



COMMON GROUND: REIMAGINING A RESIDENTIAL BLOCK FOR COLLECTIVE LIVING

2025
AIA/ACSA HOUSING
DESIGN EDUCATION
AWARD

OVERVIEW



Denver is facing one of the most acute housing shortages in the United States, plagued by a deficit of approximately 70,000 housing units. This scarcity has led to significant housing inequity and unaffordability, further exacerbated by the predominant single-family housing model. Following the ongoing efforts in many cities to reform zoning and housing policies, Denver's Five-Year Strategic Plan has suggested new paths for expanding housing options by allowing the development of "Missing Middle" housing in low-rise neighborhoods. While these options are effective in improving affordability, the existing "Missing Middle" housing models appeal for an update to address cultural shifts and social challenges that influence dwelling changes for evolving demographics. Additionally, housing at this scale is usually explored on individual lots, overlooking the potential for larger, collective impacts prone to be cultivated at the scale of a residential block. Given these challenges, this pedagogical project asks: how could we reimagine "Missing Middle" housing to address contemporary ways of living that engage diverse constituents? **Using the site of a block to explore a collective model for envisioning housing solutions, how could we foster forms and actions of sharing to enable a common ground for the community living in the block and beyond?**

In response to these inquiries, the projects included in this supporting material **present a collaborative pedagogy** for a foundational housing studio taught at the University of Colorado Denver College of Architecture and Planning, proposing a series of **reimagined "Missing Middle" housing** schemes on a **residential block** in Denver's Capitol Hill neighborhood that explore new forms of collective living. Reflecting upon existing housing typologies and policies, students engage with local residents to develop a guiding framework for design efforts, such as rethinking building heights and incorporating shared facilities. Moving forward, students develop design schemes that tackle different lot conditions within the block, such as utilizing the backyards of multiple adjacent lots. By examining different collective arrangements and shared domestic spaces on the ground level, students propose new "Missing Middle" housing strategies, formulating a hypothesis of "Common Ground" that **envisions a collective development of the residential block**. Through accumulating a network of shared spatial and social resources, these reimagined "Missing Middle" housing options seek to establish **a new mode of development at the scale of a block** that provides an alternative to address contemporary housing challenges.

PEDAGOGICAL FRAMEWORK

PROJECT 01 [p.04 - 05]

RESEARCH ON SITE AND EXISTING MISSING MIDDLE

Group Work, 4 Weeks

PART 01: Research on Site

PART 02: Research on Existing “Missing Middle” Housing Typologies

Students work as a group to conduct a series of research that focuses on the **site, missing middle housing typologies, and domestic spaces**, which include:

- Site Analysis: focus on developing a comprehensive understanding of the site, including the physical, cultural, and environmental dimensions of the natural and built environment.
- “Missing Middle” Housing Analysis: comprehensive documentation of existing middle housing projects in Denver, including their spatial configurations and their relations to national and local housing policies.

PROJECT 02 [p.06 - 09]

COLLECTIVE DEVELOPMENT OF A RESIDENTIAL BLOCK

Group Work, 4 Weeks

PART 01: Community Manifesto

PART 02: Common Ground

Following the research from Project 01, students discuss with housing professionals to co-author a “Community Manifesto” that regulates the development of the residential block. By examining different collective arrangements and shared domestic spaces on the ground level, students collaborate and coordinate on new “Missing Middle” housing strategies, formulating a hypothesis of “Common Ground” that **envisions a collective development of the residential block**.

PROJECT 03 [p.10 - 20]

REIMAGINING MISSING MIDDLE ON THE RESIDENTIAL BLOCK

Group Work, 8 Weeks

PART 01: Technical Development

PART 02: Collective Site Model

In adherence to the “Community Manifesto” and collective agreements, students collaborate in pairs to continue **developing a design scheme** that includes:

- Eight Residential Units for Collective Housing: the number of residents may be flexible. The units may be connected, disconnected, or distributed across the lot as separate structures. The building should not exceed 33 ft in height.
- Public Program: a community space, such as a shared kitchen or communal garden, should be included in each project. This community space should be incorporated into a network of shared and communal space within the whole site. Coordination, collaboration, and communication are required to achieve a holistic, cohesive scheme of public spaces.

FOUNDATION

The studio is the second core studio in the 3-Year M.Arch program at the University of Colorado Denver College of Architecture and Planning.



COMMON GROUND (LEYUAN LI, CU DENVER)

PROJECT 01: RESEARCH *(excerpted)*

MISSING MIDDLE HOUSING

The research dissects existing “Missing Middle” housing typologies in the context of Denver, analyzing their spatial configurations and specifications as well as their relations to zoning and housing policies.

The research pages are organized into three rows and twelve columns. Each page (numbered 01-36) follows a consistent layout:

- Page 01 (Duplex):**
 - Duplex Subtypes:**
 - Staircase Duplex
 - Side-by-side Duplex
 - Typical Specifications:**
 - Average 327 ft² (30.5 x 10.9) per unit
 - Building Area: 654.0 sq ft
 - Building Height: 14-24'
 - Stories: 2-3
 - Number of Units: 2
 - Off-Street Parking: 2 per unit
 - On-Street Parking: 0-2
 - General Use: Attached Rowed
 - Duplex as Missing Middle:**
 - Often a viable as a last-plunge for the homeowner as a new development
 - They can be built in a variety of locations and are highly adaptable to form
 - Trends for low-rise urban infill have elevated interest in duplex housing
 - Generally found in urban areas, close to transit and in historic neighborhoods
 - Many factors limit the capacity to be built into a dense urban fabric: limited lot sizes and zoning restrictions
 - Relevance in Denver:**
 - Duplex is a viable as a last-plunge for the homeowner as a new development
 - They can be built in a variety of locations and are highly adaptable to form
 - Trends for low-rise urban infill have elevated interest in duplex housing
 - Generally found in urban areas, close to transit and in historic neighborhoods
 - Many factors limit the capacity to be built into a dense urban fabric: limited lot sizes and zoning restrictions
- Page 02 (Stacked Duplex):**
 - Typical Specifications:**
 - Average 327 ft² (30.5 x 10.9) per unit
 - Building Area: 654.0 sq ft
 - Building Height: 14-24'
 - Stories: 2-3
 - Number of Units: 2
 - Off-Street Parking: 2 per unit
 - On-Street Parking: 0-2
 - General Use: Attached Rowed
- Page 03 (Triplex):**
 - Typical Specifications:**
 - Average 327 ft² (30.5 x 10.9) per unit
 - Building Area: 654.0 sq ft
 - Building Height: 14-24'
 - Stories: 2-3
 - Number of Units: 3
 - Off-Street Parking: 2 per unit
 - On-Street Parking: 0-2
 - General Use: Attached Rowed
- Page 04 (Quadplex):**
 - Typical Specifications:**
 - Average 327 ft² (30.5 x 10.9) per unit
 - Building Area: 654.0 sq ft
 - Building Height: 14-24'
 - Stories: 2-3
 - Number of Units: 4
 - Off-Street Parking: 2 per unit
 - On-Street Parking: 0-2
 - General Use: Attached Rowed
- Page 05 (Multiplex):**
 - Typical Specifications:**
 - Average 327 ft² (30.5 x 10.9) per unit
 - Building Area: 654.0 sq ft
 - Building Height: 14-24'
 - Stories: 2-3
 - Number of Units: 4+
 - Off-Street Parking: 2 per unit
 - On-Street Parking: 0-2
 - General Use: Attached Rowed
- Page 06 (Cottage Court):**
 - Typical Specifications:**
 - Average 327 ft² (30.5 x 10.9) per unit
 - Building Area: 654.0 sq ft
 - Building Height: 14-24'
 - Stories: 2-3
 - Number of Units: 4+
 - Off-Street Parking: 2 per unit
 - On-Street Parking: 0-2
 - General Use: Attached Rowed
- Page 07 (Cottage Row):**
 - Typical Specifications:**
 - Average 327 ft² (30.5 x 10.9) per unit
 - Building Area: 654.0 sq ft
 - Building Height: 14-24'
 - Stories: 2-3
 - Number of Units: 4+
 - Off-Street Parking: 2 per unit
 - On-Street Parking: 0-2
 - General Use: Attached Rowed

PROJECT 01: RESEARCH *(excerpted)*

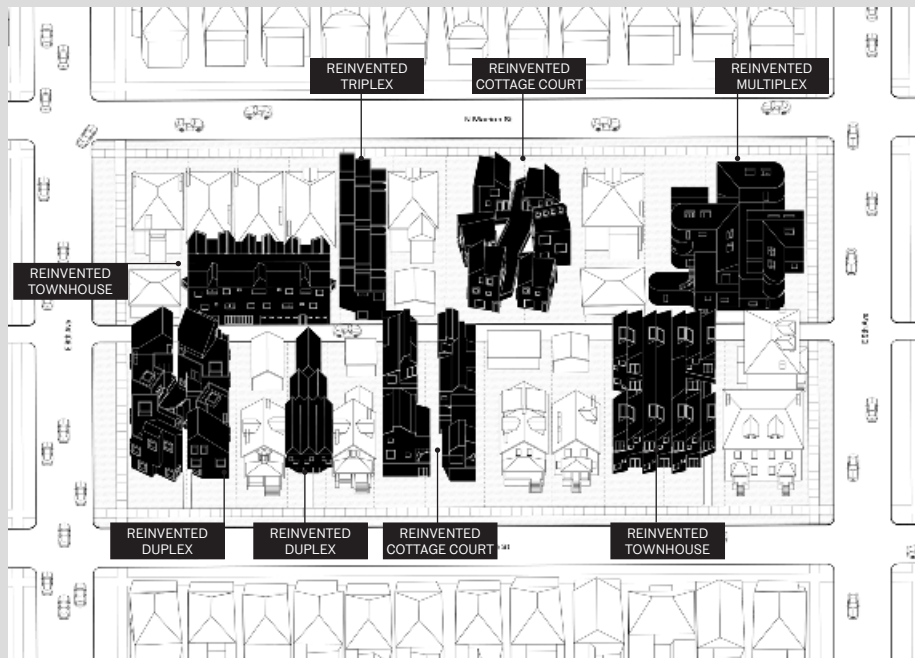
RESIDENTIAL BLOCK

The research dissects the spatial, political, social, and environmental layers of a residential block in the Capitol Hill neighborhood, including the existing housing typologies, zoning regulations, circulations, demographics, etc.

The image displays a grid of architectural research drawings. The top-left section features a large site plan with a grid of streets labeled E 10TH AVE, E 11TH AVE, E 12TH AVE, and E 13TH AVE. A legend below it, titled 'BUILDING TYPES', includes categories like TOWN HOUSE, INSTITUTION, CONDOMINIUM, DUPLEX, and others, each with a corresponding hatched pattern. A scale of 1" = 260' is provided. The grid continues with various diagrams, including a 'MEMORANDUM CONTEXT' map, a 'MEMORANDUM CONCEPT' map, and several pages of text with small images and diagrams. The bottom-right corner contains a large, detailed site plan with a central building footprint and surrounding streets.

PROJECT 02: COLLECTIVE DEVELOPMENT OF A RESIDENTIAL BLOCK

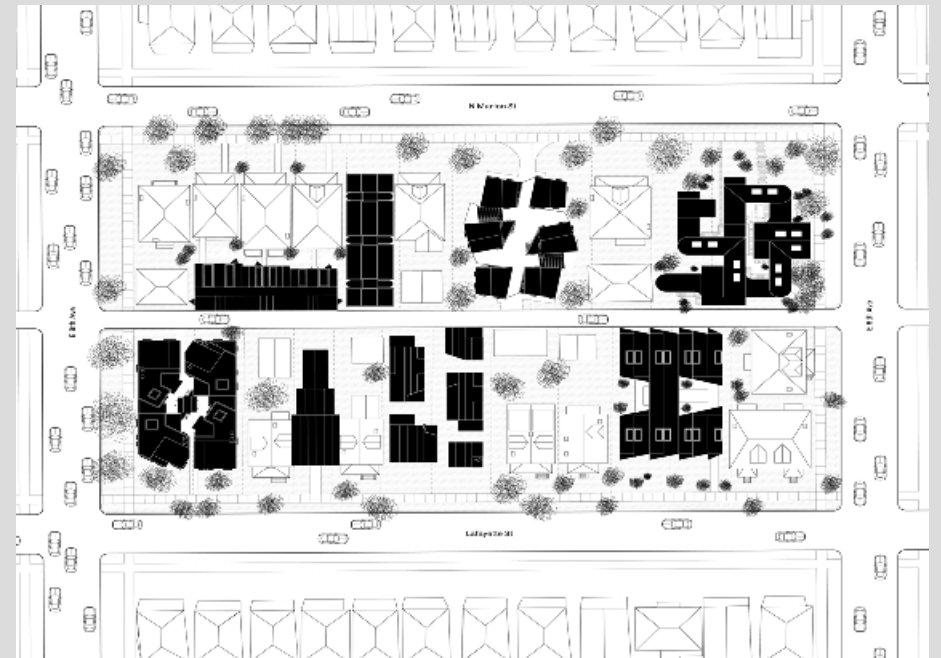
- 01 As a community, we would like to **update the existing framework of “Missing Middle” housing and create new typologies** that engage the diverse constituents of American cities.
- 02 As a community, we would like to rethink new technologies and cultural shifts that inspire contemporary dwelling changes, and **reconsider the role of shared domestic spaces**, such as shared living rooms and collective kitchens, in fostering new forms of collectivity.
- 03 As a community, we would like to **create a continuous network that embraces collective arrangements** for living and that bolsters a sense of community and resilience, with an improved ability to age in place.
- 04 As a community, we would like to **co-author the development of the whole city block**, which would require close collaboration and coordination with architects, urban designers, potential residents, and community stakeholders.
- 05 As a community, we would like to challenge the dominant vehicles-oriented



COMMUNITY MANIFESTO

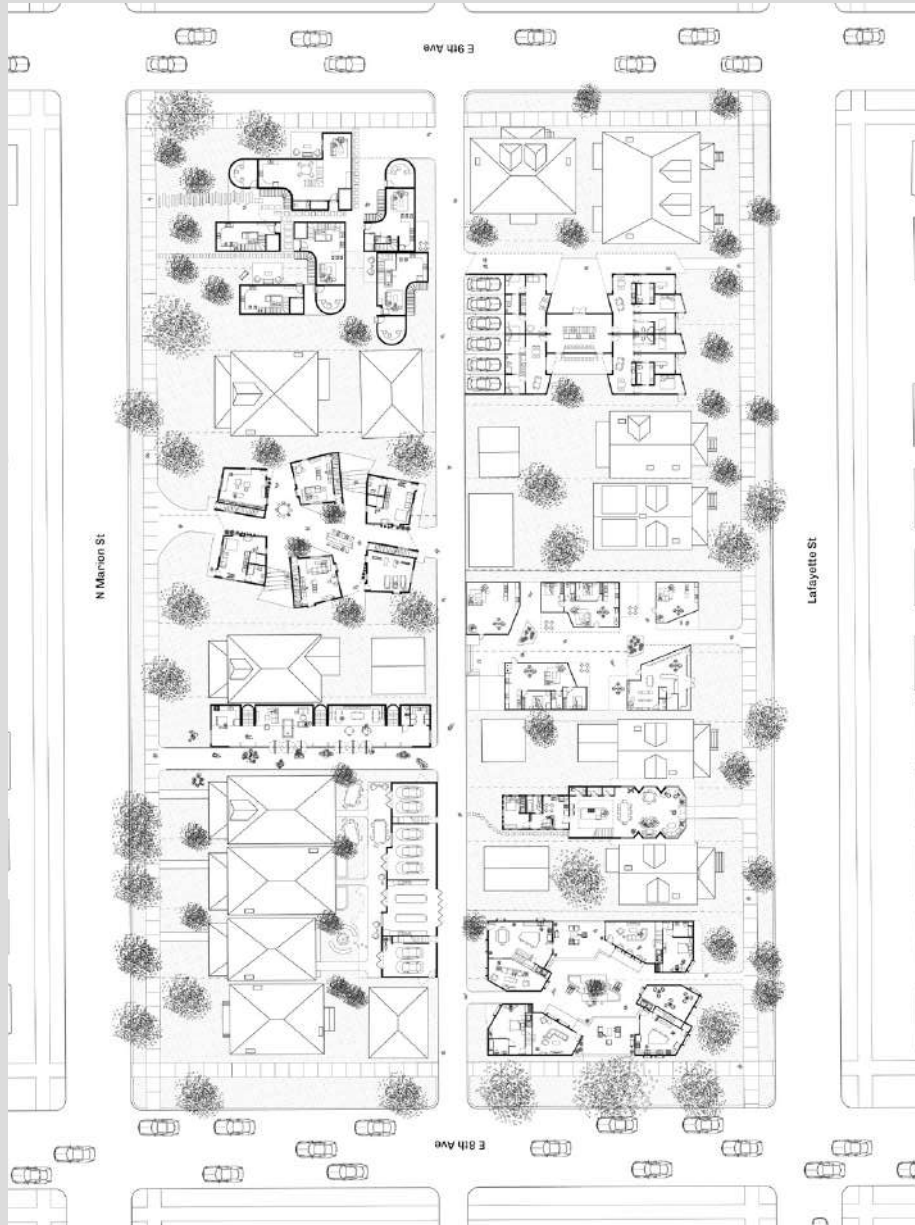
In response to their research on local zoning policies and “Missing Middle Housing” typologies, students discuss with housing professionals to co-author a “Community Manifesto” that regulates the development of the residential block.

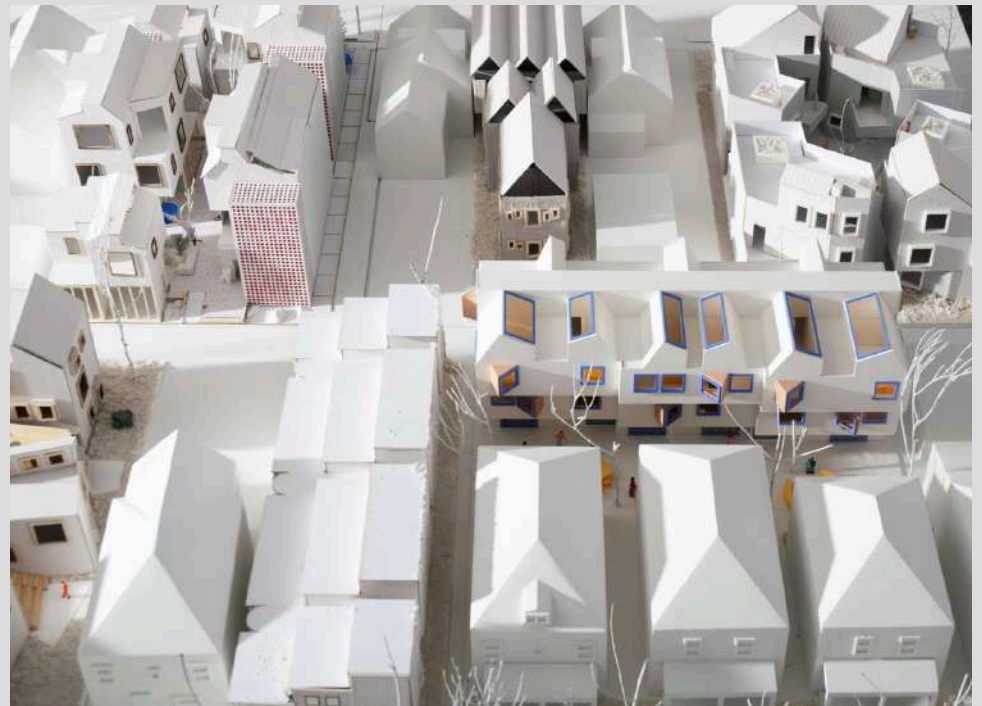
- culture, **proposing a living district that embraces carbon-friendly means of transportation**.
- 06 As a community, we would like to **gently increase the housing density by increasing the maximum building height from 30'-0” to 40'-0”**.
- 07 As a community, we would like to **challenge the existing zoning policies**, allowing the free arrangements and combinations of lots to enable the development of multi-family projects better aligned with collective aspirations.
- 08 As a community, we would like to **follow the existing front setback requirements to respect the continuity of the urban facade**. We would disavow the requirements for side and rear setbacks to liberate experimental design ideas from dated restrictions.
- 09 As a community, we would like to **establish a common ground** where the relationships between individual, collective, community, city, gender, race, and public health are socially defined and formally celebrated.



COMMON GROUND

Responding to the “Community Manifesto,” students develop design schemes that tackle different lot conditions within the block. By examining different collective arrangements and shared domestic spaces on the ground level, students collaborate and coordinate on new “Missing Middle” housing strategies, formulating a hypothesis of “Common Ground” that envisions a collective development of the residential block.





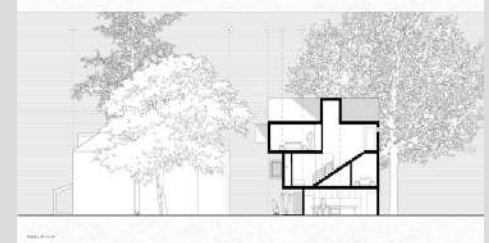
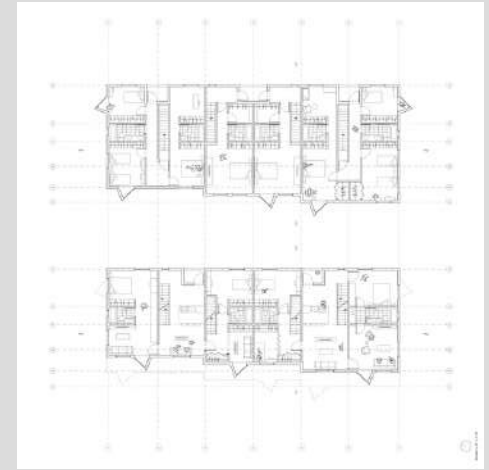
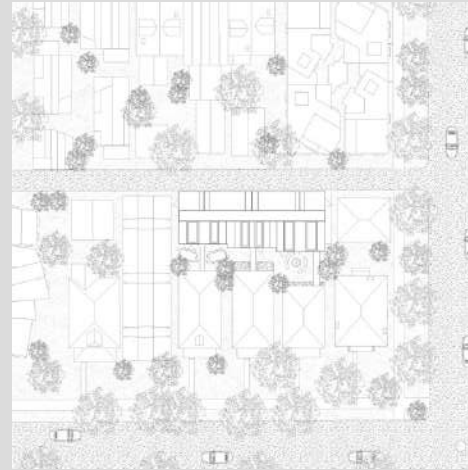
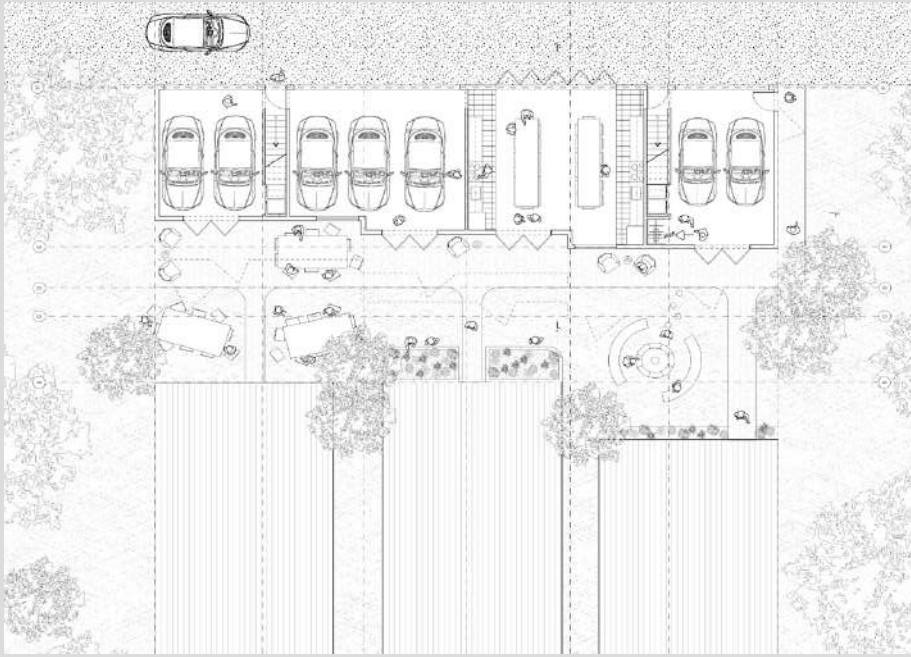
PROJECT 03: REIMAGINING MISSING MIDDLE HOUSING ON THE RESIDENTIAL BLOCK

In adherence to the “Community Manifesto” and collective agreements, students collaborate in pairs to continue developing a design scheme that reimagines a particular “Missing Middle” housing typology.



REIMAGINED TOWNHOUSE

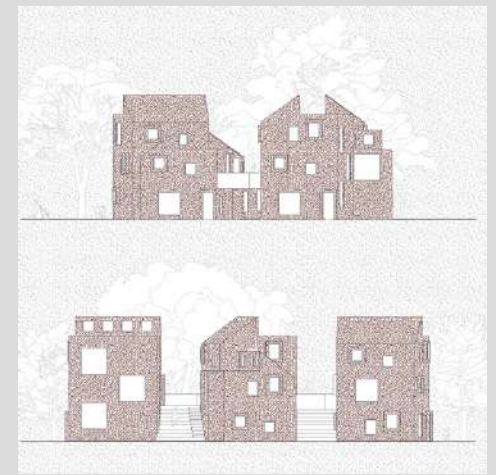
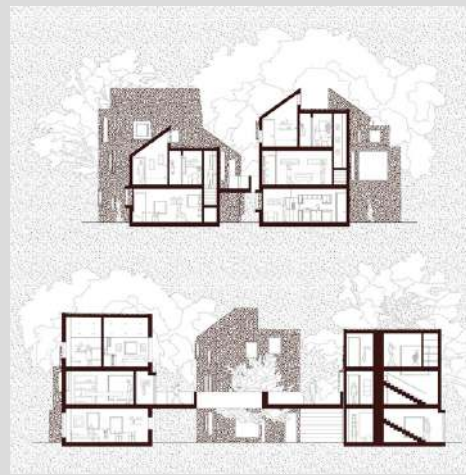
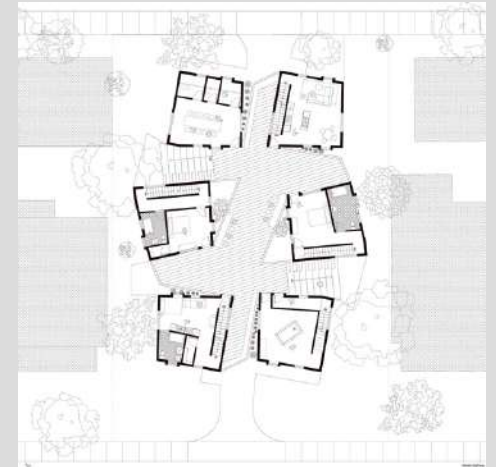
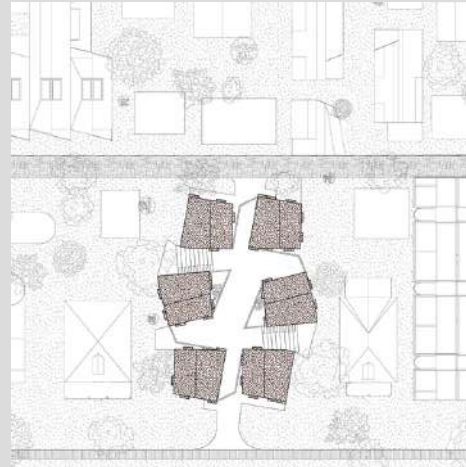
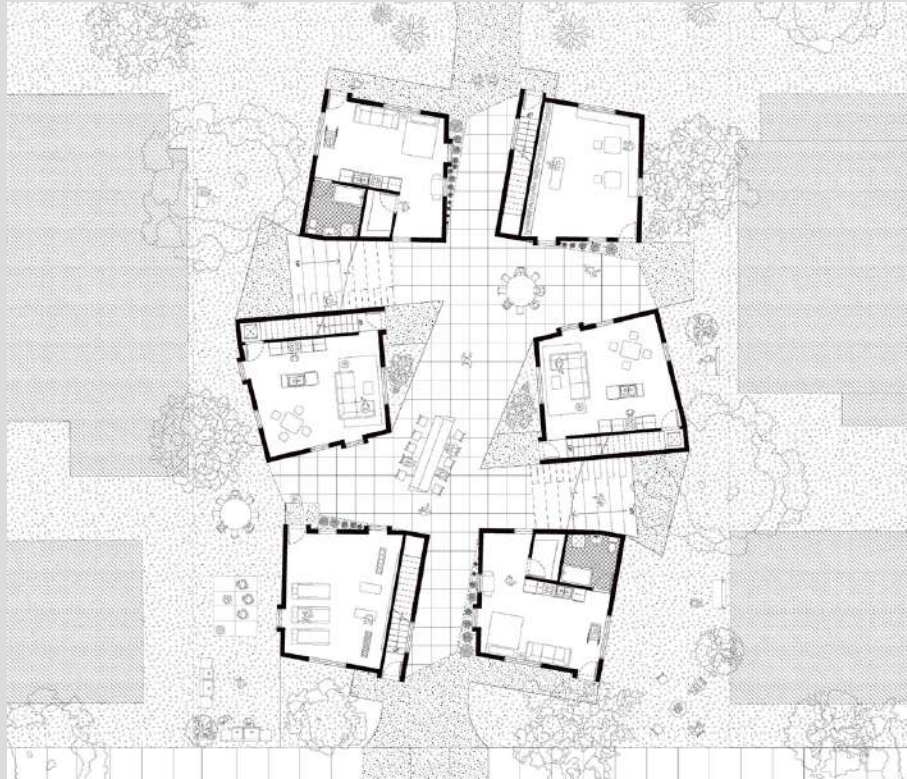
This reimagined townhouse delves into the possibility of combining the backyards of three adjacent lots to reinvent the townhouse typology, with its ground floor serving as a communal kitchen accessible to the neighborhood.





REIMAGINED COTTAGE COURT

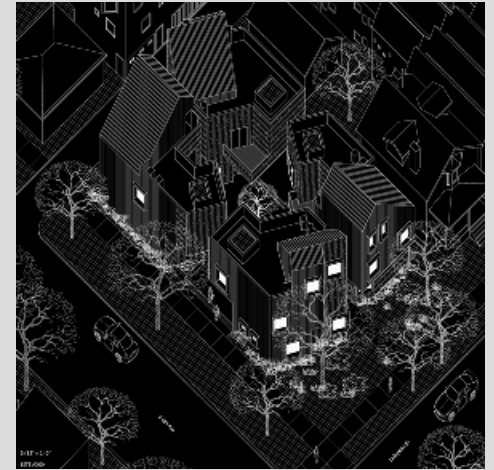
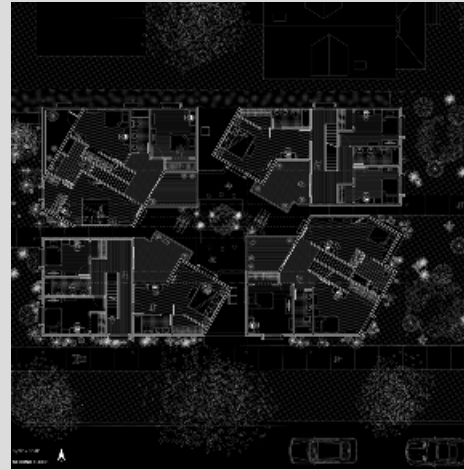
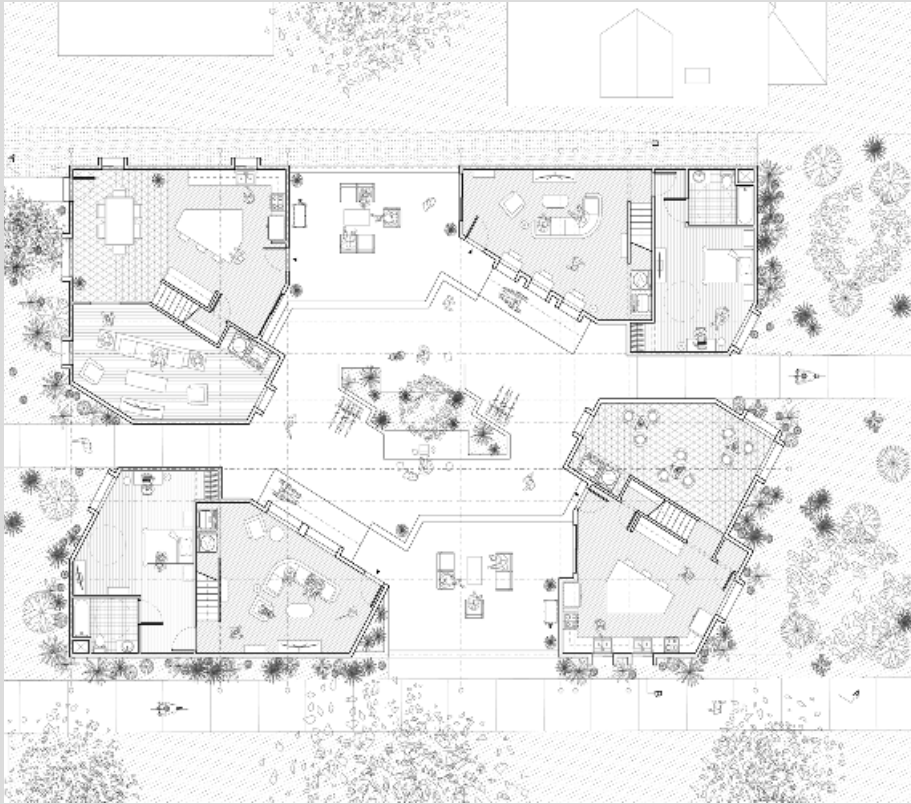
This reimagined cottage court creates a network of shared amenities on the ground floor accessible to the general public, including co-working spaces and communal gardens at divergent scales. It also creates a semi-public platform on the second floor open to the residents.





REIMAGINED DUPLEX

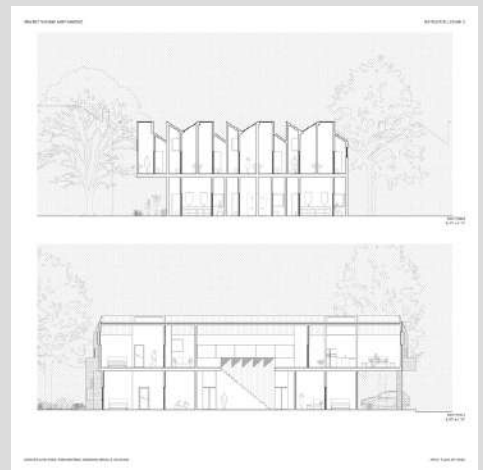
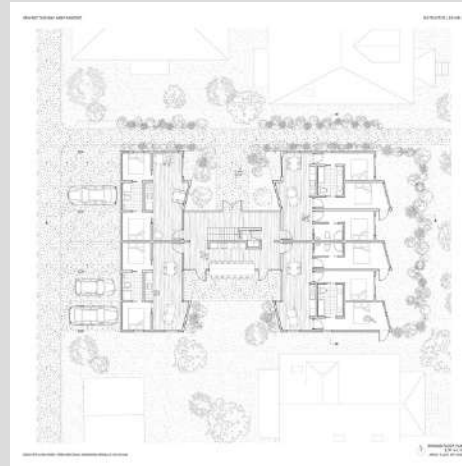
This group of reimagined duplexes creates a central courtyard with shared kitchens and living rooms on four sides and large shared balconies on the upper floors, forging a point of convergence for residents living in the neighborhoods.





REIMAGINED MULTIPLEX

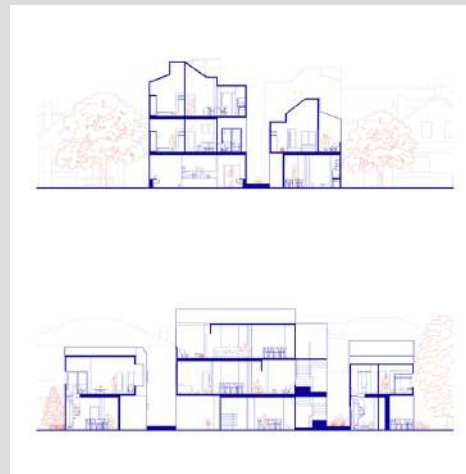
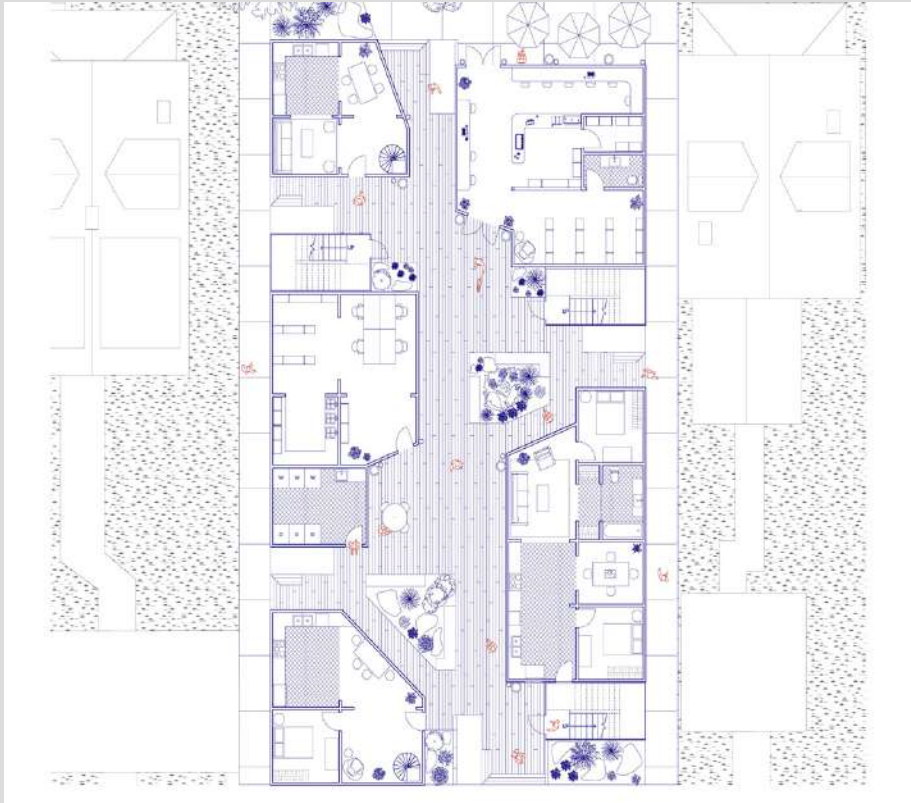
This reimagined multiplex creates gradients of public amenities, communal gardens, private spaces, and shared parking on the ground floor, offering public access that bridges the front street and the alley way.





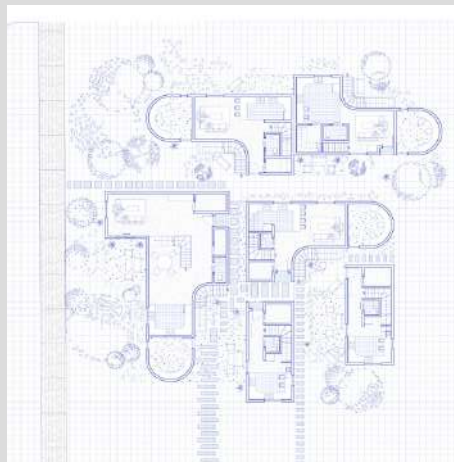
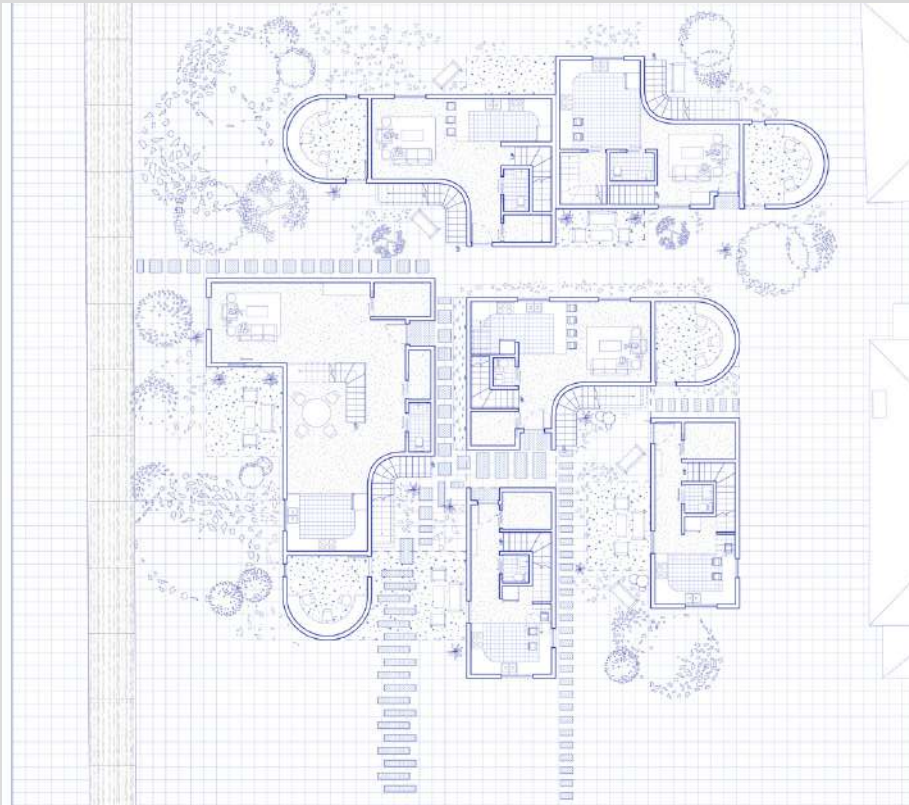
REIMAGINED MULTIPLEX

This reimagined multiplex incorporates pockets of communal spaces through strategic sculpting and chamfering on the ground floor, while creating an intriguing, playful skylight system on the top floor.



REIMAGINED LIVE-WORK HOUSING

This reimagined live-work housing establishes a vertical hierarchy of privacy, with the ground floor serving as the most public and accessible co-working area, while the upper floor accommodates private bedrooms and terraces.



REVIEW AND ACKNOWLEDGMENTS

COURSE

Common Ground: Reimagining a Residential Block for Collective Living

TIME

ARCH 5120: Graduate Core Studio II, Spring 2024

ROLE OF NOMINEE

Coordinated this course and taught one section of 16 student.

COLLABORATORS AND FUNDING

No funding sources were involved in this project.

STUDENT COMPENSATION

Trevor Motzko worked as a paid teaching assistant for 10 hours per week, \$20 per hour. 16 students contributed to this project for a 6-credit studio course.



ACKNOWLEDGMENTS

I would like to express my sincere gratitude to all the students for their dedication throughout the semester. I would also like to express my deepest appreciation to our final review critics: Max Bravo, Jasen Domanico, Ekin Erar, Sarah Hearne, Pouya Khadem, Jason Logan, Alex Yueyan Li, Ling Sha, and Linnaea Stuart. Additionally, I am thankful for the collaboration with Assistant Professor José Ibarra during the Spring 2023 housing studio, as it has provided significant insights for the development of the Spring 2024 housing studio.

The students' commitment and enthusiasm in addressing urgent housing challenges in Denver were remarkable. They collaborated on a shared vision encapsulated in a "Community Manifesto," advocating for a continuous network of shared spaces on the residential block that embraces communal living arrangements. As a foundational studio primarily dedicated to introducing architectural principles and drawing skills, some projects exhibit conceptual intrigue but lack technical finesse. Nonetheless, collectively, these projects signify the students' ambition and unwavering commitment to investigating housing crises. It is imperative to guide students in comprehending the agency of architecture in empowering diverse communities in our profession and discipline, as they play a pivotal role in shaping our future built environment.

Lastly, I would like to extend my profound gratitude to Jesús Vassallo for his invaluable mentorship. His wisdom has guided me to cultivate my interest in housing and ultimately inform my design and teaching methodologies.

