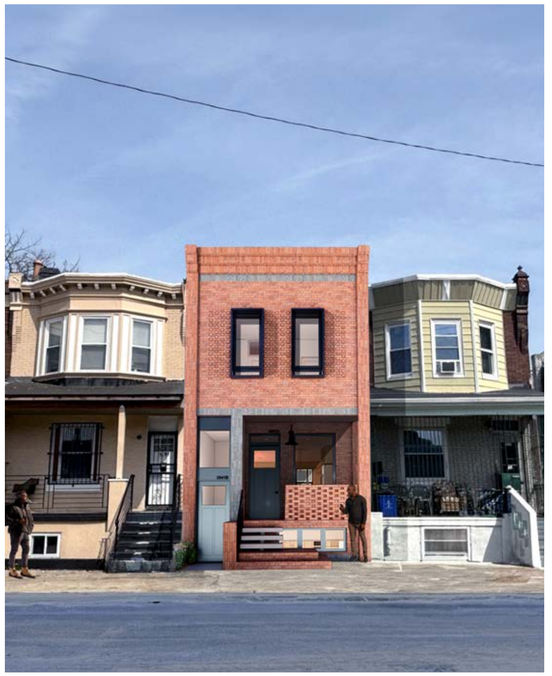
# HOUSING WITHOUT DISPLACEMENT

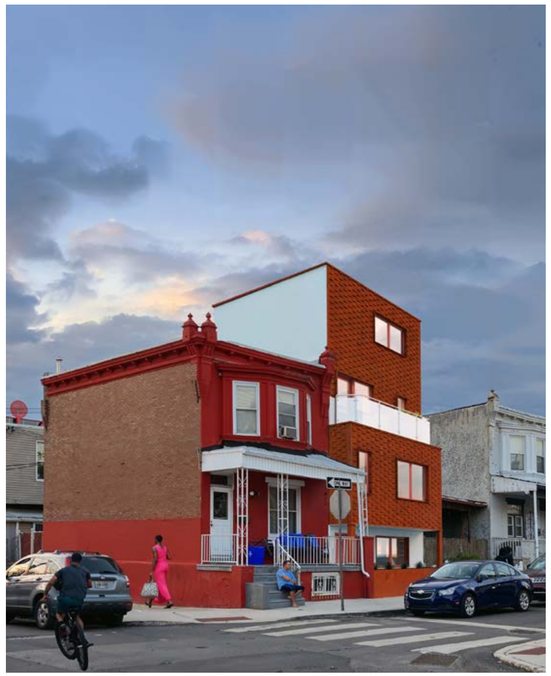
Across Philadelphia, the geography of vulnerability is starkly visible. Philadelphia ranks among the worst U.S. cities for asthma, with children experiencing rates nearly three times the national average (WHYY, 2025). The American Lung Association recently gave the region an "F" grade for air quality, citing dangerously high levels of ozone and particulate matter. In neighborhoods like Hunting Park, aging housing stock traps indoor pollutants, and extreme heat amplifies respiratory stress. According to recent research, urban heat island effects in Philadelphia disproportionately impact lower-income neighborhoods, where limited vegetation and excessive impervious surfaces cause temperatures to soar well above city averages (PMC, 2020).

Access to food, education, and income stability add to the city's vulnerability. Approximately 240,000 residents are food insecure, with rates approaching 30 percent among children (Philabundance, 2024). Within the Philadelphia School District, 27 percent of students reported going hungry at least once in the previous month, and 40 percent of school principals identified food insecurity as a significant barrier to learning (School District of Philadelphia, 2023).

Despite these conditions, Hunting Park is not without strength. The community holds a dense network of civic, cultural, and faith-based organizations that form the backbone of neighborhood life. Yet many of these institutions operate within aging facilities, constrained resources, and fragmented systems of support. This project seeks to bridge those gaps — to retrofit an existing community center as a hub for health, learning, and resilience, and to model deeply affordable housing that restores dignity while reducing the economic and energy burdens of daily life.

This work is an effort toward ethical decarbonization and health-centered design. By aligning architecture with public health and social equity goals, the project defines sustainability as a form of care, capable of acting as an instrument for healing the urban body and rebalancing the ecological and social metabolism of the city.





# PEDAGOGICAL FRAMEWORK

This semester long graduate studio began as a Solar Decathlon Design Challenge. As political changes occured during the semester, the Decathlon was suspended and the studio was recreated. A pedagogical framework emerged that built upon the early work of the semester that challenged students to envision housing as a driver of both environmental and social repair. With the first phase of urban analysis complete, and the second phase nearly complete, the decision was made to follow through on phase two and enact a new third phase focusing on housing that would support and be supported by the community hub.

## PHASE 1:: URBAN ANALYSIS

This began with a series of comprehensive mapping anylses that sought to deeply and geographically understand the stressors acting on Hunting Park. At the neighborhood level, mapping focused on developing a broad understanding of neighborhood assets, quantitatively and qualitatively. From these analyses, design goals emerged.

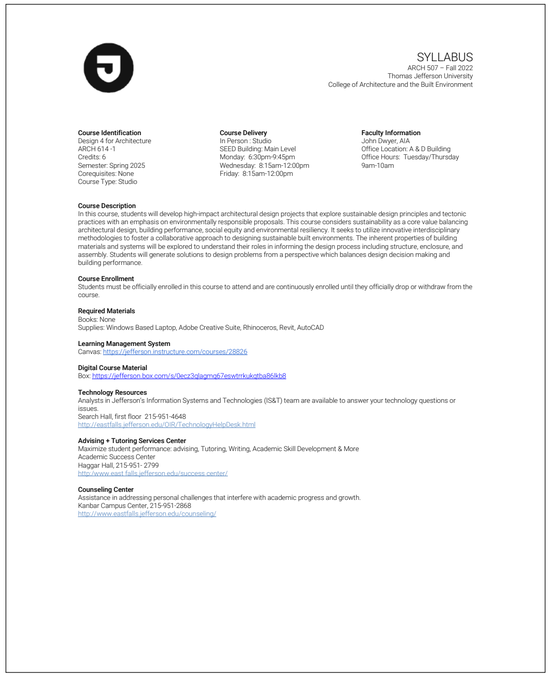
## PHASE 2:: THE COMMUNITY HUB

Design began with the adaptive retrofit of the Chase Lenfest Center—a vibrant community center—into a hub for energy generation, greenspace, and public life. Students reimagined the center as a decentralized resource for neighborhood resilience, capable of producing renewable energy, supporting food systems, and offering shared amenities that reduce the cost of living for existing and future surrounding residents.

## PHASE 3:: THE ROWHOUSE

Building from this foundation, each student designed a cluster of ten infill rowhouses within walking distance of the retrofitted center. The work was foregrounded by two core objectives: 1- Housing Without Displacement and 2- Human Sustainability. Housing without displacement emphasized affordability in rent, long-term energy performance, access to mobility, and proximity to opportunity—ensuring existing and new residents could remain and thrive in place. Human sustainability focuses on an ethical lens. Students were challenged to remain conscious of global human inequities with each design and material decision while also discovering opportunities to cultivate resources from within the neighborhood.





SYLLABUS
ARCH 507 – Fall 2022
Thomas Jefferson University
College of Architecture and the Built Environment

**Course Identification**
Design 4 for Architecture
ARCH-614-1
Credits: 6
Semester: Spring 2025
Corequisites: None
Course Type: Studio

**Course Delivery**
In Person : Studio
SEED Building: Main Level
Monday: 6:30pm-9:45pm
Wednesday: 8:15am-12:00pm
Friday: 8:15am-12:00pm

**Faculty Information**
John Dwyer, AIA
Office Location: A & D Building
Office Hours: Tuesday/Thursday
9am-10am

**Course Description**
In this course, students will develop high-impact architectural design projects that explore sustainable design principles and tectonic practices with an emphasis on environmentally responsible proposals. This course considers sustainability as a core value balancing architectural design, building performance, social equity and environmental resiliency. It seeks to utilize innovative interdisciplinary methodologies to foster a collaborative approach to designing sustainable built environments. The inherent properties of building materials and systems will be explored to understand their roles in informing the design process including structure, enclosure, and assembly. Students will generate solutions to design problems from a perspective which balances design decision making and building performance.

**Course Enrollment**
Students must be officially enrolled in this course to attend and are continuously enrolled until they officially drop or withdraw from the course.

**Required Materials**
Books: None
Supplies: Windows Based Laptop, Adobe Creative Suite, Rhinoceros, Revit, AutoCAD

**Learning Management System**
Canvas: https://jefferson.instructure.com/courses/28826

**Digital Course Material**
Box: https://jefferson.box.com/s/0ecz3qlagmq67eswtrnkuktba868k8

**Technology Resources**
Analysts in Jefferson's Information Systems and Technologies (IS&T) team are available to answer your technology questions or issues.
Search Hall, first floor 215-951-4648
http://easthalls.jefferson.edu/OIR/TechnologyHelpDesk.html

**Advising + Tutoring Services Center**
Maximize student performance: advising, Tutoring, Writing, Academic Skill Development & More
Academic Success Center
Haggar Hall, 215-951- 2799
http://www.east.falls.jefferson.edu/success.center/

**Counseling Center**
Assistance in addressing personal challenges that interfere with academic progress and growth.
Kanbar Campus Center, 215-951-2868
http://www.easthalls.jefferson.edu/counseling/

## COURSE OBJECTIVES

**Learning Objectives**

Demonstrate the ability to write and speak effectively and use representational media appropriate for both within the profession and with the public.

Demonstrate an holistic understanding of the dynamic between built and natural environments, design decisions, and mitigating climate change through advanced building performance, adaptation and resilience.

Demonstrate an understanding of established and emerging building systems, technologies and assemblies, as well as the ability to assess those technologies against economic, performative and design objectives.

Develop an Understanding of the research methodologies and practices used during the design process.

**NAAB Criteria**

These criteria seek to evaluate the outcomes of architecture programs and student work within their unique institutional, regional, national, international, and professional contexts, while encouraging innovative approaches to architecture education and professional preparation.

PC.2 Design—How the program instills in students the role of the design process in shaping the built environment and conveys the methods by which design processes integrate multiple factors, in different settings and scales of development, from buildings to cities.

PC.3 Ecological Knowledge and Responsibility - How the program instills in students a holistic understanding of the dynamic between built and natural environments, enabling future architects to mitigate climate change responsibly by leveraging ecological, advanced building performance, adaptation, and resilience principles in their work and advocacy activities.

SC.4 Technical Knowledge—How the program ensures that students understand the established and emerging systems, technologies, and assemblies of building construction, and the methods and criteria architects use to assess those technologies against the design, economics, and performance objectives of projects.

**Hallmark Goals**

Empathy (social insight): "Consider multiple perspectives in order to relate to others and strengthen communities."

This learning goal highlights the ability to view situations from the perspectives of others. This skill can allow you to overcome barriers to communication and cooperation to build stronger relationships and communities. Thinking empathetically gives you new viewpoints and can help you see and appreciate aspects of a situation that you might have otherwise missed. In the context of this course, you are developing your Empathy outcome when you:
Integrate an appropriate variety of professional, academic and cultural perspectives when addressing community and professional challenges.

Ethical Reflection: "Affirm an ethical compass to guide personal, civic and professional life."

This learning goal prepares you to use ethical reasoning to make responsible choices about your behavior as a person, citizen and professional. Defining your obligations to others is a personal undertaking, but the study of ethics can provide the framework for you to find your answers. Your education as a professional requires you to understand the ethical standards and reasoning skills required for your practice. In the context of this course, you are developing your Ethical Reflection outcome when you: Interpret the obligations and rights of citizens in local, national and global communities.

Hallmarks collaboration:
By the end of this course, you should have an example of your work that can be posted as an artifact for the Empathy and Ethical Reflection learning goals. Add this work to your e-portfolio along with a reflective essay that explains how it connects with the learning objectives listed above.

## COURSE ASSESSMENT

**Assessment Measures**

The manner in which student learning outcomes are assessed will include *(note that "Learning Outcomes Assessment" is an assessment of the fulfillment of the desired learning outcomes listed above, and differs from a student's specific grade):*

*Direct Evidence:* Final Publication submission. The final publication will include:
+ written presentation of research (thesis, background and literature review, objectives, methodology, findings, conclusions),
+ written text of design goals, intentions, methods, iterative process, final design conclusions.
+ written reflective narrative connecting student's semester to above listed learning outcomes.
+ graphic documentation of research and design processes, which may include scale models, technical and creative drawings in various media, photographic narratives, etc.

*Indirect Evidence:* Student evaluations, survey results, course & program evaluations, faculty program evaluation summaries, and related questionnaires.

*The weighting of this assessment for NAAB purposes will be 90% direct evidence, 10% indirect evidence.*

**Course Self-Assessment and Adjustments**

This course undergoes periodic Self-Assessment and Adjustments in response to student, faculty, and external evaluator input. The assessment includes cultural considerations and the evolving role of academia in the context of societal participation and citizenship. It is the goal of this course to position architecture's role relative to local, national, and global perspectives of equity, sustainability, resilience and a just future. Given this aim, each studio section is charged with positioning the students in contexts of ethical challenge, compelling them to consider the impact of architecture on communities, environments, and societies.

Strengths of Course in Past Semester
+ The course introduced sustainable tectonics effectively.
+ The course balanced design, tectonic development, and scholarly development.
+ The course delivered competent technical work.

Weaknesses of Course in Past Semester
+ The course did not holistically address the ways in which architecture can mitigate climate change.
+ The student work did not demonstrate an ability to make design decisions relative to budget and building performance.
+ The students varied in their time management within context of a semester long project.

Course Adjustments this Semester
+ The course will incorporate clearer deliverables and deadlines with a higher degree of prescribed tools and methods.
+ The course will incorporate a greater focus on technical knowledge with a direct application to a real-world project.
+ The course will spend more time focusing on the measurable aspect of building performance, in particular carbon footprint, to better address architecture's relationship to climate change.

## COURSE SCHEDULE

| Date | Topic | Objective | Assessment Measure |
|---|---|---|---|
| **1.8** | **Course Setup – Solar Decathlon Rules** | | |
| 1.10 | Gathering Data – Remote Asynchronous | PC.2 | Digital Archiving |
| 1.13 | Gathering Data – Online | PC.3, SC.4 | Documentation |
| 1.15 | Gathering Data – Online | PC.3, SC.4 | Documentation |
| 1.17 | Gathering Data – Online | PC.3, SC.4 | Documentation |
| 1.20 | MLK Day – No Class | | Documentation |
| 1.22 | Gathering Data – On Site | PC.3, SC.4 | Documentation |
| 1.24 | Gathering Data – On Site | PC.3, SC.4 | Publication |
| 1.27 | Individual Schematic Design – In Class | PC.3, SC.4 | Documentation |
| 1.29 | Individual Schematic Design – In Class | PC.3, SC.4 | Documentation |
| 1.31 | Individual Schematic Design – In Class | PC.3, SC.4 | Exhibit |
| 2.3 | Group Schematic Design – In Class | PC.2 | Documentation |
| 2.5 | Group Schematic Design – In Class | PC.2 | Documentation |
| 2.7 | Group Schematic Design – In Class | PC.2 | Presentation |
| 2.10 | Group Schematic Design – In Class | PC.2 | Documentation |
| **2.11** | **Decathlon Presentation Signup** | | |
| 2.12 | Group Schematic Design – In Class | PC.2 | Documentation |
| 2.14 | Group Schematic Design – In Class | PC.2 | Presentation |
| **2.17** | **Semi-Final Submission Deliverables** | | **Publication** |
| 2.19 | Rehearsal – Juried Review – On Site | Ethical Reflection | Peer Review Notes |
| **2.21** | **Semi-Final Competition Event** | | **Presentation** |
| **2.22** | **Semi-Final Competition Event** | | **Presentation** |
| 2.24 | Design Development – In Class | PC.3, SC.4 | Documentation |
| 2.26 | Design Development – In Class | PC.3, SC.4 | Documentation |
| **2.27** | **Exhibition Team Letter Due** | | |
| 2.28 | Design Development - Online | PC.3, SC.4 | Documentation |
| 3.3 | Design Development - Online | PC.3, SC.4 | Documentation |
| 3.5 | Design Development - Online | PC.3, SC.4 | Documentation |
| 3.7 | Design Development - Online | PC.3, SC.4 | Documentation |
| 3.17 | Design Development – In Class | PC.3, SC.4 | Documentation |
| 3.19 | Design Development – In Class/On Site | PC.3, SC.4 | Documentation |
| 3.21 | Design Development – In Class/On Site | PC.3, SC.4 | Documentation |
| 3.24 | Design Development – In Class | PC.3, SC.4 | Documentation |
| 3.26 | Design Development – In Class/On Site | PC.3, SC.4 | Documentation |
| 3.28 | Design Development – In Class/On Site | PC.3, SC.4 | Documentation |
| 3.31 | Decathlon Deliverables – In Class | PC.3, SC.4 | Documentation |
| 4.2 | Decathlon Deliverables – In Class | PC.3, SC.4 | Documentation |
| 4.4 | Decathlon Deliverables – In Class | PC.3, SC.4 | Documentation |
| 4.7 | **Final Submission Deliverables Due** | | **Publication** |
| 4.9 | Design Development – In Class/On Site | PC.3, SC.4 | Documentation |
| 4.11 | Design Development – In Class/On Site | PC.3, SC.4 | Documentation |
| 4.14 | Decathlon Deliverables – In Class | PC.3, SC.4 | Documentation |
| 4.16 | Decathlon Deliverables – In Class | PC.3, SC.4 | Documentation |
| 4.18 | Rehearsal | Ethical Reflection | Peer Review Notes |
| 4.21 | **Grand Jury Slides Due** | | **Publication** |
| 4.23 | Rehearsal – Juried Review | Ethical Reflection | Peer Review Notes |
| **4.25** | **Solar Decathlon Competition Event** | | **Presentation** |
| **4.26** | **Solar Decathlon Competition Event** | | **Presentation** |
| **4.27** | **Solar Decathlon Competition Event** | | **Presentation** |
| 4.30 | Final Review | Ethical Reflection | Peer Review Notes |

## COURSE GRADING

**Methods of Assessment & Weights**
Student assessment will be based on project-specific rubrics. Course assessment will be informed by a comprehensive review of the rubrics to identify successes and shortcomings, as well as a course-assessment survey administered at the end of the semester which asks students to consider their overall experience and learning throughout the course.

**Completion Requirements & Weights**
Course grading will be based on a combination of group and individual work. Within group projects there will still be individual assessments, as identified by the specific project brief.

The percentage breakdown of graded work will be as follows:
60% Formative: Weekly Assignments
20% Summative: Mid Term Presentation
20% Summative: Final Publication

Group projects: All work to be submitted online via Canvas unless otherwise directed by the faculty. Each project is to be neatly organized and labeled to match the criteria and requirements given in the project assignments. Deadline for online submissions will be the start of class on the dates listed in the course schedule unless otherwise noted. If multiple submissions are made via Canvas only the final submission will be graded.

Lab Assignments: All assignment briefs will be available via Canvas. All work to be submitted online via Canvas unless otherwise directed. Lab assignments will be based on content from lectures and assigned readings.

Participation/Attendance/Quizzes: Students attendance and participation in class is a mandatory part of this course. You are expected to come to class prepared to participate in weekly discussions during both lab and lecture meeting times. You are expected to be able to answer questions about the readings or progress in lab assignments.

Attendance will be taken during lecture sessions will be taken via weekly Canvas quizzes. Students are responsible for weekly reading assignments. During each lecture session, there will be a 15-minute window, identified at the discretion of the instructor where a Canvas quiz will become available. Students must complete the quiz in the allotted time. Completion of the quiz will count for attendance, the grade for the quiz will count towards the students' final grade.

**Grading Scale**
Undergraduate Grading Scale

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A: | 4.00/93-100 | B+: | 3.33/87-89 | C+: | 2.33/77-79 | D+: | 1.33/67-69 | F: | 0.00/<60 |
| A-: | 3.67/90-92 | B: | 3.00/83-86 | C: | 2.00/73-76 | D: | 1.00/60-66 | | |
| B+: | 2.67/80-82 | C-: | 1.67/3/70-72 | | | | | | |

Graduate Grading Scale *Graduate only courses may have a different grading scale.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A: | 4.0/97-100 | B+: | 3.33/90-92 | C+: | 2.33/80-82 | D+: | 1.33/72-75 | F: | 0.0/<71 |
| A-: | 3.67/93-96 | B: | 3.00/87-89 | C: | 2.00/77-79 | D: | 1.00/68-71 | | |
| B+: | 2.67/83-86 | C-: | 1.67/73-76 | | | | | | |

A =Excellent: Awarded to students who demonstrate an excellent understanding of the subject matter, and who have achieved outstanding results in fulfilling the course objectives.

B =Above Average "Good": Awarded to students who demonstrate above average understanding of the subject matter, and who show consistent achievement beyond the usual requirements of the course.

C =Average or "Passing": Awarded to students who perform to satisfactory level, demonstrate acceptable levels of understanding of the subject matter commensurate for continued study in the successive course.

C-/D=Below Average: Awarded to students as evidence of less than average understanding of the subject matter and of weak performance. It indicates insufficient preparation for the student to enroll in any courses reliant upon an acceptable level of understanding of the particular subject matter.

F = Failure: Awarded to students showing poor understanding of the basic elements of the course.

I = Incomplete: Awarded to students who have not met the minimum requirements for all projects assigned during the semester, due to illness or outside emergency. No grade of "I" will be given without prior agreement between student and faculty as to the due date for all missing work. "I"s change to "F"s three weeks after final grades are due.

**Late/Make-Up Work**
All late work will be downgraded by one letter grade. Late work is considered work that is not prepared and presented at the time of a review. Back-up your work. Work left at home on a computer or storage key will be considered as a late submission.

## POLICIES

**CABE Community Culture**
All students must sign and return to their studio instructor a copy of the CABE Community Culture Document during the first week of class.

**University Policies**
This course will abide by all college and University policies. Students are responsible for knowing and adhering to policies in the College Handbook and University policies.
College and University Policies & Handbooks

**Academic Integrity**
Academic Integrity is the foundation of all Jefferson teaching, learning, and professional endeavors and is vital to advancing a culture of fairness, trust and respect. All members of the University community must maintain respect for the intellectual efforts of others and be honest in their own work, words, and ideas.
Graduate Policy
Undergraduate Policy

**Accessibility Services**
Accessibility Services complies with Section 504 and the ADA, providing reasonable accommodation to students who are eligible for such services. In post-secondary education, the student has the right to request accommodation and must be proactive and initiate the process. Disclosure of a student's disability is voluntary and at the discretion of the student. Documentation concerning disabilities is separate from the student's general academic file.
East Falls Campus
Center City/Abington

**Diversity & Inclusion**
Jefferson holds itself accountable, at every level of the organization, to nurture an environment of inclusion and respect, by valuing the uniqueness of every individual, celebrating and reflecting the rich diversity of its communities, and taking meaningful action to cultivate an environment of fairness, belonging, and opportunity. All students are enrolled in the Diversity & Inclusion at TJU canvas course, which will provide access to resources and current events sponsored by the Office of Diversity, Inclusion, and Community Engagement. Students may also reach out to:
https://diversity.jefferson.edu/

**Inclement Weather**
It is the policy of Thomas Jefferson University not to cancel classes. However, if on-campus sessions are not possible, students will receive a JeffALERT or can check the University website confirming on campus sessions have been canceled.
https://www.jefferson.edu/life-at-jefferson/handbooks/policies/undergraduate-policies/inclement- weather.html

**Religious Observance**
The University understands that some students may wish to observe religious holidays that fall on scheduled class days. Notify your faculty in advance when possible.
https://www.jefferson.edu/life-at-jefferson/handbooks/policies/undergraduate-policies/student- religious-observance-policy.html

**Title IX & Sexual Misconduct**
The University's Sex and Gender-Based Misconduct Policy sets forth Jefferson's commitment to foster an environment free of discrimination, including sexual harassment and sexual violence.
https://www.jefferson.edu/university/academic-affairs/schools/student-affairs/sexual-misconduct.html

**Retention of Student Work**
Thomas Jefferson University has the right to retain representative examples or copies of student work from all courses. Such materials might include papers, exams, creative works, or portfolios developed and submitted in courses or to satisfy the requirements for degree programs as well as surveys, focus group information, and reflective exercises.

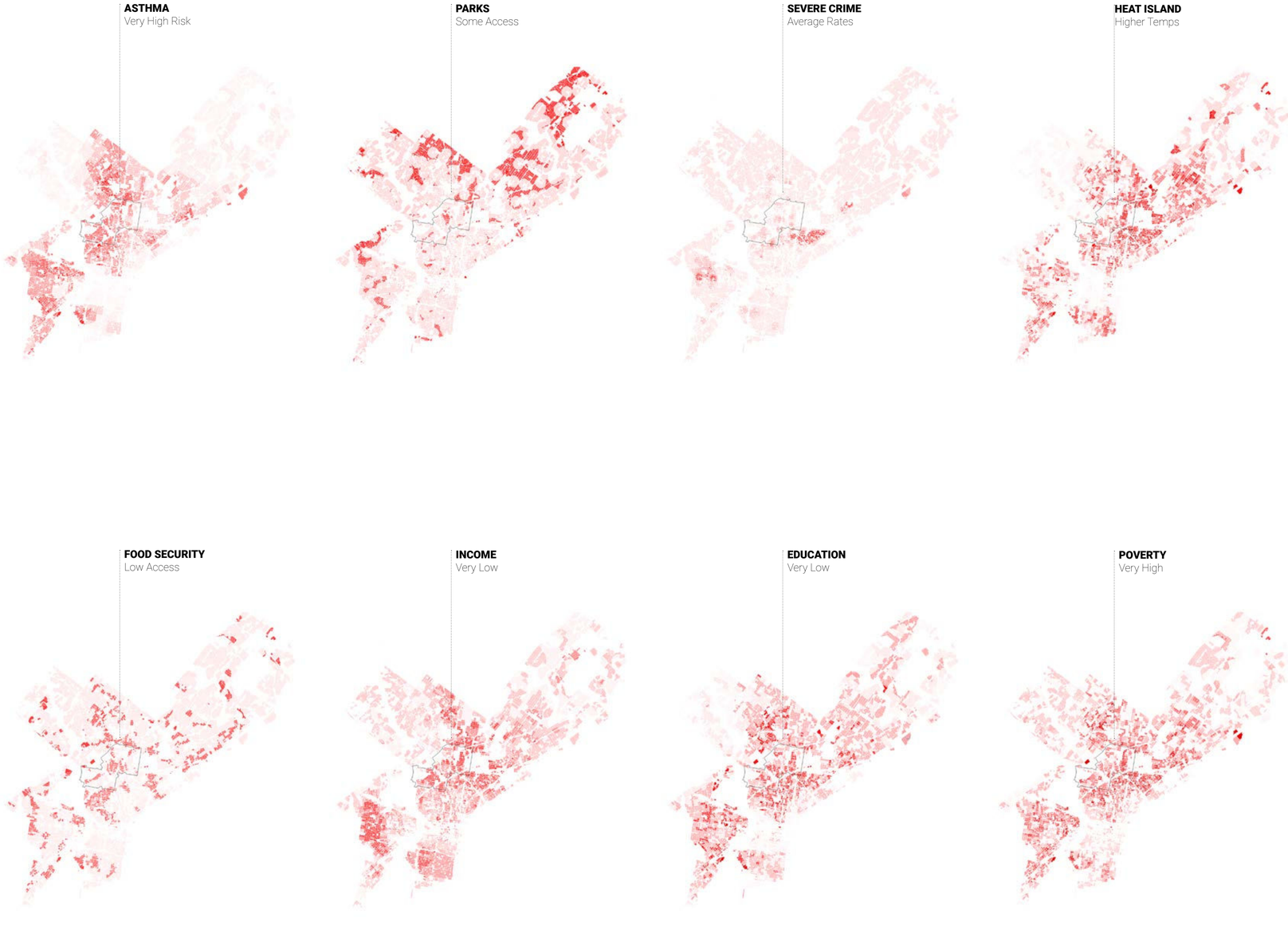
**Chosen Name**
Some members of our community use a name, gender, and pronoun other than their legal identifiers. Students are free to elect to have their chosen first name, gender identity and chosen pronoun appear in Thomas Jefferson University's system.
https://www.jefferson.edu/life-at-jefferson/handbooks/policies/undergraduate-policies/preferred- name.html

**Attendance**
Jefferson and its educational leaders recognize the importance of regular class attendance and the benefits to student learning. Attendance during scheduled class meeting times is mandatory and critical to student success. If absent from class, students remain responsible for any missed work, for work completed in class, and for work due and must independently arrange for the delivery of assignments. In the event of any extended or repeated absence due to illness, the student is required to notify the Office of the Dean of Students and that office will contact the course instructor. Long-term disruption of course attendance due to illness may warrant a Medical Leave of Absence.

## PHASE 1
## URBAN ANALYSIS

The urban analysis phase of the studio began with an investigation of urban stressors—the physical, environmental, and social pressures shaping daily life in Hunting Park. Students examined citywide and neighborhood-scale data to understand how public health vulnerabilities manifest spatially. Using mapping, census data, and environmental indices, they identified the compounding effects of poor air quality, heat island intensity, and inadequate housing conditions. These were studied in relation to social determinants such as income, education, and food access, revealing patterns of inequity that directly impact health outcomes. The analysis framed Hunting Park as a fragile ecosystem within the city—where environmental degradation and disinvestment converge to produce a condition of chronic stress and limited opportunity.

In parallel, students conducted a neighborhood asset inventory to understand Hunting Park's existing strengths and social infrastructure. This included mapping community organizations, schools, parks, transit, and small businesses alongside informal systems of care such as block associations, faith networks, and food distribution programs. Through both spatial analysis and on-the-ground observation, students evaluated not just the quantity of these assets but their quality, accessibility, and potential for activation through design. This dual framework—pairing vulnerability mapping with asset identification—established the foundation for the studio's design work: to imagine architectural interventions that do not simply alleviate stressors, but amplify the community's existing capacity for health, learning, and resilience.






CREDITS // DATA SOURCES: FELT, OPENDATAPHILLY // ANALYSIS BY STUDENTS

# TRAFFIC ANALYSIS

**FOR THE YEAR 2023 - ZIP CODES**

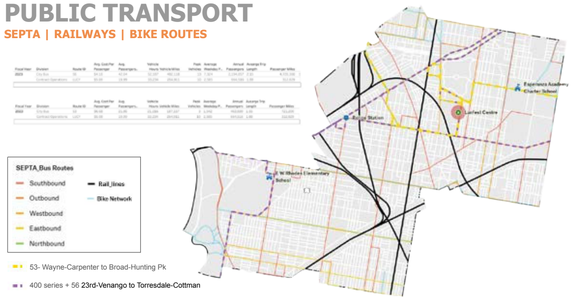


Esperanza School Drive Route

E.W. Rhodes School Drive Route

# PUBLIC TRANSPORT

**SEPTA | RAILWAYS | BIKE ROUTES**




SEPTA_Bus Routes
- Southbound
- Outbound
- Westbound
- Eastbound
- Northbound

Rail_lines

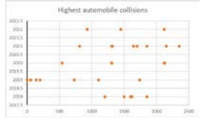
Bike Network

53- Wayne-Carpenter to Broad-Hunting Pk

400 series + 56 23rd-Venango to Torresdale-Cottman

# COLLISION MAP

**HIGHEST ACCIDENT PRONE ZONES**





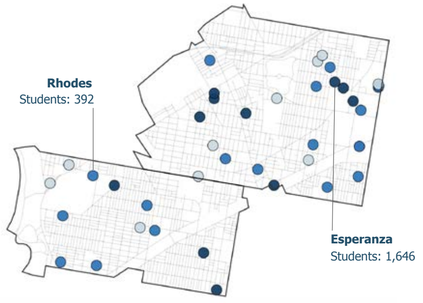
Highest number of crashes

- Highest
- Moderate
- Lowest

Broad Street

0.5 mile radius

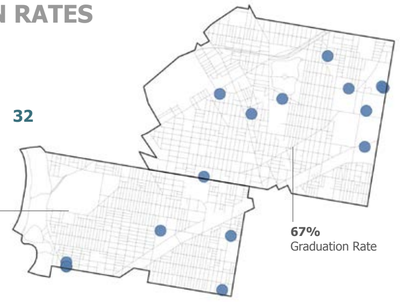
# SCHOOLS




- Charter
- District
- Private

Source: Open Data Philly

# GRADUATION RATES




**84%** Graduation Rate

**67%** Graduation Rate

High Schools

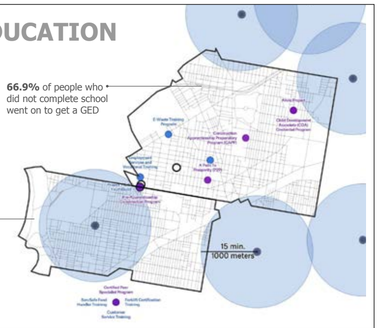
Source: Public School Review | Public School Review

# CONTINUING EDUCATION

- Libraries/ 15 min. Walking radius
- GED Testing Centers
- Career Training No High School/ GED
- Career Training Require High School/ GED

**66.9%** of people who did not complete school went on to get a GED

**88.6%** of people who did not complete school went on to get a GED




Source: GED Testing | Free Library | Census

# HEALTH CENTER

**Women** in North Philadelphia have a life expectancy **12 years** less than those living in Center City

**Men** in North Philadelphia have a life expectancy **20 years** less than those living in Center City

In 2019, the highest Emergency Department encounter rates were in zip codes **19140, 19132**, and 19121

Approximately **1 in 6 adults** in Philadelphia are reported to have no primary care physician.

## Maternal Health

**21%** of women who had a pregnancy-associated death did not receive any prenatal care

Non-Hispanic Black women made up **43%** of births in Philadelphia but accounted for **73%** of the pregnancy-related deaths

**54%** of pregnancy related deaths are preventable


How can my family and I access the reliable health care we need?

Source: Health of the City 2021 | Temple Health

# REHABILITATION

How is my children's father receiving help with his recover

In 2021, the main cause of early death in Philadelphia was **overdoses.** Since then, the number of overdose deaths has only been increasing.

In 2021, **85** deaths were due to overdose in the zip code 19140

In 2021, **50** deaths were due to overdose in the zip code 19132


| Rehabilitation Centers | | | | | |
|---|---|---|---|---|---|
| Services | AA/NA | Bro's Inc | Casa De Consejeria Inc | Stop & Surrender Inc | Gaudenzia Inc |
| Individual therapy | X | | | X | |
| Relapse prevention | X | | | | X |
| Medication Assisted Treatment | X | X | | | X |
| Behavioral Health Education | X | | | X | |
| Trauma Rehabilitation | | | | | X |
| Outpatient Programs | X | X | X | | X |
| Residential Programs | X | X | | X | X |

**AA/NA Local Meetings**
*Rings around location signify how many days a week the group meets

Source: Health of the City 2021 | Chart | Open Data Philly | ADPM | North East Treatment | Casa De Consejeria | Stop & Surrender | Gaudenzia

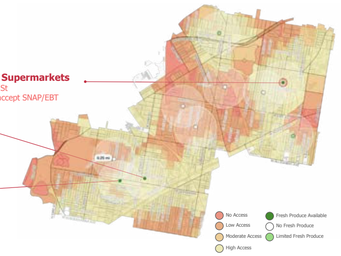
# FOOD ACCESS

"Nearly **250,000** residents are estimated to be food insecure, with North Philadelphia widely considered a 'food desert,' an urban area in which fresh, quality, affordable food cannot be easily found."

**Cousin's Supermarkets**
4037 N 5th St
*Does not accept SNAP/EBT

**Save A Lot**
2101 W Lehigh Ave

**CTown Supermarkets**
2438 W Lehigh Ave




Source: Open Data Philly | Tower Health | Census Reporter | BMC Public Health

Where can I get healthy groceries for my family?

# MENTAL HEALTH

**80%** of Philadelphians had been affected by a traumatic experience before they reached adulthood

In Philadelphia County, approximately **3** suicide deaths occurred every week.

**14.6%** of teens attempted Suicide

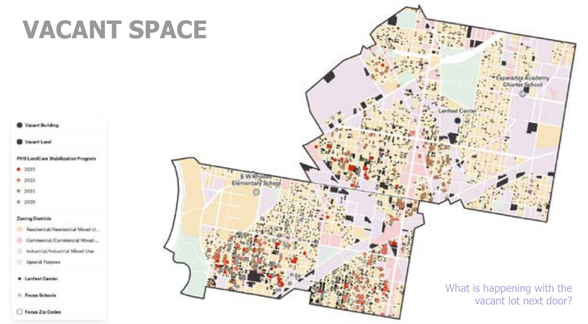
**17.3%** of teens planned Suicide

**There are no crisis response centers or accessible therapy options in these two zip codes**


Source: Student Response to Questions About Mental Health and Suicide | Temple Health | Philadelphia Inquirer

Where can my kids go if they need mental support?

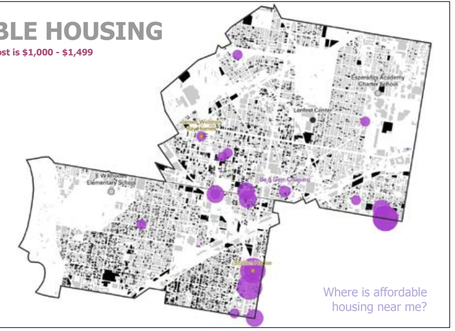
# VACANT SPACE




What is happening with the vacant lot next door?

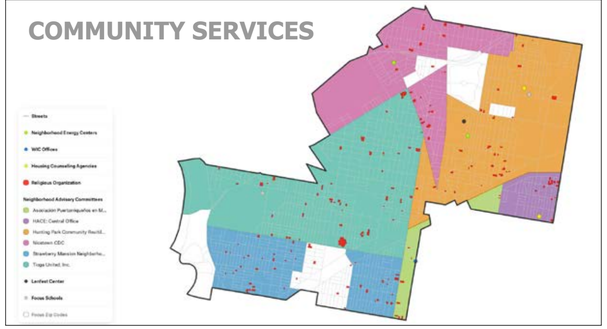
# AFFORDABLE HOUSING

**Median Monthly Housing Cost is $1,000 - $1,499**




Where is affordable housing near me?

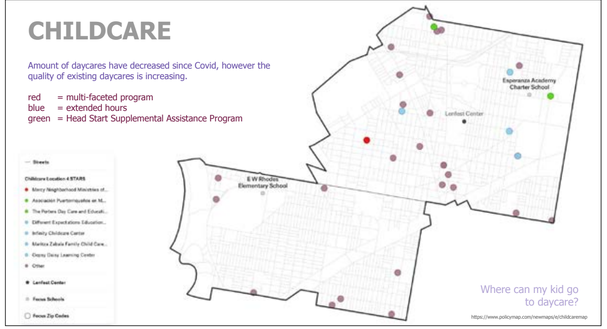
# COMMUNITY SERVICES




# CHILDCARE

Amount of daycares have decreased since Covid, however the quality of existing daycares is increasing.

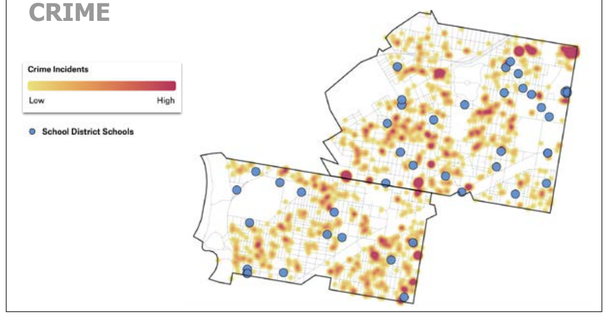
red = multi-faceted program
blue = extended hours
green = Head Start Supplemental Assistance Program



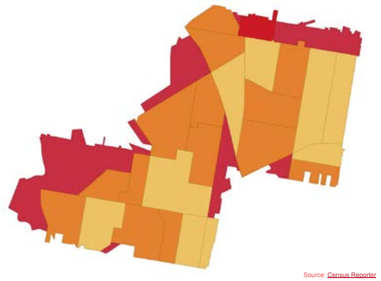

Where can my kid go to daycare?

https://www.policymap.com/newmaps/a/childcaremap

# CRIME




# SNAPS



- 0 - 1,244
- 1,245 - 2,539
- 2,540+

Source: Census Reporter

## FINDINGS + DESIGN GOALS

Urban stressors, when mapped throughout the city of Philadelphia indicate Hunting Park as a fragile community from multiple public health perspectives. Of greatest concern is the level of access to education, food security, and income. Also of concern is the area's high risk of developing asthma despite reasonable access to parks. This indicates a lack of quality green space exacerbating a condition of poor clean indoor and outdoor air quality. This is reinforced by the neighborhoods high heat island index. When examining neighborhood assets, many exist in quantity, but qualitative measures are difficult to assess. Additional concerns around food access, access to healthcare, and low graduation rates all seem to be contributing to a struggling quality of life throughout the community. These findings shaped the following goals for the remainder of the studio.

### TRAUMA INFORMED DESIGN

Address the root causes of poor health by improving indoor and outdoor environmental quality. Prioritize clean air, thermal comfort, and access to daylight and green space. Through Trauma-Informed Design, create spaces that feel safe, calm, and empowering—reducing environmental stressors and supporting both physical and emotional wellbeing.

### EMPATHY BY DESIGN

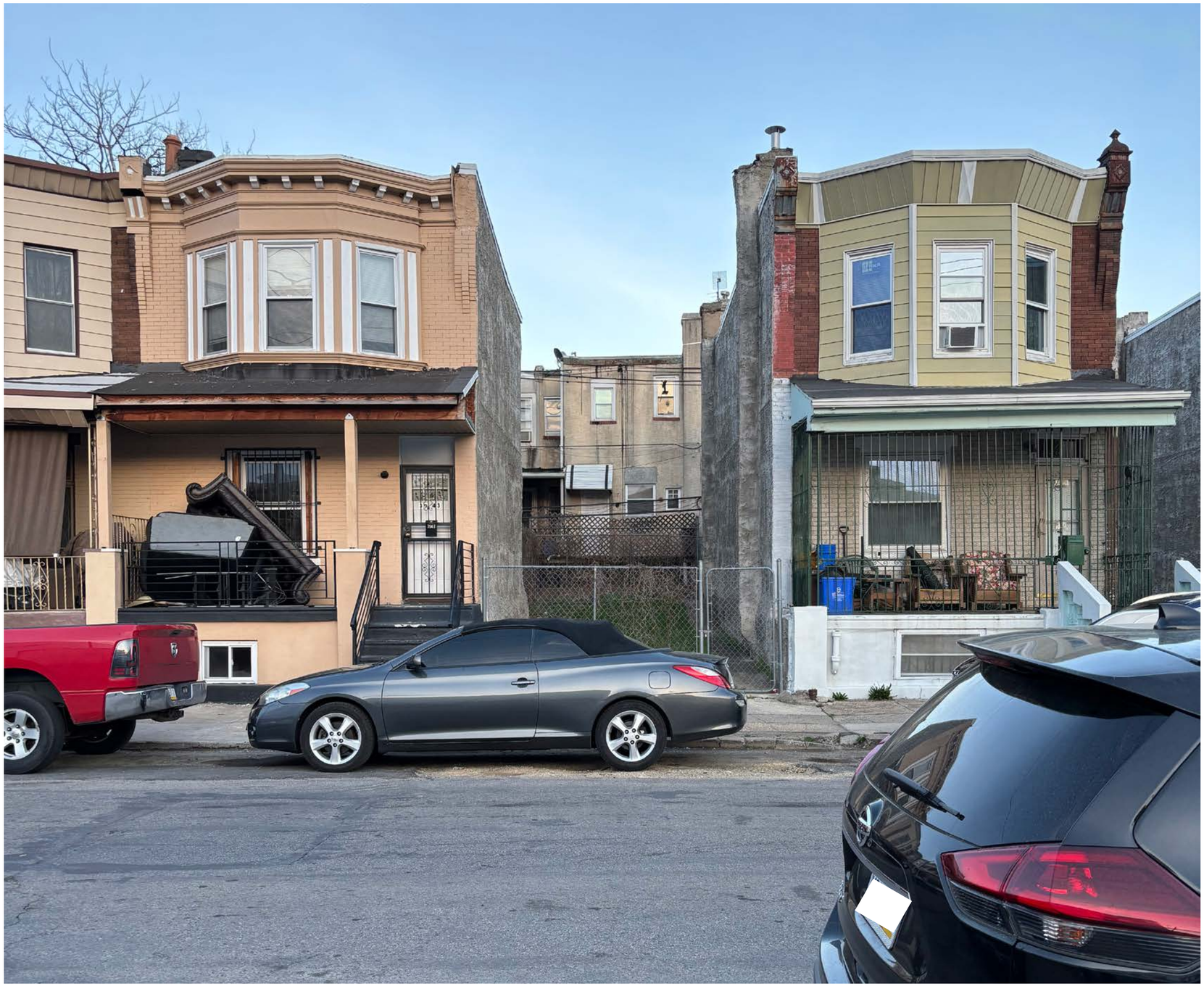
Center community voices and lived experience in every decision. Ensure spaces restore dignity, strengthen belonging, and foster connection. Housing and public spaces should support stability without displacement, promote intergenerational living, and enhance access to education, food, and healthcare.

### ETHICAL DECARBONIZATION

Reduce the community's energy burden and vulnerability to climate risks by combining Ethical Decarbonization with regenerative systems. Pair high-performance building envelopes, renewable energy, and stormwater management with local labor, materials, and stewardship—ensuring that decarbonization benefits the community economically and socially, not just environmentally.

### DEEP AFFORDABILITY

Create deeply affordable housing that not only reduces costs for residents but also supports long-term wellbeing by integrating energy-efficient systems, proximity to community services and food sources, and access to employment opportunities, ensuring that housing promotes stability, health, and economic mobility.



## PHASE 2
## THE COMMUNITY HUB

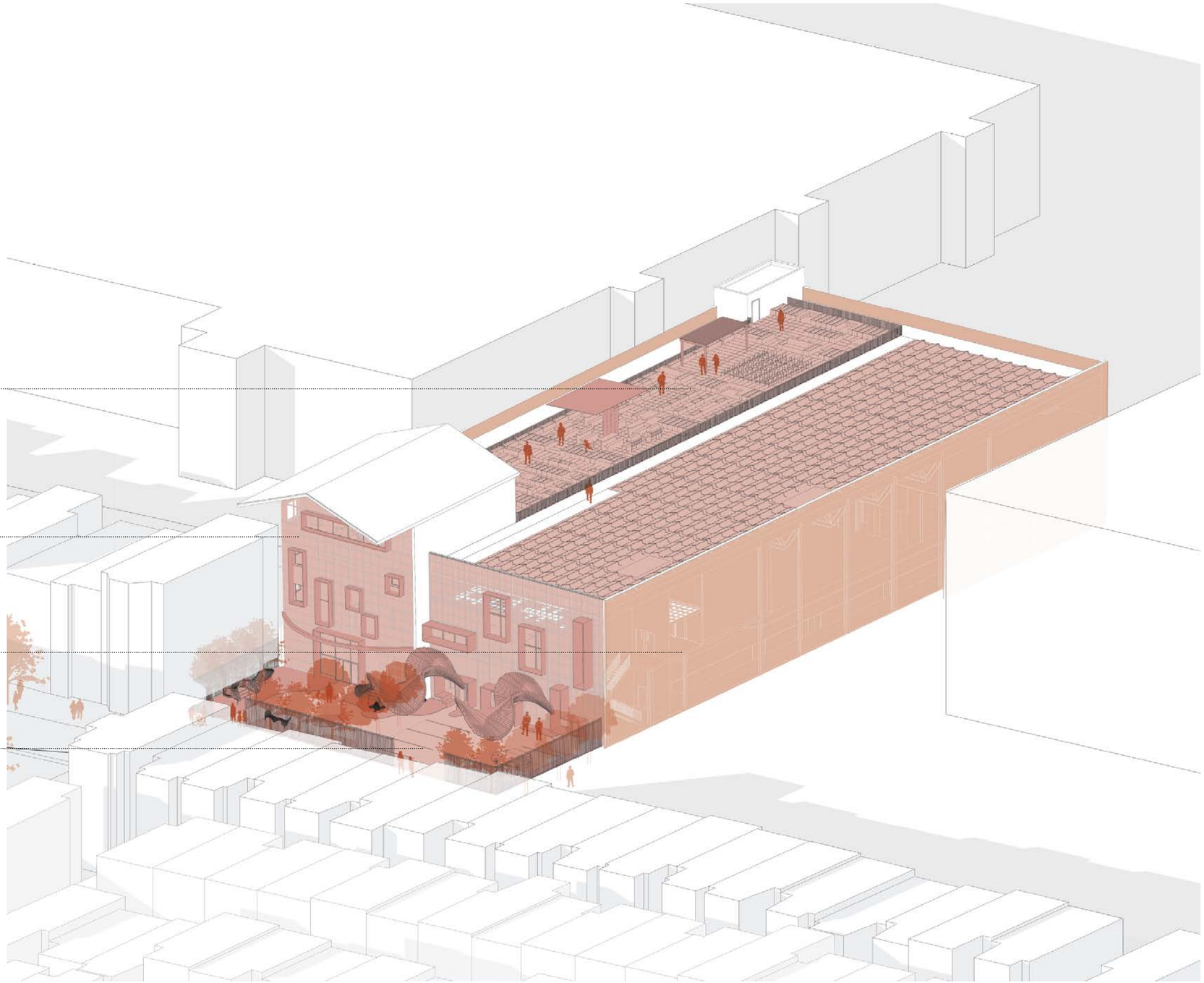
The adaptive reuse of the Chase Lenfest Center reimagines the building as a regenerative community hub. The design focuses on four interrelated interventions, each addressing a critical dimension of environmental and social resilience: the Front Porch, the Exterior Façade, the Bio-Solar Roof, and the Interior Ceilings.

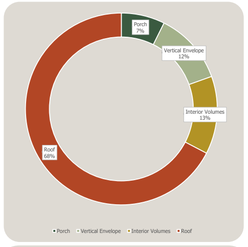
The Bio-Solar Roof serves as both an ecological and social infrastructure. It merges green roof systems with a community-scale solar array capable of providing 10 percent of annual energy use for more than 50 surrounding homes, redistributing environmental benefit back into the neighborhood. The planted roof provides outdoor gathering space, biodiversity habitat, and insulation, functioning as a shared community backyard.

The Exterior Façade renovation enhances both the building's performance and its presence. A new high-performance envelope improves insulation, reduces energy loss, and upgrades thermal comfort while celebrating the center's identity through material, and texture.

Interior Ceilings redefine the building's environmental performance and spatial character. By selectively lowering ceilings in conditioned zones, the design reduces energy demand while improving acoustic comfort and daylight quality.

The Front Porch extends the building's role beyond its walls, creating a vibrant threshold between community life and public space. It combines recreation, ecology, and food systems in one multifunctional landscape. Designed as both play space and green infrastructure, the porch captures and retains stormwater through permeable surfaces and planted basins that mitigate local flooding while cooling the surrounding microclimate. Flexible paved areas host farmers markets and food distribution events.






**TOTAL COST: $977,322**

| | |
|---|---|
| PORCH | $72,500 |
| ROOF | $658,525 |
| CEILING | $128,264 |
| FACADE | $118,841 |

**BEFORE CARBON:**

Embodied Carbon:
**15,256,600 KgCO2e**

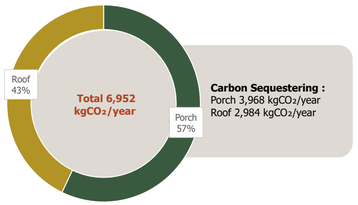
Operational Carbon:
**194,838 kgCO2e/year**

**AFTER CARBON:**

Embodied Carbon:
**18,340,342 KgCO2e**

Operational Carbon:
**101,665 kgCO2e/year**

**CARBON SEQUESTERING**

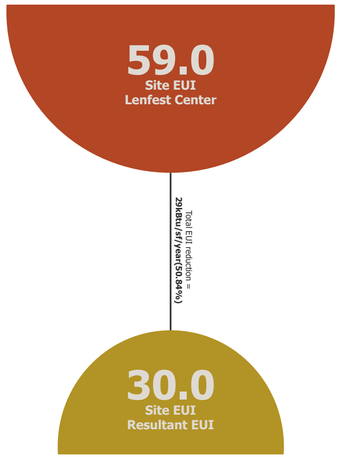



**Carbon Sequestering :**
Porch 3,968 $kgCO_2$/year
Roof 2,984 $kgCO_2$/year

**STORM-WATER REDUCTION**


Before (Porch + Roof):
**853,287 gal/year**

After (Porch + Roof):
**382,519 gal/year**




**NET ZERO DESIGN STRATEGIES**

**ENERGY REDUCTION**

| | |
|---|---|
| Porch : | N/A |
| Vertical Envelope : | -3 kBtu/sf/year |
| Interior Volumes : | -2 kBtu/sf/year |
| Interior Controls : | -5 kBtu/sf/year |
| Roof Envelope : | -1 kBtu/sf/year |
| **Total :** | **-11 kBtu/sf/year** |

**ENERGY PRODUCTION**

| | |
|---|---|
| Roof PV Array : | 961,391 kBtu/year |
| | **-19 kBtu/year** |

## PHASE 3.1
## THE ROWHOUSE : RAPID ITERATION

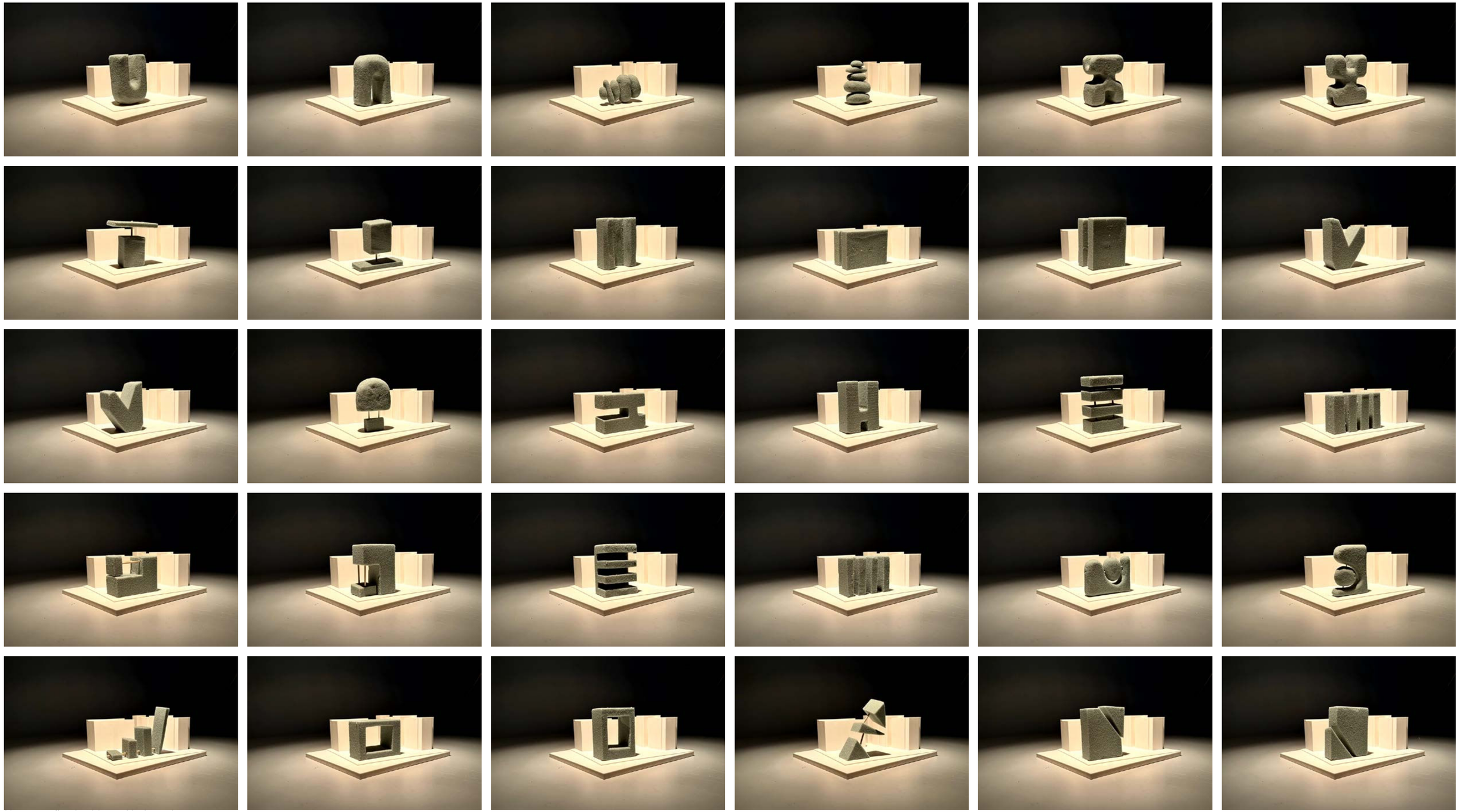
In Philadelphia, where infill and corner lots are tightly woven into an existing urban fabric, the massing of a building becomes a critical act of negotiation—between public and private space, light and shadow, old and new. In this assignment, students produced dozens of rapid massing iterations to explore these relationships physically and spatially, working directly within the limits of zoning height, setback, and lot coverage. Zoning was treated not as a constraint but as the first design brief—a framework for creative problem-solving that defines how new architecture participates in its neighborhood.

Massing models were used to study how form defines inhabitation, movement, and access to light—particularly within the narrow, deep rowhouse lots typical of North Philadelphia. Each iteration was tested under a heliodon, allowing students to observe real-world solar conditions and understand how shifts in orientation, height, or volume affect the quality of light throughout the day and across seasons.

Over the course of the exercise, students worked collaboratively to produce and evaluate more than 200 distinct massing schemes for infill and corner lots. This rapid, collective experimentation turned the studio into a laboratory for urban design—revealing how light, regulation, and intuition can interact to shape housing that is both responsive to its context and generous in its spatial and environmental performance.



CREDITS // PHOTO BY FACULTY // WORK BY STUDENTS





CREDITS // PHOTOGRAPHY AND WORK BY STUDENTS

## PHASE 3.2
## IFTAR

Midway through the project, between massing and the final design, we gathered at sundown for an Iftar dinner hosted by two of our Muslim students. Participating in the breaking of the fast during Ramadan, allowed us to observe the ways that cultural and religious practices shape social space and how spaces hold them. This experience became a lens through which to understand how architecture does not exist in isolation, but is inseparable from the lived, temporal, and ritualized life of the people it serves.

In the context of the studio project, this evening reinforced the importance of designing not only for physical needs—light, air, space—but also for social and cultural life, for practices of care, celebration, and collective participation. Recognizing and honoring rituals such as Iftar reminded students that good design is empathetic and attentive: it creates spaces where diverse traditions are supported, celebrated, and made visible. In this way, the dinner was both a teaching moment and a design precedent.

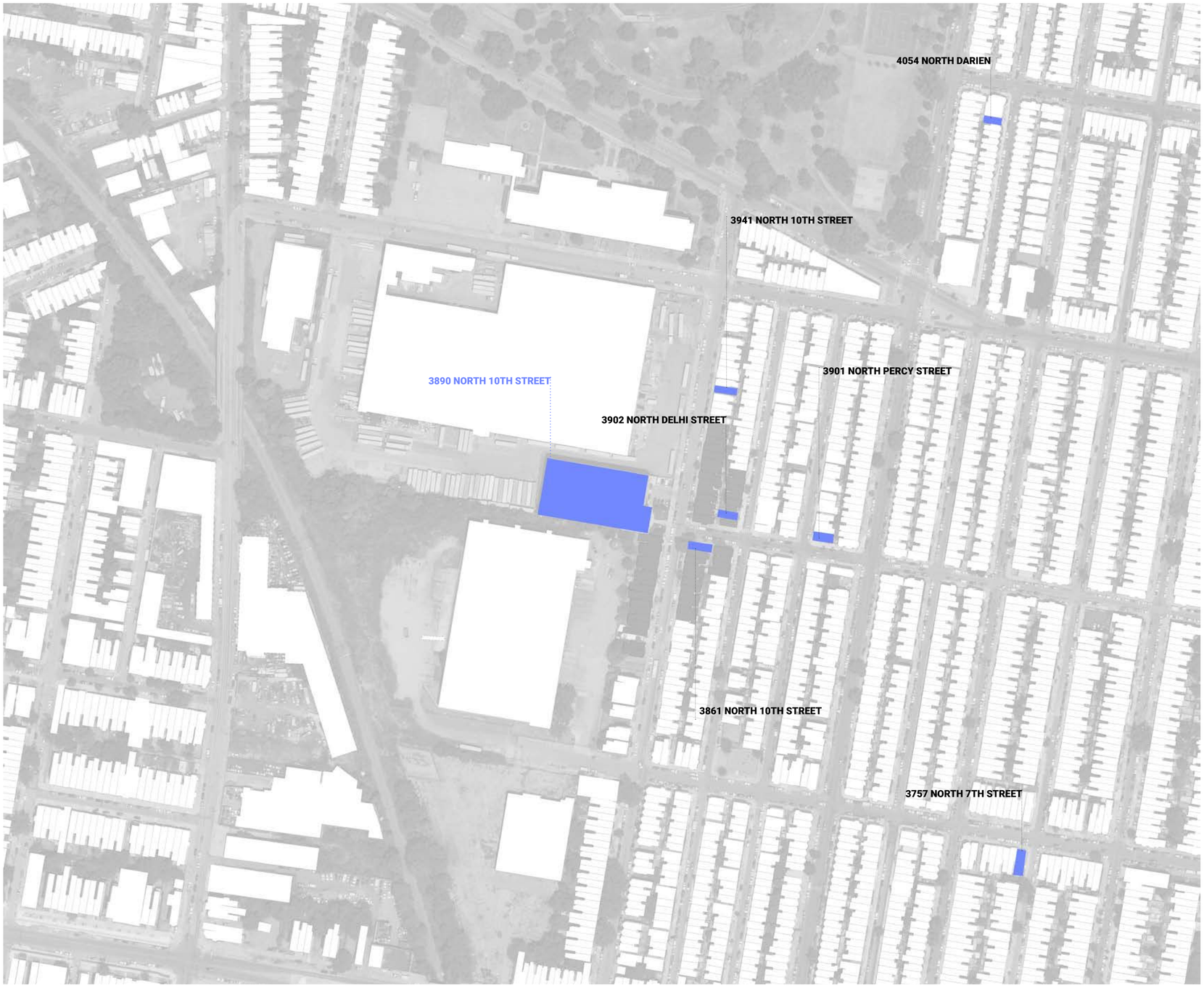


CREDITS // PHOTOGRAPHY BY FACULTY

## PHASE 3.3
## THE ROWHOUSE : FINAL DESIGN

For the final phase of the studio, students shifted their focus from urban research and massing/typological exploration to site specific design, articulation and critical representation. This phase emphasized translating the accumulated research, iterative massing studies, and process models into an integrated architectural proposition. The over arching design goals of the semester were made manifest and synthesized around empathy by design and ethical decarbonization.

Students integrated detailed materials, context, and entourage—people, plants, and furniture along with sourcing to track their ethical lifespan. Throughout, students were encouraged to carefully stage all representations to communicate how the building interacts with its surroundings, supports daily life, and fosters wellbeing.






CREDITS // MAPPING DATA BY OPENDATAPHILLY + MAPBOX // WORK BY STUDENTS

## EMPATHY BY DESIGN

Positioned on a vibrant neighborhood corner, the street level proposes a new Philadelphia chapter of the Confess Project: a national initiative that trains barbers to become mental health advocates. It reframes the barbershop as a space of healing, empowerment, and open dialogue about mental health. The upper two levels provide housing for a family of up to six people, capturing a common neighborhood family demographic that is under-represented in the city's affordable housing stock.

## ETHICAL DECARBONIZATION

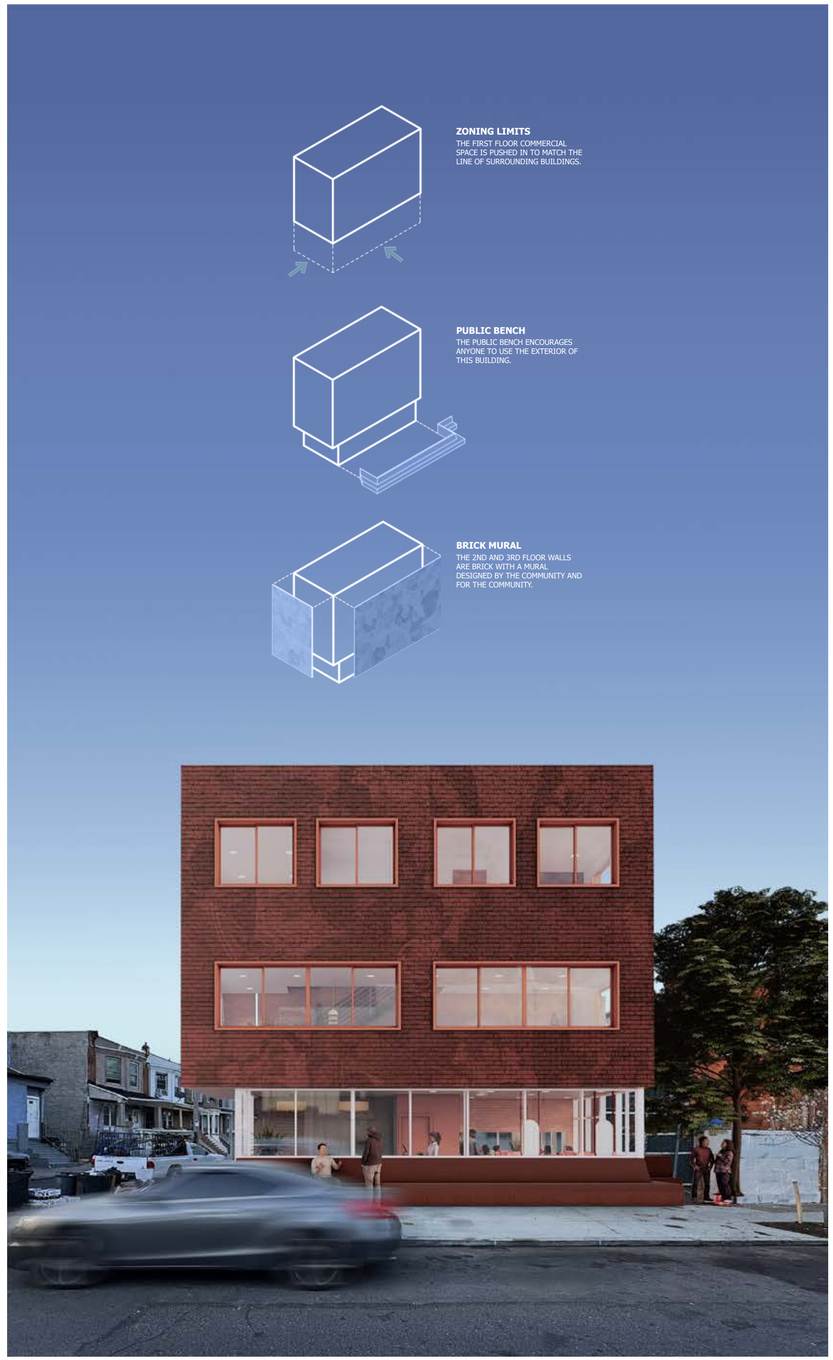
EXTERIOR WALLS
BRICK - AUSTRALBRICK (DECLARE LABEL)
MEMBRANE - EPDM - CARLISLE (CRADLE TO CRADLE CERTIFIATION)
1/2" PLYWOOD - SHAW (CRADLE TO CRADLE CERTIFIATION)
2X6 @ 16" O.C. - FUTUREBUILD (DECLARE LABEL)
RIGID INSULATION - ROCKWOOL (CRADLE TO CRADLE CERTIFIATION)
VAPOR BARRIER - MIDDLESEX BUILDING PRODUCTS (DECLARE LABEL)

ROOF
TPO MEMBRANE - CARLISLE (CRADLE TO CRADLE CERTIFIATION)
3/4" PLYWOOD - CATER HOLT ECO PLY (DECLARE LABEL)
20" WOOD TRUSS - SMARTLAM (DECLARE LABEL)
RIGID INSULATION - ROCKWOOL (CRADLE TO CRADLE CERTIFIATION)
VAPOR BARRIER - MIDDLESEX BUILDING PRODUCTS (DECLARE LABEL)
5/8" GYPSUM BOARD - KNAUF (CRADLE TO CRADLE CERTIFIATION)

WATER + ENERGY
SOLAR - DRAWN FROM COMMUNITY GRID @ LENFEST CENTER:
PANELS - MAXEON SOLAR TECHNOLOGIES (CRADLE TO CRADLE CERTIFIATION)
RAIN WATER COLLECTION - RAIN CHECK (LOCAL PROGRAM)

SITE
TREES - PHILADELPHIA PARKS & RECREATION (LOCAL PROGRAM)
PUBLIC BENCH - CAMBIUM (DECLARE LABEL)

INTERIOR FINISHES
MILLWORK - REFORM CPH (CRADLE TO CRADLE CERTIFIATION)
FLOORING - POLISHED CONCRETE - HYCRETE (CRADLE TO CRADLE CERTIFICATION)
DOORS - OMEGA WINDOW AND DOORS (DECLARE LABEL)

## EMPATHY BY DESIGN

Located on a neglected lot with no local ownership, the house accommodates two families with a focus on light and livability throughout, despire the party wall constraints. The building is organized for multiple, fliexible, and adaptable family structures with a primary and accessory dwelling fully separated from each other.

## ETHICAL DECARBONIZATION

SITE
TREES - PHILADELPHIA PARKS & RECREATION (LOCAL PROGRAM)
LANDSCAPING/ GARDENING - HARPWELL GARDENS AND LANDSCAPE (LOCAL WOMEN OWNED BUSINESS)
STONE PAVERS - PAVERBASE UNDER LOCAL STONE (CRADLE TO CRADLE CERTIFICATION)

ROOF
TPO MEMBRANE - CARLISLE (CRADLE TO CRADLE CERTIFIED)
3/4" PLYWOOD SHEATHING - SHAW (CRADLE TO CRADLE CERTIFIED)
18" OPEN WEB TRUSSES - SMARTLAM
RIGID INSULATION - ROCKWOOL (CRADLE TO CRADLE CERTIFIED)
VAPOR BARRIER - MIDDLESEX BUILDING PRODUCTS
5/8" GYPSUM BOARD - KNAUF (CRADLE TO CRADLE CERTIFIED)

WATER + ENERGY
RAIN WATER COLLECTION - RAIN CHECK (LOCAL PROGRAM)
SKYLIGHTS - VELUX (ENERGY STAR CERTIFIED)

INTERIOR FINISHES
MILLWORK - REFORM CPH (CRADLE TO CRADLE CERTIFIED)
FLOORING - SHAW HARDWOOD FLOORING (CRADLE TO CRADLE CERTIFIED)
MOSA TILES (CRADLE TO CRADLE CERTIFIED)
DOORS - OMEGA WINDOWS AND DOORS

EXTERIOR WALLS
BRICK - BORAL BRICKS (CRADLE TO CRADLE CERTIFIED)
MEMBRANE LAYER - HENRY BLUESKIN (RECYCLED AND LOCAL MATERIALS)
1/2" PLYWOOD SHEATHING - SHAW (CRADLE TO CRADLE CERTIFIED)
2X6 @ 16" O.C. WD STUDS - FUTUREBUILD
RIGID INSULATION - ROCKWOOL (CRADLE TO CRADLE CERTIFIED)
VAPOR BARRIER - MIDDLESEX BUILDING PRODUCTS
1/2" GYPSUM BOARD - KNAUF (CRADLE TO CRADLE CERTIFIED)
WINDOWS - ANDERSON (GREEN SEAL CERTIFIED AND ENERGY STAR CERTIFIED)
STUCCO + LATH - GREENMAKER INDUSTRIES


## EMPATHY BY DESIGN

Sited on a quiet residential corner, directly across the street from the Lenfest Center, the proposed building houses up to 8 people and two families with a focus on connections to greenspace and healthy living. The building is organized for multiple, fliexible, and adaptable family structures with a primary and accessory dwelling fully separated from each other.

## ETHICAL DECARBONIZATION

EXTERIOR WALLS
FLY ASH BRICK XING LEI RECYCLING CO. AUSTRALBRICKS
RECYCLED WOOD PANELS MANAYUNK TIMBER
MEMBRANE EPDM CARLISLE CONSTRUCTION MATERIALS BV
1/2" PLYWOOD ECOPLY DECLARE LABEL
2 X 6 @ 16" O.C. FUTUREBUILD CRADLE TO CRADLE
SPRAY FOAM INSULATION INSULATION SOLUTIONS
VAPOR BARRIER MIDDLESEX BUILDING PRODUCTS DECLARE LABEL
1/2" GYPSUM BOARD KNAUF CRADLE TO CRADLE
WINDOWS OMEGA WINDOWS AND DOORS DECLARE LABEL

ROOF
TPO MEMBRANE CARLISLE CONSTRUCTION MATERIALS BV CRADLE TO CRADLE
3/4" PLYWOOD ECOPLY DECLARE LABEL
20" WOOD TRUSS SMARTLAM CRADLE TO CRADLE
SPRAY FOAM INSULATION INSULATION SOLUTIONS CRADLE TO CRADLE
VAPOR BARRIER MIDDLESEX BUILDING PRODUCTS DECLARE LABEL
5/8" GYPSUM BOARD KNAUF CRADLE TO CRADLE

INTERIOR FINISHES
FLOORING PASAVVAERK CRADLE TO CRADLE
MILL WORK HAWORTH DECLARE LABEL
DOORS OMEGA WINDOWS AND DOORS DECLARE LABEL

WATER + ENERGY
SOLAR PANELS MAXEON SOLAR TECHNOLOGIES CRADLE TO CRADLE
RAIN WATER COLLECTION RAIN CHECK

SITE
TREES PHILADELPHIA PARKS AND RECREATION
PLANTS PHILADELPHIA PARKS AND RECREATION





CREDITS // WORK BY CHLOE DIAZ

## EMPATHY BY DESIGN

Positioned directly adjacent to Hunting Park, the site offers quick access to abundant greenspace, as well as proximity to a neighborhood owned market immediate to the north. Both support well being and food access. The home itself provides space for a family of six, an often overlook demographic in affordable housing, along with a basement level accessory dwelling capable of providing flexibility for expanding and contracting families.

## ETHICAL DECARBONIZATION

WATER + ENERGY
SOLAR PANELS FOR ADDITIONAL ENERGY PRO-DUCTION
RAINWATER HARVESTING

OVERALL FINISHES
GYPSUM IS MANFACTURED IN USA AND IT WAS CERTIFIED BY IRMA (INITIATIVE FOR RESPONSIBLE MINING ASSURANCE) WHICH COVERS LABOR RIGHTS, ENVIRONMENTAL IMPACT, AND TRANSPARENCY
PLYWOOD IS MANFACTURED IN USA AND IT WAS CERTIFIED BY FOREST STEWARDSHIP COUNCIL (FSC)
BRICK IS MANFACTURED IN USA AND IT WAS CERTIFIED BY CRADLE TO CRADLE
VAPOR BARRIER IS MANFACTURED IN CHINA AND IT WAS CERTIFIED BY CRADLE TO CRADLE.


CREDITS // BY NAVEEN VEMPATI

## EMPATHY BY DESIGN

Utilizing the zoning allowance for a four story structure, this home is intended to maximize density without sacrificing livability. Flexible spaces exist on five levels, including the basement, that provide for multiple scales of living. Considering is given to the often under-represented larger families within the Hunting Park neighborhood, with little to no affordable housing for larger families. Proximity to the Lenfest Center is also given high priority to allow for easy access to community ammenities and after school programs.

## ETHICAL DECARBONIZATION

METALS: MANUFACTURER: BIG RIVER STEEL CERTIFICATION: RESPONSIBLE STEEL

WOOD MANUFACTURER: WEYERHAEUSER CERTIFICATION: SUSTAINABLE FORESTY INITIATIVE (SFI) FOREST MANAGEMENT, FIBER SOURCING, CHAIN OF CUSTODY & CERTIFIED SOURCING CERTIFICATES

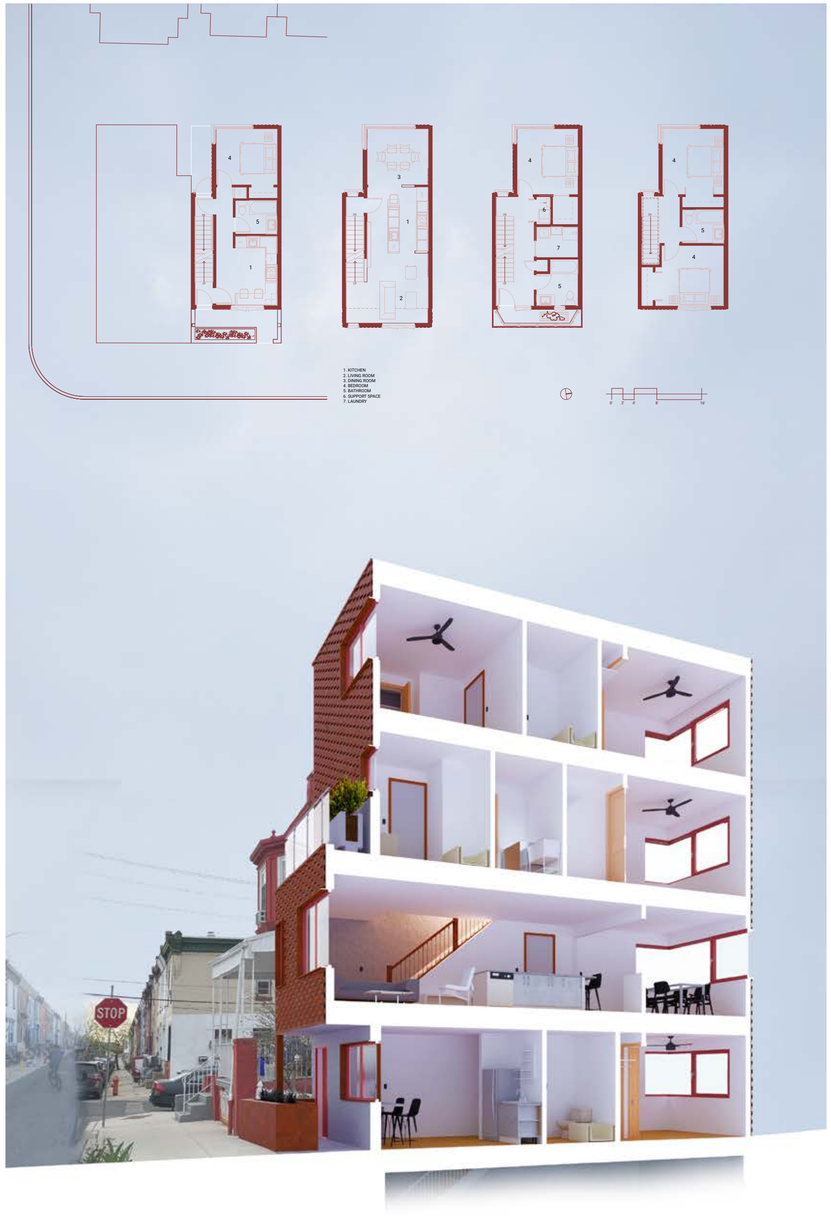
GYPSUM BOARD MANUFACTURER: SAINT-GOBAIN CERTIFICATION: BES 613170 (BES 6001)
CONCRETE MANUFACTURER: CEMEX, CERTIFICATION: CONCRETE SUSTAINABILITY COUNCIL (CSC) RESPONSIBLE SOURCING CERTIFICATION

XPS MANUFACTURER: POLYFOAM XPS CERTIFICATION: BES 6001 (RESPONSIBLE SOURCING, CONSTRUCTION PRODUCTS)

PAINT CERTIFICATION: RESPONSIBLE MICA INITIATIVE

MILLWORK CERTIFICATION: CRADLE TO CRADLE PRODUCT CERTIFICATION (SILVER AND HIGHER)

FLOORING (WOOD) MANUFACTURER: WEYERHAEUSER CERTIFICATION: SUSTAINABLE FORESTY INITIATIVE (SFI) FOREST MANAGEMENT, FIBER SOURCING, CHAIN OF CUSTODY & CERTIFIED SOURCING CERTIFICATES







CREDITS // BY RJ ANSELM

## EMPATHY BY DESIGN

This corner lot is home to two mature Sycamore trees.  To protec their root zone, the building's physical footprint at the ground level is minimized creating a sort of tree house where main living and sleeping spaces cantilever into the tree canopies.  An accessory dwelling unit on the main level affords flexibility for live work circumstances as well as short and long term extended family stays.

## ETHICAL DECARBONIZATION

SITE
TREE CANOPY MAINTAINS URBAN COOLING  AND BIODIVERSITY. WALKABLE TO ESPERANZA ACADEMY CHARTER SCHOOL AND THE LENFEST CENTER

MATERIALS
VERTICAL ALUMINUM BATTENS BY HYDRO CIRCAL RECYCLING
FIBER CEMENT BY EQUITONE
INSULATION BY ROCKWOOL
MILLWORK AND LUMBER LOCALLY SOURCED BY TAGUE LUMBER
VAPOR BARRIERS BY WR MEADOWS MEL-ROL LM

WATER + ENERGY
THE DESIGN MINIMIZES IMPERVIOUS SURFACES AROUND THE HOME TO SUPPORT NATURAL STORMWATER INFILTRATION, HELPING TO REDUCE RUNOFF AND LESSEN STRAIN ON THE CITY'S DRAINAGE SYSTEMS. PRESERVING EXISTING TREES ALSO IMPROVES WATER ABSORPTION ONSITE, FURTHER CONTRIBUTING TO IMPROVING URBAN ECOSYSTEMS.
SOLAR PANELS ON THE ROOF SUPPLEMENT COMMUNITY RENEWABLE ENERGY FRO THE LENFEST CENTER FOR GREATER AFFORDABILITY AND SUSTAINABILITY.





CREDITS // BY SABIRA HAQUE

Project Data

Title:
Housing Without Displacment

Month/Year Completed:
May 2025

Role of Nominee (in the project):
Faculty

Community Partner:
NORTH10 Philadelphia: Lee White, Dr. Joshua Klaris, Jennifer Somerville

Students:
Amani Harb, Khaja Faizan Ahmed, Dania Abdul Rahim, Akshara Manda, Khushali Rushabh Shah, Naveen Vempati, Chloe Diaz, Emily Morina, Sabira Haque, Aubrey Saunders, RJ Anselm

Faculty:
Assoc. Professor John Dwyer

Community Liasion:
Asst. Professor Evan Pruitt

Student Compensation:

11 students in the Master of Architecture program received credit through their contributions to this 6 credit studio course.

Acknowledgements

Our studio began as a dedicated effort to participate in the Department of Energy's Solar Decathlon program. With a fully engaged community partner and design and analysis underdway, the DOE announced the end of the program. What could easily have been a moment of defeat, the students and the community rallied around it as an opportunity to expand the possibilites for the studio to have a broader impact. Addressing the most pressing issue of our time in one of the most critical areas of our city, housing became the unamimous calling.

I personallly wish to thank the students for their fearlessness, positivity, and adaptability as our studio shifted course mid-semester. I also wish to deeply trhank our community leaders for sticking with us in our partnership throughout the semester and to this day.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