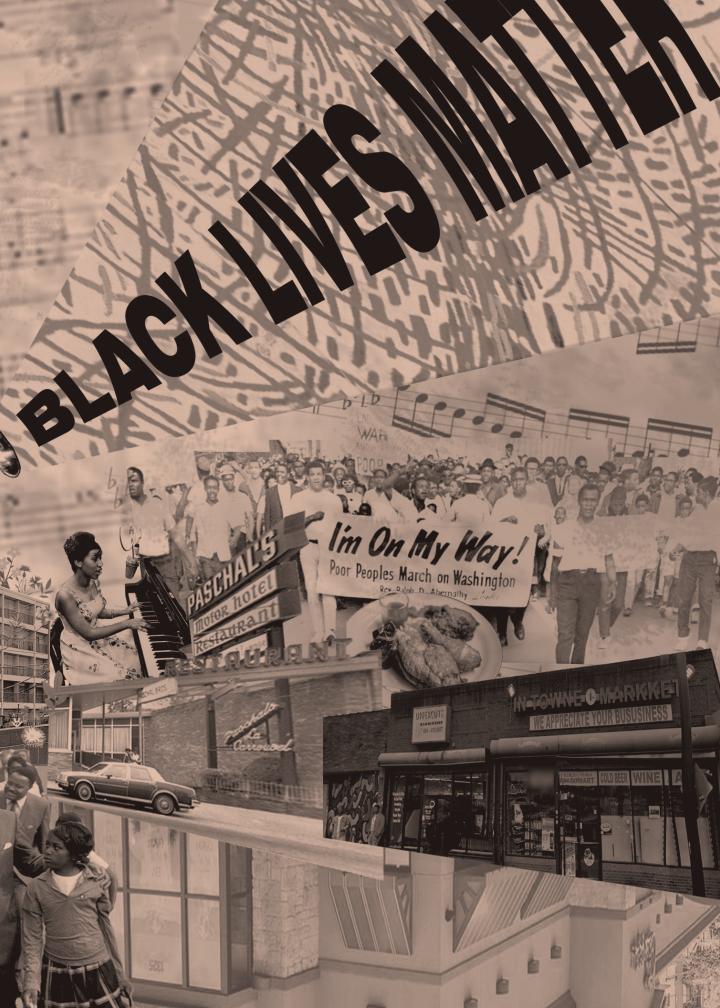
Recycle

Martin Luther King

DR NW

Paschal

BEE CAFE





Property map of English Avenue, Westside Neighborhood, in which the residential lots are represented in white.

Previous Page: Collage probing the active role of architecture in democracy. Collage by Minji Kim 2020.

PROJECTS

THE POWER OF SOCIAL PRODUCTION FALL 2021

Building on the field study work from the summer, this studio offers the challenge for the architects to establish a proactive role in engagement with community stakeholders.

Studio Provocations:

+ Can we imagine a role for the architect where the act of design is an entrepreneurial and innovative endeavor—for those who are underserved and/or under-resourced?
+ How can we be creative in imagining new models of dwelling with shared community services?
+ What does a prototype for affordable living units (singlefamily, multi-family) that flexibly responds to the changing demographic of non-family households look like?
+ What is the minimum footprint for such a housing unit?
+ How has technology allowed for new and/or radical thinking in these areas?

Faculty:

+ Julie Ju-Youn Kim, AIA, NCARB

Students:

- + Weston Byerly
- + Luke Davis
- + Lauriane Donang
- + Robert Feagans

- + Gillian Gingher
- + Patricia del Moral-Suazo
- + Nirmit Patel
- + Palav Patel
- + Katie Reilly
- + Breanna Rhoden
- + Monica Rizk
- + Rand Zalzala

Collaborators:

- + Robby Bryant, HDR Architecture
- + Lee Harrop, Westside Future Fund
- + Jennifer Fine, Invest Atlanta
- + Jessica Flake, Studio SOGO
- + Michael Street, HDR Architecture
- + Winston Taylor, Beloved Community

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THE PORCH

Monica Rizk and Rand Zalzala

The Porch is a multifaceted residential complex that caters to the entire community with an array of amenities. It features a bookhouse, a restaurant, a community kitchen, spaces dedicated to children's activities, computer labs, and diverse learning environments.



Exterior rendering showing the day and night use of the open public spaces defined by the Porch.

Isometric drawing showing the distribution of various outdoor spaces in the complex.

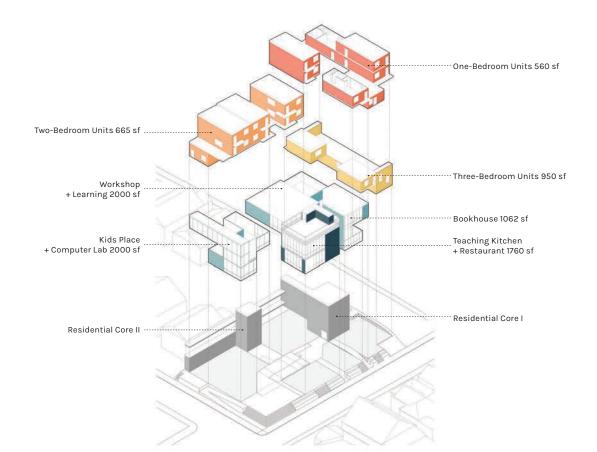
Exterior rendering showing the courtyard and hinting at the variety of possible activities it can host

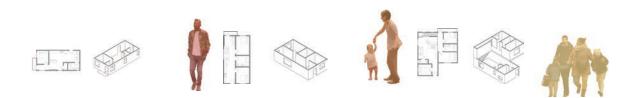
PROJECTS





THE POWER OF SOCIAL PRODUCTION 33





RESIDENT: WILSON

Local resident passionate about cooking and nutrition. Works at the Farm to Table Cafe on James P. Brawley Drive.

"I love to share my passion for cooking with people in my community and outside of it! I've been leading weekly classes for six months now and many people, especially college students, told me that they come to our Community Restaurant on Wednesdays to try my new recipes.

My grandmother would be happy to know that I'm keeping her home alive."

RESIDENTS: NORA & IZZY

Single mother, works at the Bookhouse downstairs, and her 5 year old daughter.

"I can easily drop off Izzy at the Kids Place during Storytime activities in the morning while I buy fresh produce from the Yellow Store Market.

Izzy is 5 and has already met many neighbors and friends. I tutor Math at The Porch Workshop + Learning in the afternoon and occasionally take cooking lessons at the Teaching Kitchen. I want Izzy to grow up eating healthy home-cooked meals and to teach my own classes one day!"

RESIDENTS: JOHN, SANDRA, ARIANA & JIMMY

Parents of two children who work at the Porch Bookhouse and the local Yellow Store

"My wife and I are comforted to know that we can be at work while our children have a place that supports their educational growth and provides tutoring services with access to computers and internet after school at The Computer Lab. Ariana (9) told us that her science tutor goes to Georgia Tech and now she wants to go to college to become a doctor. Jimmy (5) already knows how to play Minecraft with his friend Izzy and they both want to go on a field trip to the School of Architecture near us to look at student models."

PROJECTS



THE EDGE

Weston Byerly and Nirmit Patel

The Edge establishes a critical foundation for social production while also simultaneously bolstering the community through the introduction and mix of programs such as a daycare and a senior center.



A collage showing the proposed project overlayed onto the existing condition.

This exterior rendering illustrates the corner situation of the buildings, suggesting a host of potential outdoor activities.

Open circulation fosters a seamless fusion between the outdoor environment and the newly proposed project.

PROJECTS



POST URBAN RETROCORES

Patricia del Moral Suazo and Gillian Gingher

We were very inspired by Gladys Knight, who was a resident of English Avenue during her childhood. We imagined a place where residents could grab a drink and listen to her music on vinyl.



Aerial view of the project under the shroud of night, highlighting the site's conditions.

Conceptual collage demonstrating how music and community gathering form the core of the project.

Interior rendering of the shared space that will bring the community together.





URBAN FRAME: YELLOW MARKET RECLAMATION

Luke Davis and Robert Feagans

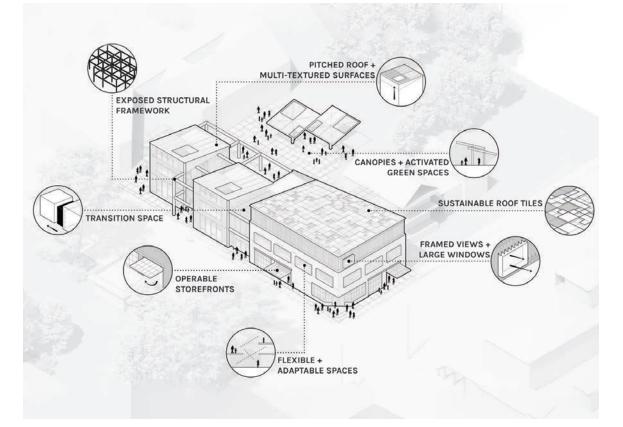
The Little Yellow Store has been a vital part of the English Avenue Community for decades and has only recently fallen into disrepair and abandonment. Having seen so much change in Atlanta and still remaining the hub for this community, we are reclaiming the Little Yellow Store through the use of new architectural technologies and with simple yet robust moves to the facade.



Exterior rendering displays the project's street facades along the vibrant English Avenue.

Isometric drawing emphasizes the unique architectural components of the project.

Exterior rendering offers a view of the landscaped backyard, framed by verdant canopies.





THE ANCHOR

Lauriane Donang and Palav Patel

The Anchor addresses the need for services in the Westside Neighborhood - English Avenue. Envisioned as an open playground for food, beauty, and technology, this project sits as a tree-house reimagined, anchoring this important corner in the center of the community for the current residents and for visitors.



+ Reinforce the unique identity of the neighborhood through the use of wood and other natural building materials. Material choice is used to strengthen the architectural style of the neighborhood. Furthermore, the anchor's material design strategy remains light throughout in contrast to the heavy masonry of the St. Marks Church and the Little Yellow Store. + Identify key infrastructure projects and investments, including an aquaponics greenhouse for food production and farmer's market. We also included rentable spaces that empower small businesses and start-ups and access to infrastructure that improves connectivity to adjacent areas and other programs within the neighborhood. + Propose strategies to strengthen existing neighborhood asserts. The proposal supports existing urban agriculture by lifting the green space/park and creating an activated green space on the rooftop to provide views into the church. It also provides support to existing programs and enhance them to increase community engagement.







Rendering showing the open circulation and its relation to indoor spaces.

Exterior rendering showing the entrance space defined under the corner canopy of the project.

Cross section perspective of the English Avenue showing the overflow of activities from the project onto the street.

Interior view of one of the commercial spaces.



MOMENT HOME/MOMENTUM

Katie Reilly and Breanna Rhoden

The house is the starting point for the fabric of a neighborhood. This proposal seeks to establish a framework for living that can accommodate diverse family arrangements while simultaneously offering paths from tenant to home ownership. Building on the vernacular of the neighborhood and re-imagining the shotgun house, this project offers a nimble set of housing arrangements that can flexibly adapt to changing needs and demands.



From meetings with community stakeholders, our reading of the 2017 Land Use Framework Plan and neighborhood analysis we determined that our primary concerns would be addressing the high cost of homeownership and stitching together the successful patches of urban fabric in English Avenue.

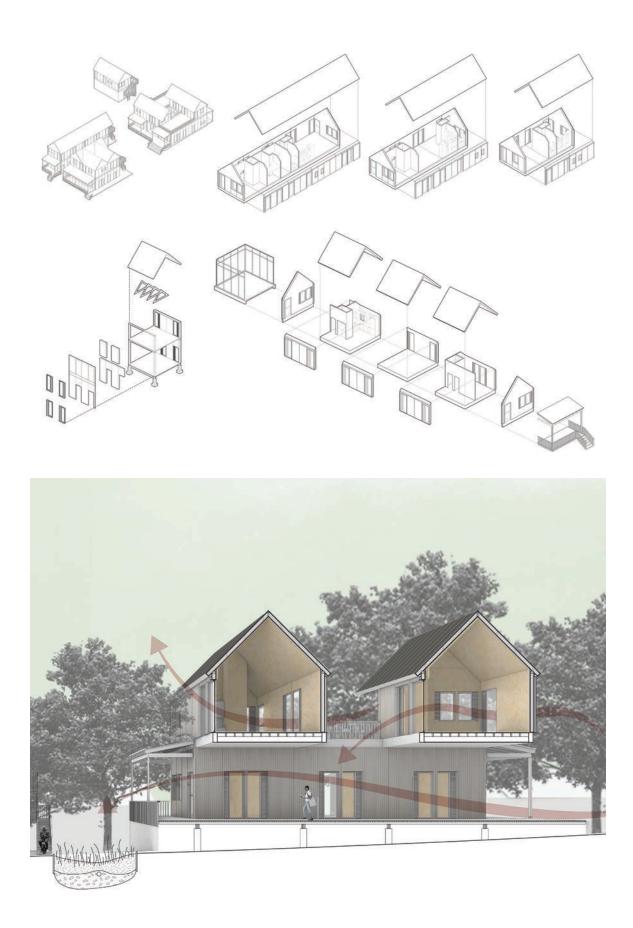
There is an incredible opportunity to leverage the existing vacant lots to build a variety

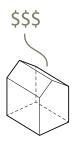
of residences and ADUs. This concept of multiple families on one lot, multiplied across the neighborhood, creates a path to more affordable homeownership for a variety of family types.

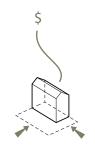
Additionally, extending the existing historic vernaculars (like the shotgun typology), that are inherently naturally daylit and ventilated, cuts down on utility costs. Raised floor structures and the integration of bioswales

and rain gardens into the landscape mitigate stormwater flooding. Food gardens and pollinator plants contribute to a balanced neighborhood ecosystem.

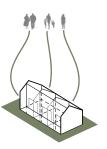
Finally, the shared exterior spaces and mix of family types in close quarters provide opportunities for neighbors to get to know each other, potentially provide for each other and build a more resilient, flourishing community.





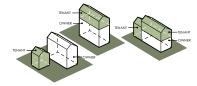


Minimizing square footage lowers down payment

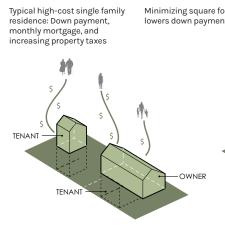


Flexible layouts provide for different family types and allow for classifications of less bedrooms to

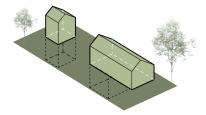
keep property taxes lower



Different types of home ownership and accessory dwelling unit configurations



Detached accessory dwelling unit can be rental, guest cottage, or mother-in-law suite for homeowners Light wood-frame construction on a 4 ft grid allows for simple assembly during construction and future adaptation to new materials

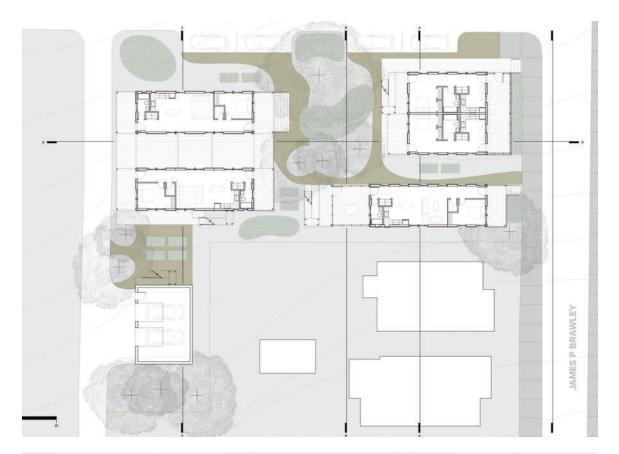


Replant pollinator trees and local plants bring back the natural ecosystem



Proposed strategic plans to reduce the homeowners' expenses.

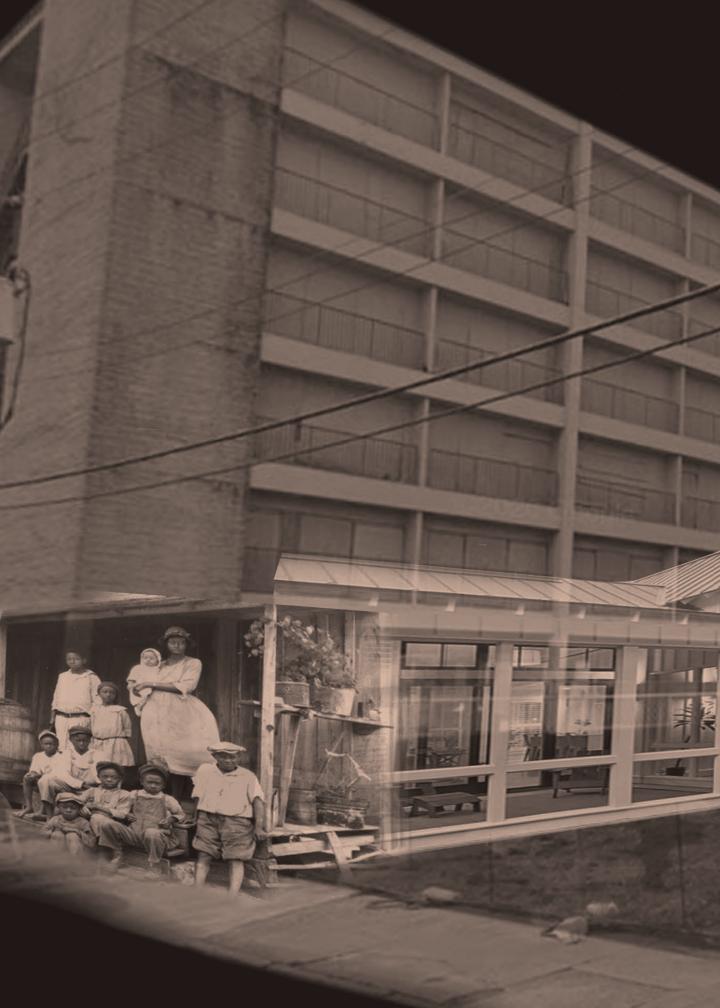
Street facade of the residential units showing the shared outdoor space designed inbetween the two.



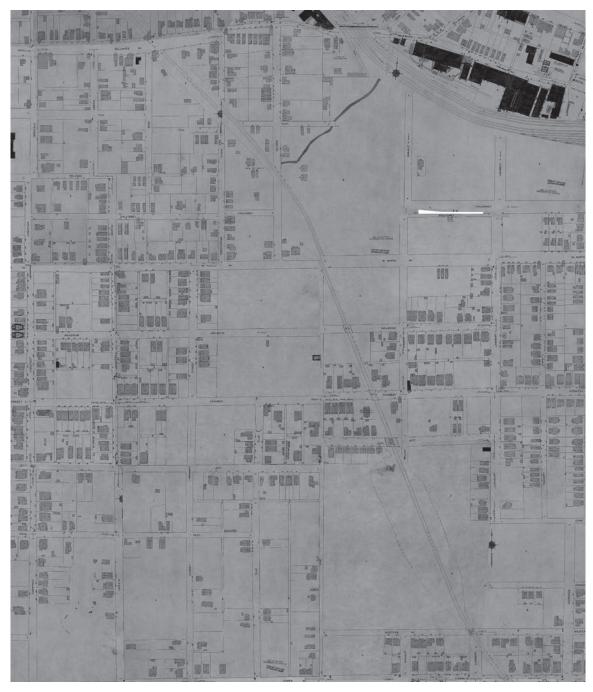


First-floor plan of the project underscores the spatial relationship among diverse units, mediated by expansive outdoor spaces.

Cross-section of the residential units reveals how the structures adapt to the site's topography.







Insurance map showing the Westside Neighborhood published by the Sanborn Map Company, 1911.

Support for this research was provided by the Public Interest Technology University Network Challenge Fund, a fiscally sponsored project of New Venture Fund. The Public Interest Technology University Network's challenge is funded through the support of the Ford Foundation, Hewlett Foundation, Mastercard Impact Fund with support from Mastercard Center for Inclusive Growth, Schmidt Futures, and The Siegel Family Endowment.

Previous Page: Collage overlaying different social and historical stradas of the Westside Neighborhood. Collage by Barrett Blaker, 2020.

DESIGN TECHNOLOGY MANUAL SPRING 2022

The work from this class supports a funded design and research project that addresses the socioeconomic and technical needs of Westside neighborhood English Avenue. This project leverages existing community resources to develop affordable housing and the establishment of positive neighborhood-based, citizen-centric social impact and equity through technology.

This project proposes tools and methods enabling underserved communities to apply design thinking in pursuit of solving problems. We prioritize the needs of the Westside Neighborhood English Avenue community by developing frameworks that support building social capital for the neighborhood.

This project maintains the current historic fabric of singlefamily homes, building equity for the residents. In a historically vibrant, but rapidly shrinking neighborhood, our work will bolster retention and help to stabilize the community.

Faculty Advisor

+ Breck Small

Graduate Research Assistants

+ Ranjitha Jayasimharao

Students

+ Julie Ju-Youn Kim, AIA, NCARB + Weston Byerly

+ Luke Davis

- + Lauriane Donang
- + Charles Dilcher
- + Robert Feagans
- + Keyhan Khaki
- + Minji Kim
- + Patricia del Moral-Suazo
- + Palav Patel
- + Patricia Rangel
- + Breanna Rhoden
- + Eden Wright

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+ William R. Bryant, Jr., Planning Section Manager, HDR Architecture

- + Jessica Flake, HDR Architecture
- + Lee Harrop, Westside Future Fund

+ Tarek Rakha, PhD, Assistant Professor, Georgia Tech

- + Michael Street, HDR Architecture
- + Winston Taylor, Beloved Community

+ Danielle Willkens, PhD, Assistant Professor, Georgia Tech

DESIGN TECHNOLOGY MANUAL

We developed this manual for the design and construction for a single-family house prototype. The team approached the project through three related considerations:

+ issues on community and identity,

+ advancements in technology and production, including evaluating opportunities for innovative fabrication/ assembly initiatives and for reuse- repurposing finite resources,

+ energy performance, resiliency, and sustainability.



Flourishing Communities Colloborative team sharing their projects with academics, professionals, and community members.



Breanna Rhoden and Katie Reilly from Flourishing Communities Colloborative are presenting their project.

+ Listen - Ask - Understand

Our primary goal is to listen to the needs of the community and seek first to understand.

+ Establish Givens

+ The community lacks access to technology and resources to support entrepreneurial efforts.

+ This is a historically vibrant but rapidly shrinking neighborhood.

+ The median income for all households in the Westside is \$24,011, compared to \$46,631 for Atlanta as a whole; and nearly 80% of Westside households earn less than the median Atlanta household. The current residents have expertise and ambition that can be directed towards empowering the community members as agents of change.

+ Investment in retrofitting and updating current housing is needed to build community retention.

+ Research

Through site and environmental analysis, and through careful precedent study and analysis, we determine possible frameworks to guide the design process.

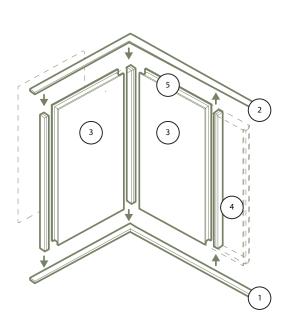
+ Design Proposal

Propose design options that are sustainable, deeply affordable, and beautiful.

DESIGN OF AFFORDABLE SIP SYSTEM

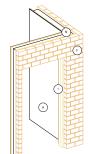
Weston Byerly and Luke Davis

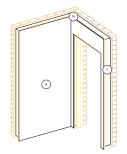
This concept incorporating salvaged and recycled SIP (Structural Insulated Panel) system marks a new era in affordable sustainability, ensuring that eco-friendly design is accessible to all. These panels bring numerous benefits including active surfaces that can absorb, store, and release heat, contributing to energy efficiency. The design further leverages renewable energy sources, enhancing its sustainable footprint.



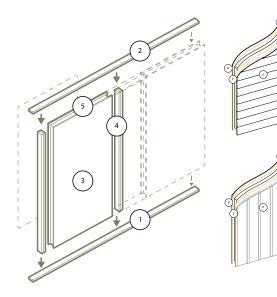
Corner Wall Detail

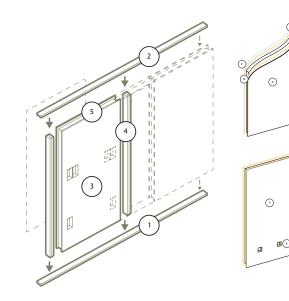
- Standard Footer
 2" x 4" nominal dimension
 Inset to panels-connected at ends
- (2) Standard Header 2"x 4" nominal dimension Inset to panels-connected at ends
- Recycled Gypsum
 Interior finished with recycled gypsum
 w/ recycled woods & paper from DeCon.
- Connecter Joint
 2x nominal dimension
 /metal C-channel to inlay electrical
 Sealant strip connection panels to joint
- (5) Recycled Insulation w/ recycled woods & paper from DeCon. / Reused batt insulation
- 6 Standard Door Frame Framed w/2x nominal lumber Cutout - 40" wide 82" tall typ. door - 36" 80" tall





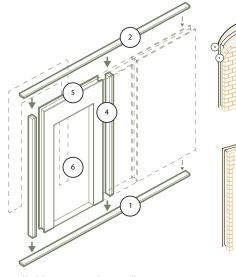
(7) Standard Window Frame Cutout - 26" wide 38" tall typ. door - 24" wide 36" tall





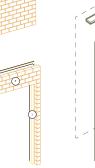
Standard Wall Detail

Electrical/Fixture Wall Detail





- (A) Interior Gypsum Board
- B 3/4" OSB Board
- © 4"/6" Recycled Insul.
- D 3/4" Exterior OSB Board
- E Vapor Barrier



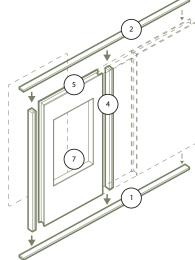
(F) Preassembled Brick Facade

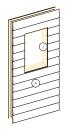
(G) Preassembled Hardie Board

1 2x Wood Door Framing

(J) 2x Wood Window Framing

 $(\ensuremath{\overline{\mathsf{H}}})$ Preassembled Board & Batten







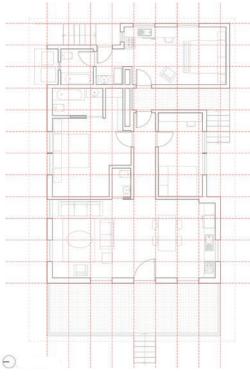
- (K) 4" X 4" Electrical Outlet Cut-In
 - (L) 4" X 4" Lighting Switch Cut-In
 - M 2"/4" Diameter Plumbing Cut-In
 - (N) Insulated Corner Connector Joint

DESIGN TECHNOLOGY MANUAL

A SUSTAINABLE AND SAFE DESIGN

Keyhan Khaki and Lauriane Donang

A home that is comfortable and safe for its occupants. The new renovated design uses the footprint of the existing house that is to be demolished to exempt the project from new zoning rules and also to maintain the existing streetscape. Incorporating the SIP system designed by Byerly and Davis, this proof-of-concept proposal maximizes natural daylight and cross ventilation in the house which maximizes its energy efficiency.



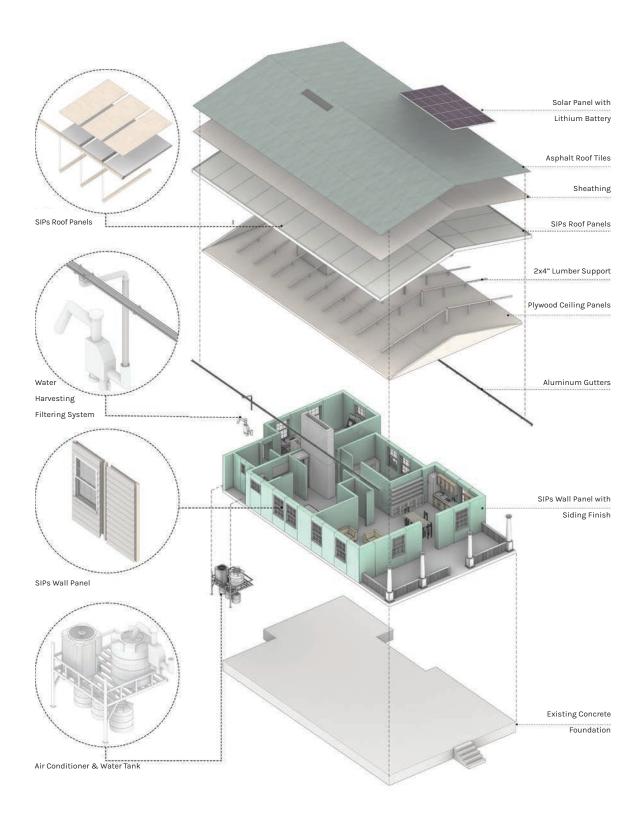


The first floor plans showing the proportional ratio among various spatial components of the house. The proposed plan fits into the footprint of the existing structure.

Exploded axonometric highlighting the construction layers and details of the project.

PROJECTS

Corner Wall



DESIGN TECHNOLOGY MANUAL

OPTIMIZED CLT DESIGN

Minji Kim and Eden Wright

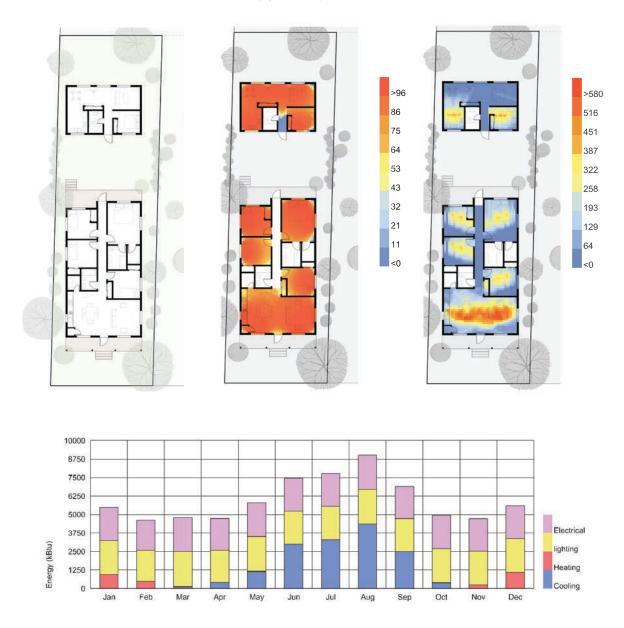
Leveraging CLT's unique qualities, the design aims for speed, customization, and aesthetic craftsmanship. The process utilizes prefabrication methods, where CLT panels are specifically crafted as per the project's requirements and delivered to the site, ready for assembly. This approach reduces construction time, minimizes waste, and results in a more environmental-friendly construction process.



Cross section of the house highlighting the integrated contruction systems.

Spatial Daylight Autonomy (sDA)

Annual Sunlight Exposure (ASE)



Diagrams displaying analyses of the spatial daylight autonomy and the annual sunlight exposure.

Bar graph showing the energy consumption of different components of the project by months throughout the year.

DESIGN TECHNOLOGY MANUAL

KIT-OF-PARTS DESIGN

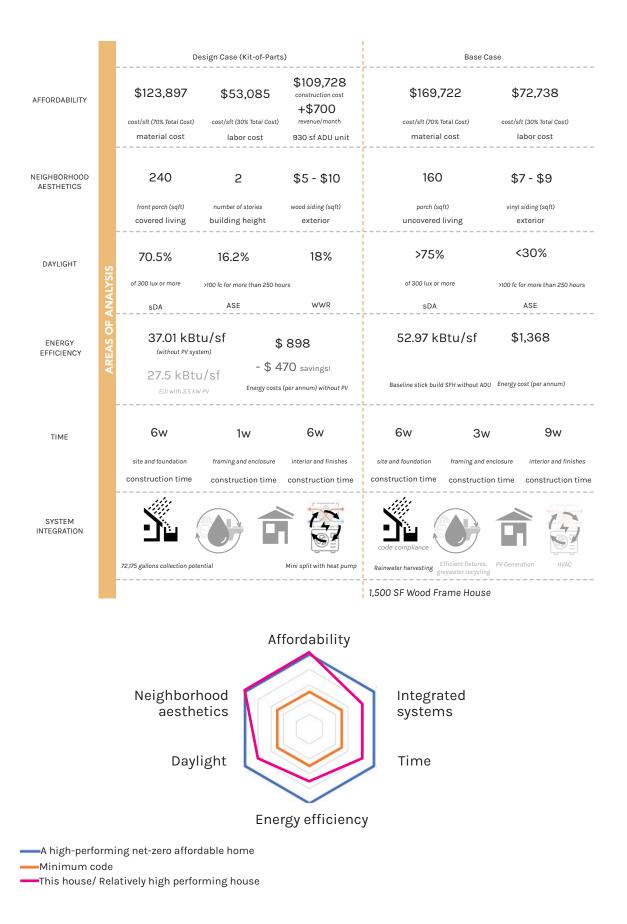
Breanna Rhoden and Katie Reilly

This proposal seeks to establish a framework for living that can accommodate diverse family arrangements while simultaneously offering paths from tenant to home ownership. Building on the vernacular of the neighborhood and re-imagining the shotgun house, this project offers a nimble set of housing arrangements that can flexibly adapt to changing needs and demands.



Cross section of the project highlighting the the spatial design allowing cross ventilation on both floors.

Table showing the results of multiple anaylses of the project compared between the proposed project and the existing condition.



DESIGN TECHNOLOGY MANUAL







Aerial view of the site for 746 Jett Street Residences.

Support for this research was provided by the Public Interest Technology University Network Challenge Fund, a fiscally sponsored project of New Venture Fund. The Public Interest Technology University Network's challenge is funded through the support of the Ford Foundation, Hewlett Foundation, Mastercard Impact Fund with support from Mastercard Center for Inclusive Growth, Schmidt Futures, and The Siegel Family Endowment.

Previous Page: Collage portraying activism expressed through three fundamental principles: 'Yell', 'Talk', and 'Hum', symbolizing varying degrees of public engagement. Collage by Katelyn Dimopoulos, 2020.

PROJECTS

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BUILDING A SUSTAINABLE COMMUNITY THROUGH DESIGN AND TECHNOLOGY SPRING 2022

Addressing socioeconomic and technical needs of Westside neighborhood English Avenue, our project leverages existing community resources to develop a prototype for affordable housing and the attainable establishment of positive neighborhood-based, citizen-centric social impact and equity through technology. We prioritize the needs of this community by developing frameworks that support building social capital for the neighborhood.

FC2 designed and developed a prototype for a replicable model for an affordable single-family house redefining resiliency and economic sustainability. Turning theory into practice, this project brings an academic project into a real-world application by establishing a replicable model for future development and construction for affordable housing, designed to meet building performance criteria, thereby lessening energy burdens on future homeowners. A team of recent graduates, supported by practitioners offering technical expertise, developed and executed a set of documents for permit and construction.

Co-Directors

+ Julie Ju-Youn Kim, AIA, NCARB

+ Tarek Rakha, Ph.D.

Developer + Westside Future Fund

Builder

+ OaksATL

Consultant

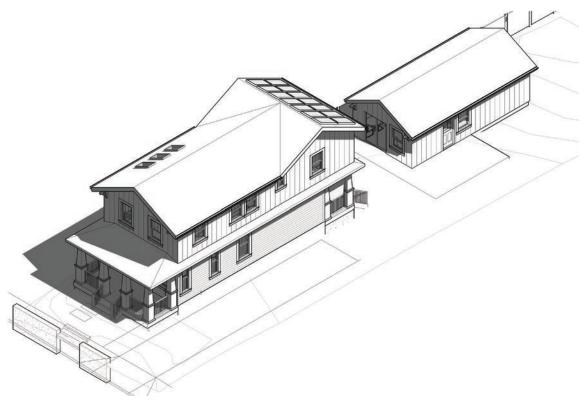
- + Frank Wickstead, School of Building Construction
- + Michael Street, HDR Architecture
- + Robby Bryant, HDR Architecture

Project Team

- + Marianna Godfrey
- + Ranjitha Jayasimharao
- + Surabhi Maheshwari
- + Katie Reilly
- + Breanna Rhoden

746 JETT STREET RESIDENCES

This proposal establishes a replicable model for future development and construction for affordable housing, designed to meet building performance criteria, thereby lessening energy burdens on thousands of future homeowners. Our approach demonstrates the value of a computational, quantitative, and data-driven approach to solving social and cultural problems, expanding equity for those who lack access to resources.



Specifications

+ All the systems are proposed to achieve more than 400\$ in energy savings every year.

- + Main House: 3 BR/ 2 BATH | 1,760 SFT
- + Accessory Dwelling Unit (ADU): 512 SFT

Fabrication System

+ Code compliant stick framing for the main house with high performing systems and innovative structural insulation panels (SIP) system for ADU.

Environmental Systems

+ Advanced enclosure - air sealing package with superior insulation measures (R-20 for walls, R-38 for walls and other envelope efficiency measures like Zip sheathing).

+ VRF system with whole house dehumidifying ventilation.

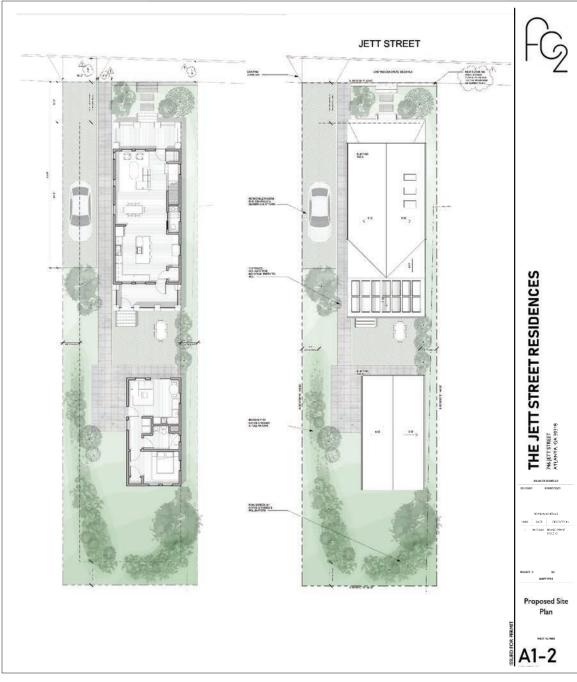
+ Energy star rated appliances.

+ High efficiency electric water heater 90% LED lighting.

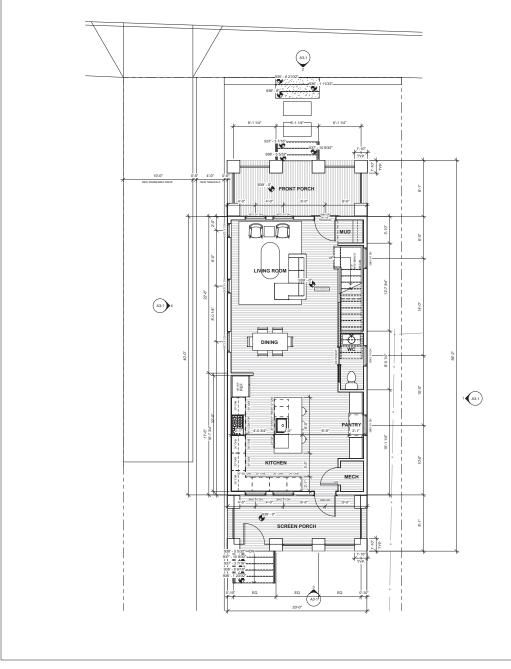
- + Smart thermostat to influence household energy use pattern.
- + Solar ready home.
- + No VOC paints.



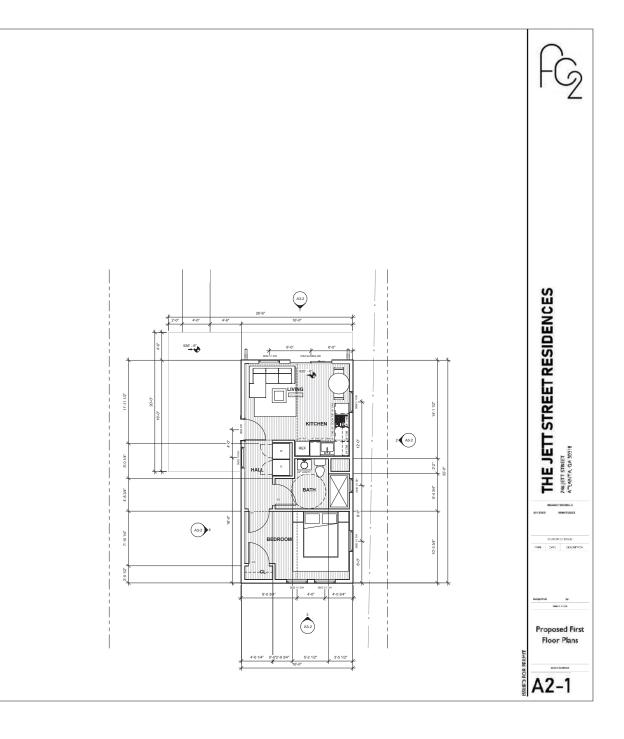


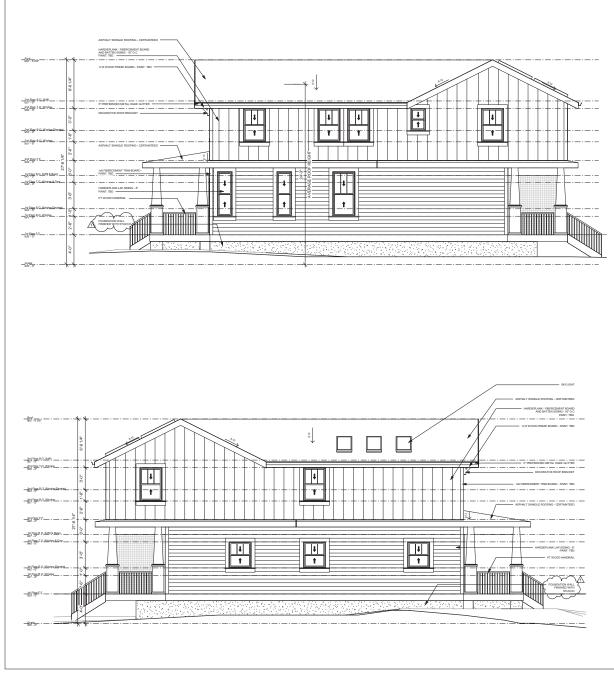


Proposed site plan showing the spatial relation between the main house and accessory dwelling unit.



Proposed first floor plans for the main house and the accessory dwelling unit.



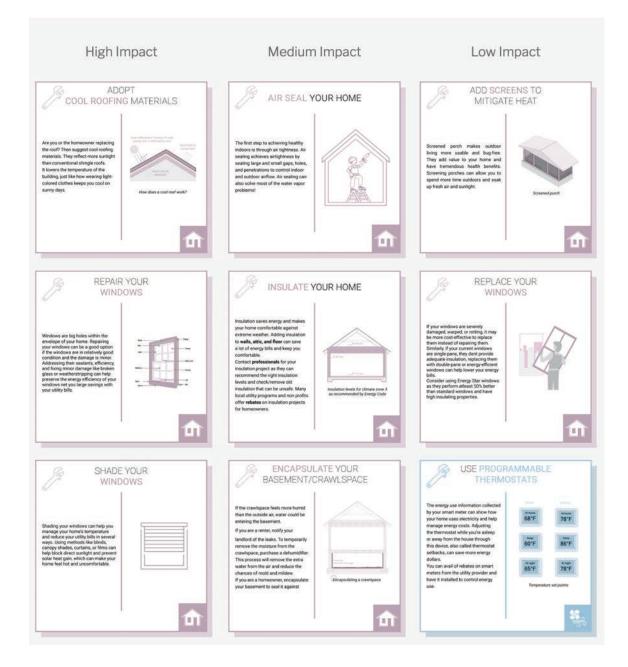


Proposed exterior elevations for the main house and the accessory dwelling unit.









A sample selection of Smart Old Home Tips Cards.

Support for this research was provided by the Public Interest Technology University Network Challenge Fund, a fiscally sponsored project of New Venture Fund. The Public Interest Technology University Network's challenge is funded through the support of the Ford Foundation, Hewlett Foundation, Mastercard Impact Fund with support from Mastercard Center for Inclusive Growth, Schmidt Futures, and The Siegel Family Endowment.

Previous Page: Spatial collage by Katie Reilly, 2020.

SMART OLD HOME (SOH) SUMMER 2022

Atlanta has the 4th highest energy burden in the country where low-income residents pay more than 10% of their family income on energy bills. Despite the several programs that offer weatherization and bill assistance services—and one million home that meet eligibility criteria for LIHEAP—only 15% of households received support in 2019.

In an effort that started in the classroom, a team of student researchers from three universities initiated development of an online resource for current and future homeowners in disadvantaged communities. Smart Old Home is an online resource that offers simple solutions to reduce energy bills. Thousands of current and future homeowners have already started to benefit from this resource.



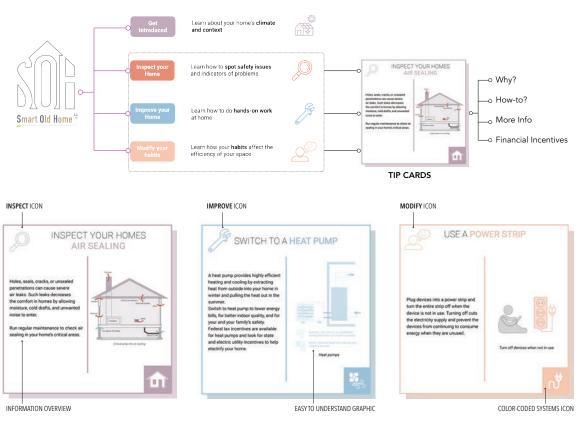
Faculty Advisor + Julie Ju-Youn Kim, AIA, NCARB

Students

- + Dmitri Finch (Morehouse College)
- + Marianna Godfrey
- + Joirdan Jackson (Atlanta Clark University)
- + Ranjitha Jayasimharao
- + Surabhi Maheshwari
 - + Spencer McMains
 - + Eleanna Panagoulia
 - + Ryan Stoddard

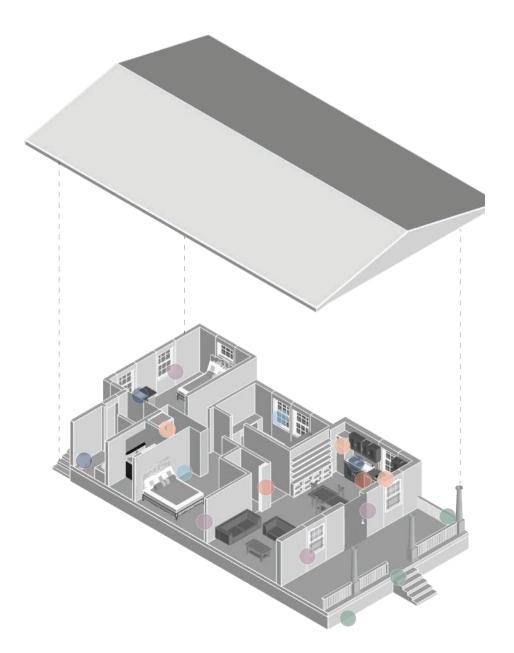
Smart Old Home

- + Offers home efficiency solutions for living space and health.
- + Fits within the framework of FC2's commitment to community engagement and expanding access.
- + Combines the use of building technology and data research to provide solutions for homeowners.
- + Presents information in an approachable and understandable format with easy to use instructions.



Diagrams explaining how to read and use the Smart Old Home tips cards.

Six main measures to transform old buildings into more energy and cost efficient homes.





Health and Safety Measures + Inspect for mold/moisture + Install smoke and carbon monoxide alarms

+ Evaluate heating and cooling systems

Appliances and Lighting Measures + Install efficient light sources + Optimize use of appliances

- + Use natural lighting



Building Envelope Measures

+ Install insulation where needed + Perform air sealing

+ Repair leaks in roofs and walls



Exterior Measures + Select native plant species

- + Plant rain gardens to avoid flooding
- + Use plants for shading

Water Measures

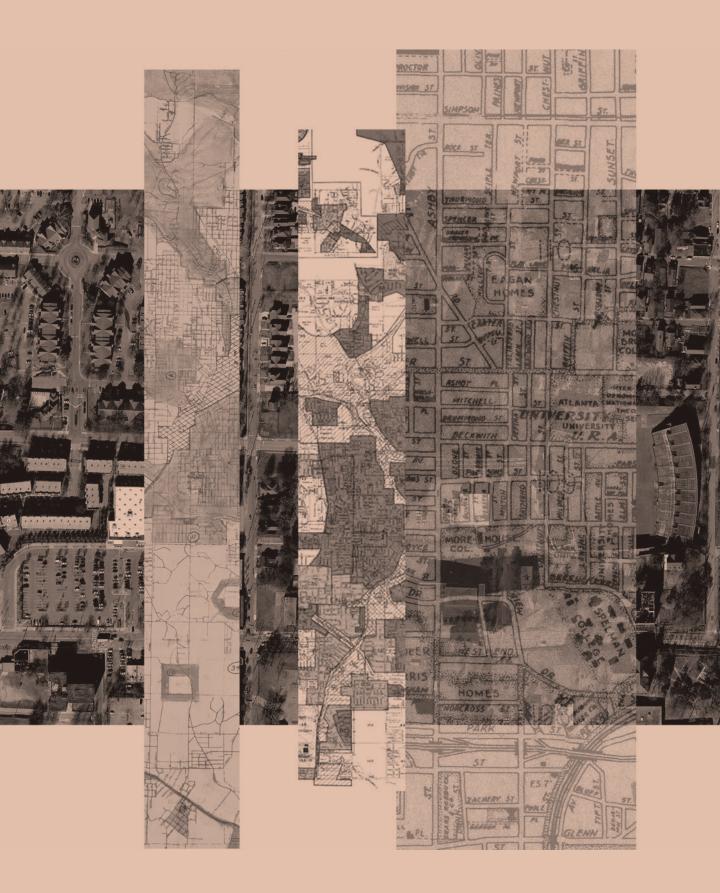
- + Maintain consistent hot water temperature
- + Optimize use of laundry machines and dishwashers + Install low-flow faucets

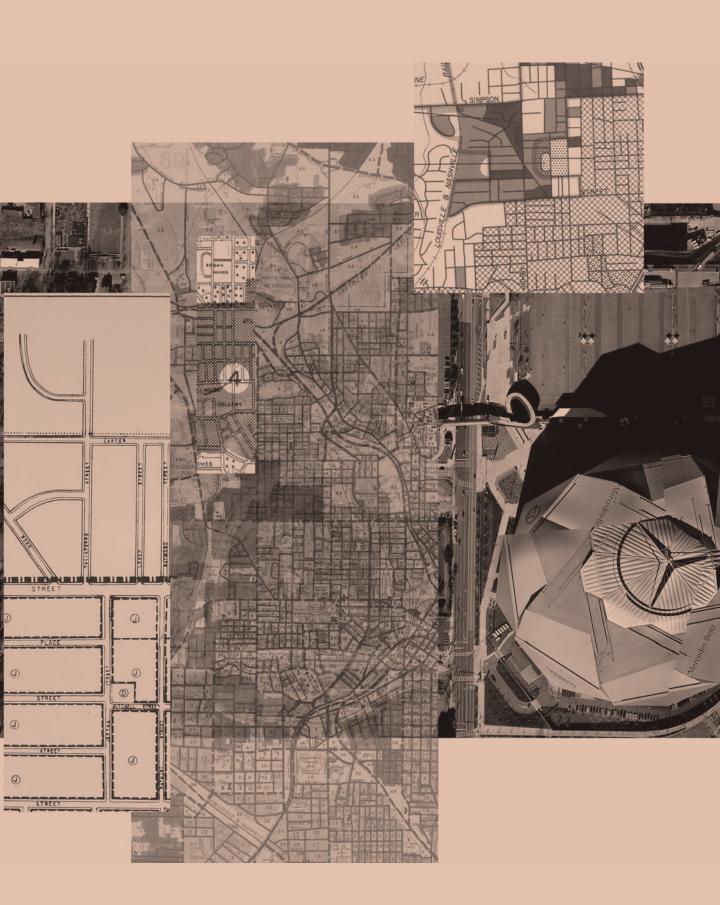


HVCA Measures

- + Clean, tune, repair, or replace heating and cooling systems + Optimize use of thermostats depending on season
- + Repair leaks in heating/cooling ducts

SMART OLD HOME







Collage by Katie Reilly, 2020.

Previous Page: Collage depicting the urban evolution of Westside Neighborhood overlaying historical maps onto a Google Earth view. Collage by Grant Poteat 2020.

PROJECTS

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THE POWER OF PLACEMAKING FALL 2022

Building on our understanding of momentum already in place, the studio takes on a site located at the figurative center of English Avenue. We aim to strengthen positive citizencentric social impact and equity through the power of place. We consider programs supporting social infrastructure retail, gathering, food, market—as essential instruments for daily life and community engagement. Our proposal seeks to catalyze economic development through entrepreneurship taking meaningful steps to transform the local community's poverty level. In a historically vibrant, but rapidly shrinking neighborhood, our work sets positive steps forwards to bolster retention and help in stabilizing the community. Throughout the semester, we considered interrelated issues of community, place, memory, story-telling, culture and identity across scales.

+ Can we imagine a role for the architect where the act of design is an entrepreneurial and innovative endeavor—for those who are underserved and/or under-resourced?

+ How far can we push the limits of creativity to imagine exciting models of collective spaces for shared experiences?

+ How can we leverage shipping containers to offer affordable, inventive, and creative architectural solutions?

Instructor

+ Julie Ju-Youn Kim, AIA, NCARB

Students

- + Hayden Blodgett
- + Nicole Bridges
- + Reigna Iheme
- + Shaina Lofton

- + Spencer McMains
- + Ella Petry
- + Claire Puckhaber
- + Amelia Quek
- + Rose Rewatkar
- + Ryan Stoddard
- + Gray Walters
- + Cullen Whelan

Client

+ Winston Taylor, Beloved Community

Professional Consultants

- + Leslie Ellsworth, Studio SOGO
- + Holden Spaht, Square Feet Studio
- + Emily Wirt, Square Feet Studio

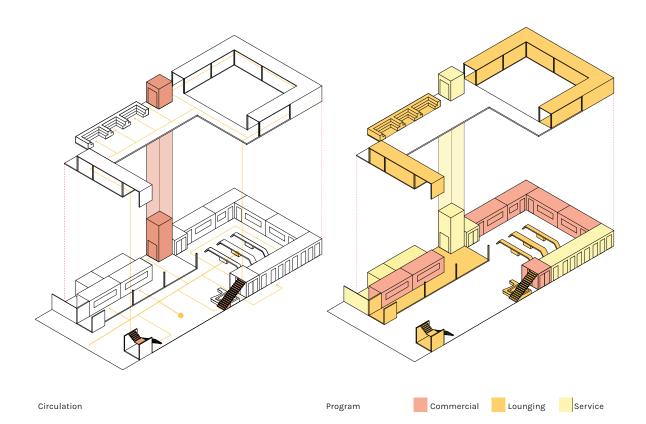
INTERMISSION

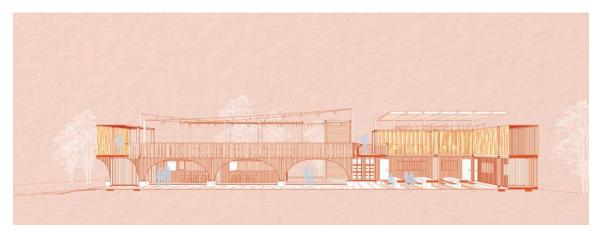
Hayden Blodgett, Reigna Iheme, Spencer McMains, and Ella Petry

At the heart of English Avenue, Intermission is a small shipping container locale offering the community a place to relax, socialize, and reflect. Bordering along the historic St. Mark AME Church, this space brings an added attraction in supporting the already remarkable venue that the church is. Intermission acts as an inbetween for not only the church's events, but the community members' lives, a place to gather and uplift each other while also supporting locally owned businesses.



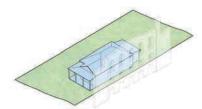
Isometric view of the project highlighting the lively outdoor spaces and its physical relationship to the shell of the historic St. Mark AME Church.



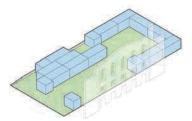


Circulation and program diagrams showing the spatial relationships between different activities.

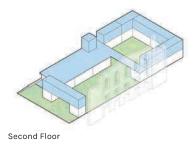
Section perspective depicting the connection between courtyard and indoor spaces.







Existing Structure



Cleared Lot with retaining Wall

Egress

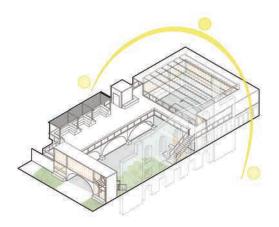
First Floor

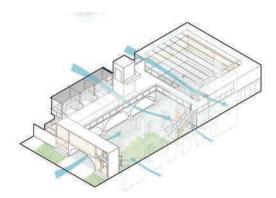




Construction process diagrams of the project.

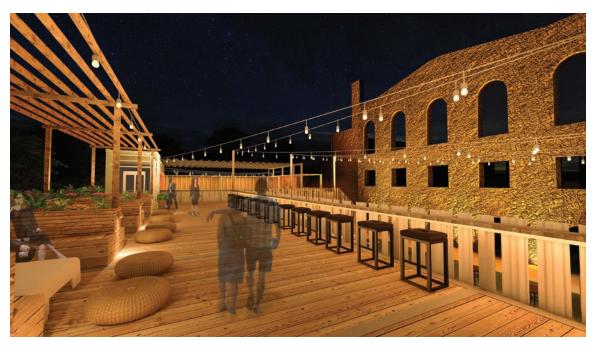
Exterior rendering showing the welcoming inner couryard defined in between the new project and the historic St. Mark AME Church.





Sun Diagram

Wind Diagram



Sun and wind diagrams highlighting the design input of the environmental conditions.

Night view showing the terrace and the illuminated facade of the historic St. Mark AME Church at the background.

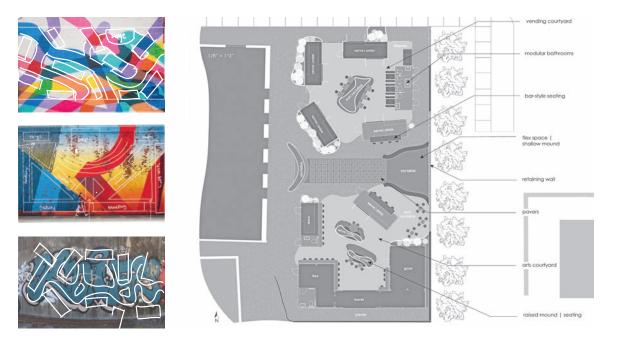
THE MEDIUM

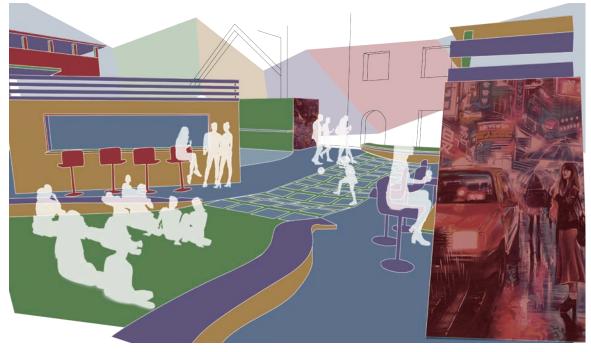
Nicole Bridges, Shaina Lofton, Amelia Quek, and Cullen Whelan

The Medium is an all-inclusive art and food park located in English Avenue, a historically robust and currently underserved community in Atlanta. Using the arts of painting, sculpture, cooking, music, and graffiti, The Medium will help to revitalize the community's art scene and provide a sanctuary for artists to flourish. The visitors will enter the site through the alley along the historic St. Mark AME Church.



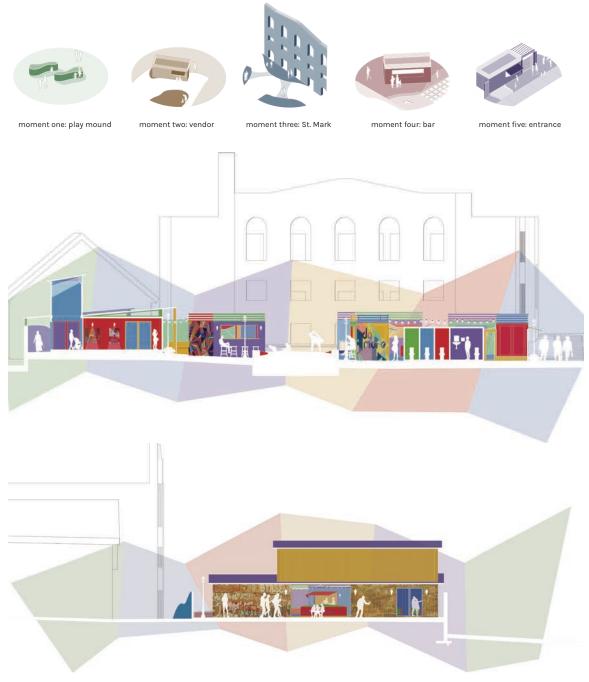
Aerial view of the project showing the spatial arrangement of the repurposed shipping containers.





The project draws its inspiration from the vivid colors and bold geometric forms of graffiti, influencing both the plan and formation of the design.

Collage rendering brings the central outdoor space into focus, serving as the core of the proposal.



A series of diagrams showing the site and program conditions of the project.

Longitudinal and cross sections of the project.

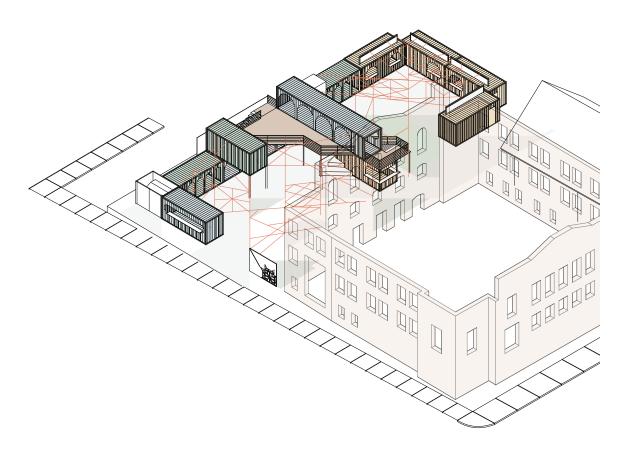
Rendered views highlighting the use of outdoor spaces during the day and at night.



THE STITCH

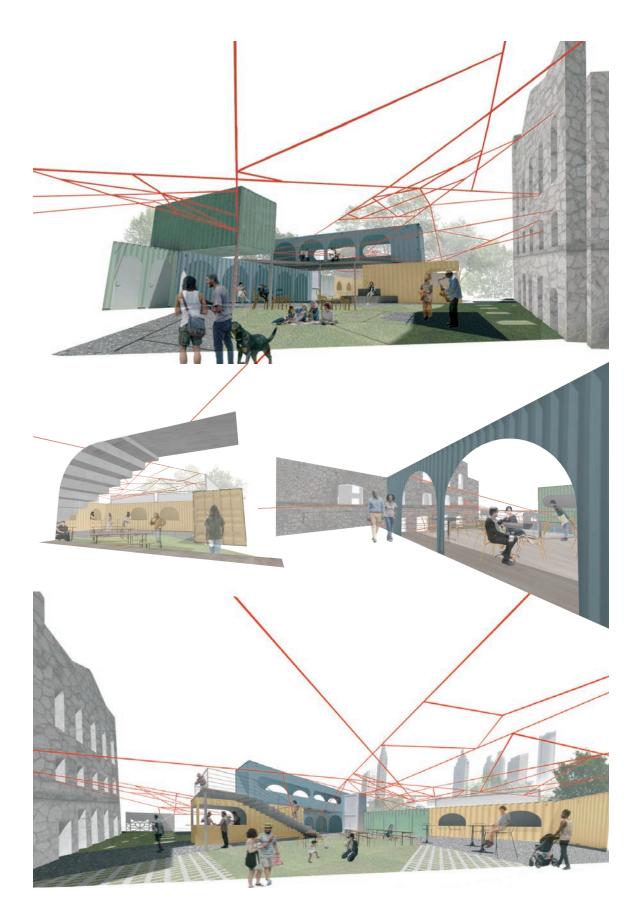
Claire Puckhaber, Rohini Rewatkar, Ryan Stoddard, and Gray Walters

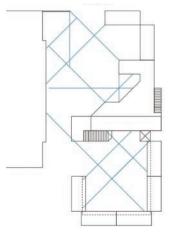
Through providing services and framing space for new patterns of use, solidarity, and growth, The Stitch works to fasten meaningful historical and cultural engagement with new modes of economic and creative development to uplift the community it serves.

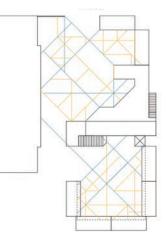


Isometric drawing of the project showing its spatial relationship to the historic St. Mark AME Church.

Series of collages hinting the diverse use of interior and exterior spaces in the project.









Anchors

Threads

Stitched





Light



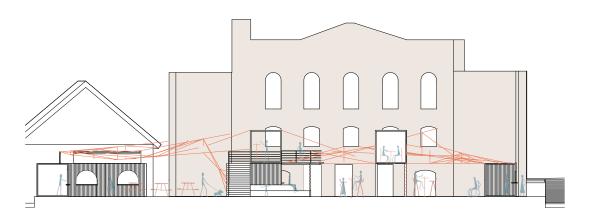


Diagrams showing three types of tension elements connecting repurposed shipping containers and creating an overhang above the open spaces.

Renderings showing different functions of the tension elements.

Cross section highlighting the spatial relationship among the interior spaces, outdoor and the tension elements.





An exterior rendering displaying the lively activities that can take place in the central courtyard.

Longitudinal section revealing the project's depth, offering a look at the facade of the historic St. Mark AME Church at the background.







Collage unfolding various social and historical facets of racial injustice. Collage by Minji Kim, 2020.

Previous Page: Collage depicting the democratic outdoor spaces shaped by the built enviroment. Collage by Katie Reilly, 2020.

SUSTAINABLE MOBILE LEARNING LAB (MLL) SPRING-SUMMER 2023

The MLL seeks to celebrate aspects of the diverse neighborhood identity by offering a platform for the community for shared experiences, open engagement, and exchange. It builds on our discovery of specific social, technological, and cultural needs in this resouce-deprived community and focuses on social infrastructure needs, offering a proposal for a mobile exhibition and learning space. It fosters and supports an open participatory environment, where the neighborhood residents can join in the conversation about proposals to strengthen the community.

Project Activities

- + We evaluate advancements in technology and production, specifically opportunities for innovative fabrication/assembly initiatives for the MLL.
- + We review the energy performance, resiliency, and sustainability of proposed constructions by integrating actionable energy-saving strategies for the MLL.
- +The MLL shares outputs on topics in architecture, technology, planning, and historic preservation via a community-based urban design build in a resource-depleted neighborhood.

Instructor

+ Julie Ju-Youn Kim, AIA, NCARB

Faculty Partners

- + Tarek Rakha, PhD, Director, High-Performance Building Lab
- + Frank Wickstead, School of Building Construction
- + Danielle S. Willkens, PhD, School of Architecture

Graduate Research assistants

- + Surabhi Maheshwari
- + Yichao Shi

Students

- + Kyle Barber
- + Kailey Brown
- + Juyoung Cho
- + Sarah Griffith
- + Rohan Jaitpal
- + Tae-Hoon Jang
- + Rohan Joshi
- + Charles Kim
- + Chien-Hai Lan
- + Cara Marchesani
- + Madeleine Mason
- + Chris McCarthy

- + Kailey O'Connor
- + Phuong Tran
- + Joel White

Professional Consultants

+ Leslie Ellsworth, RA LEED BD+C, Studio SOGO

- + Lee Harrop, Westside Future Fund
- + Matt Maxwell, OaksATL
- + Brian Rivers, PM&A Engineers

SUSTAINABLE MOBILE LEARNING LAB

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THE PORCH

Kyle Barber, Kailey Brown, Juyoung Cho, Sarah Griffith, Rohan Jaitpal, Cara Marchesani, Chris McCarthy, and Joel White

To develop and deploy an adaptable teaching lab and gathering place celebrating the resilience of English Avenue's communal identity and in service of sustaining its future vitality.

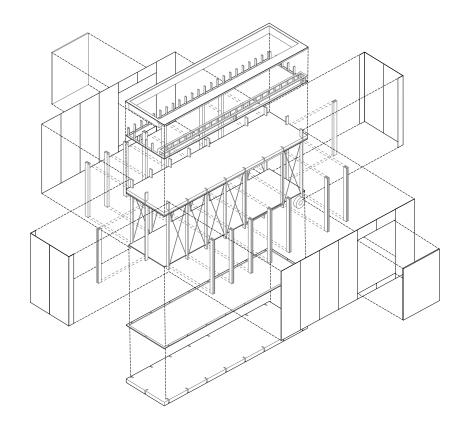
Through care and consideration of core values in its design and its resultant community relation, The Porch is envisioned as a new hub of education, socialization, and exhibition for English Avenue. In both perception and physicality, we strive for a mobile lab resembling the pride, agency, and familiarity of the vernacular porch encompassing the solidarity of a community at large.



Exterior rendering showing the welcoming outdoor space of the Porch within the neighborhood context.

Exploded drawing of the project showing the core structure and facade layers.

Rendering showing the spatial relationship between the mobile learning lab and its outdoor spaces.





SUSTAINABLE MOBILE LEARNING LAB 103

THE LANTERN

Amal Bogoreh, Tae-Hoon Jang, Rohan Joshi, Charles Kim, Chien-Hao Lan, Karen Tran, Madeleine Mason, and Kailey O'Connor

The Lantern is a mobile lab that brings educational resources for tending your home and garden. A host for gardening and various community oriented workshops, the mobile lab comes alive as an anchor for community gathering with a coffee stand, a community garden and a flexible public space.

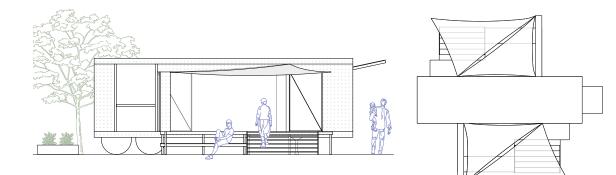


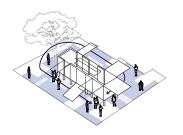
Exterior rendering highlighting the extended use of the mobile learning lab at night.

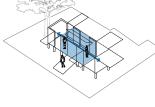
Front elevation and top view of the mobile learning lab.

Schematic diagrams showing different programs of the mobile learning lab.

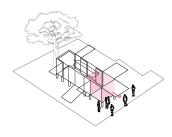
Exterior rendering hinting the various use of the mobile learning lab during the day.







Workshop



Cafe



SUSTAINABLE MOBILE LEARNING LAB 105

THE HIVE: HOUSING INNOVATION—A VEHICLE FOR EDUCATION

Max Doersam, Eleanna Panagoulia, Yichao Shi, Christopher McCarthy, Phuong Tran, and Surabhi Maheshwari

We recognize the value of investing in human capital as a means of catalyzing social and economic improvement. We'll provide workshops and events that offer residents the tools and resources needed to promote positive change. From energy efficient home improvements to urban agriculture, we aim to equip residents with the skills necessary to flourish.



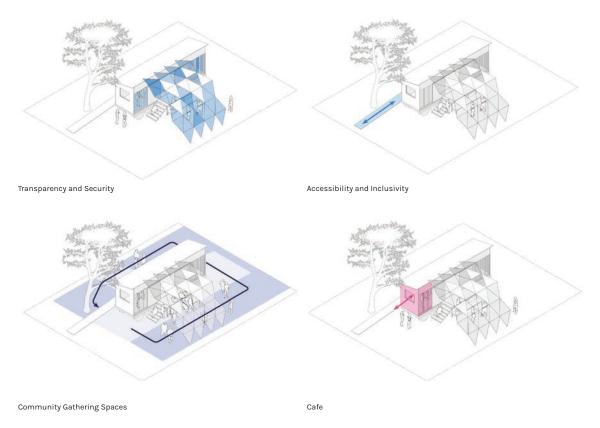
The HIVE offers a more protected outdoor space under a curved surface.

The four main guiding principles of the HIVE's design.

The HIVE promotes community engagement by offering gathering spaces for various activities. Support for this research was provided by the Public Interest Technology University Network Challenge Fund, a fiscally sponsored project of New Venture Fund. The Public Interest Technology University Network's challenge is funded through the support of the Ford Foundation, Hewlett Foundation, Mastercard Impact Fund with support from Mastercard Center for Inclusive Growth, Schmidt Futures, and The Siegel Family Endowment.

Next Page: Collage by Grant Poteat, 2020.







SUSTAINABLE MOBILE LEARNING LAB 107





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