



The design of the Chattanooga Missing Middle Housing project prioritized sidewalk connections, landscaping, and architectural quality to blend the housing seamlessly into the existing neighborhoods. (Creative Revolver, Chattanooga, Tennessee)

CASE STUDY: CHATTANOOGA MISSING MIDDLE HOUSING

CHATTANOOGA, TENNESSEE

LOCATION:

2003 Bailey Avenue
Suite 102
Chattanooga, Tennessee

OPERATOR:

Chattanooga Neighborhood
Enterprise

PROJECT TYPE:

Small-scale, multifamily
affordable housing

PARTNERS:

Lyndhurst Foundation,
Benwood Foundation, City
of Chattanooga, Kronberg
Urbanist and Architects,
Elemi Architects

UNITS:

181 units

SIZE:

5 acres, scattered site

PROJECT WEBSITE:

[https://www.cneinc.org/
creating-homes](https://www.cneinc.org/creating-homes)

COST:

\$18,678,066

CONTACT:

Justin Tirsun, AICP, Vice
President of Neighborhood
Investment and Community
Engagement, Chattanooga
Neighborhood Enterprise Inc.

COMPLETION DATE:

December 2022

OWNER:

Chattanooga Neighborhood
Enterprise

Types and Maps

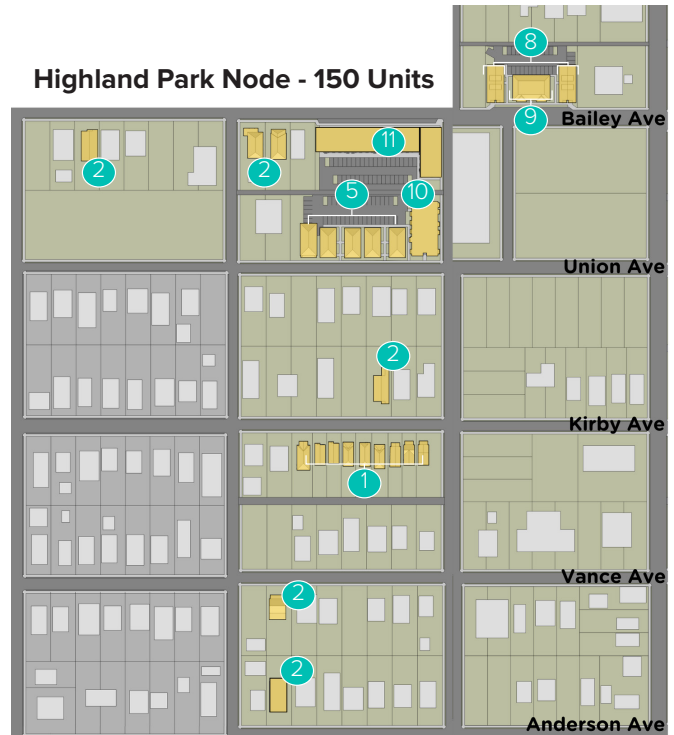
Ridgedale Node

	# of Buildings	# of Units
Duplex	3	6
Sixplex	6	36
Courtyard Sixplex	5	30
Narrow Lot Cottage	7	7
Standard Lot Cottage	7	7
Cottage Court	5	5

Highland Park Node

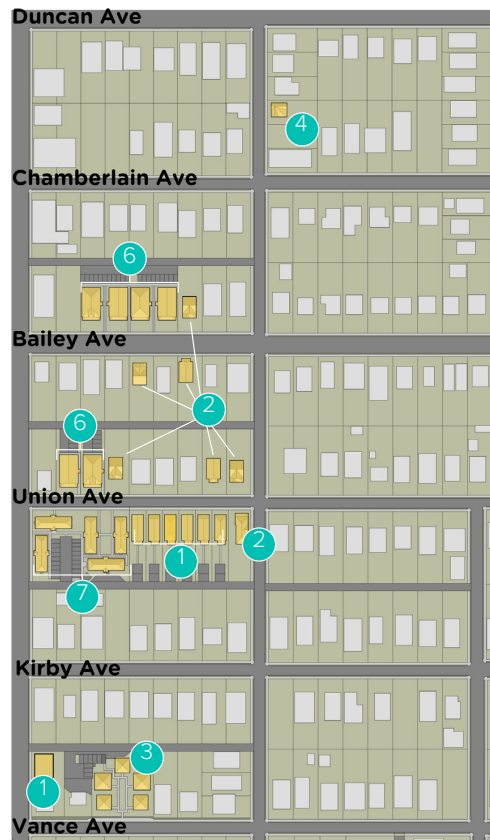
Narrow Lot Cottage	9	9
Standard Lot Cottage	7	13
Quadplex	5	20
3-Story Walk-up (Mai Bell II)	1	27
10-plex	2	20
12-plex	1	12
3-Story Small Format (Mai Bell)	1	49
Totals	59	241

Highland Park Node - 150 Units

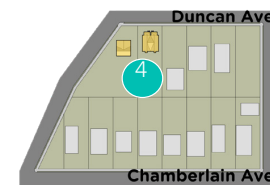


Ridgedale Node - 91 Units

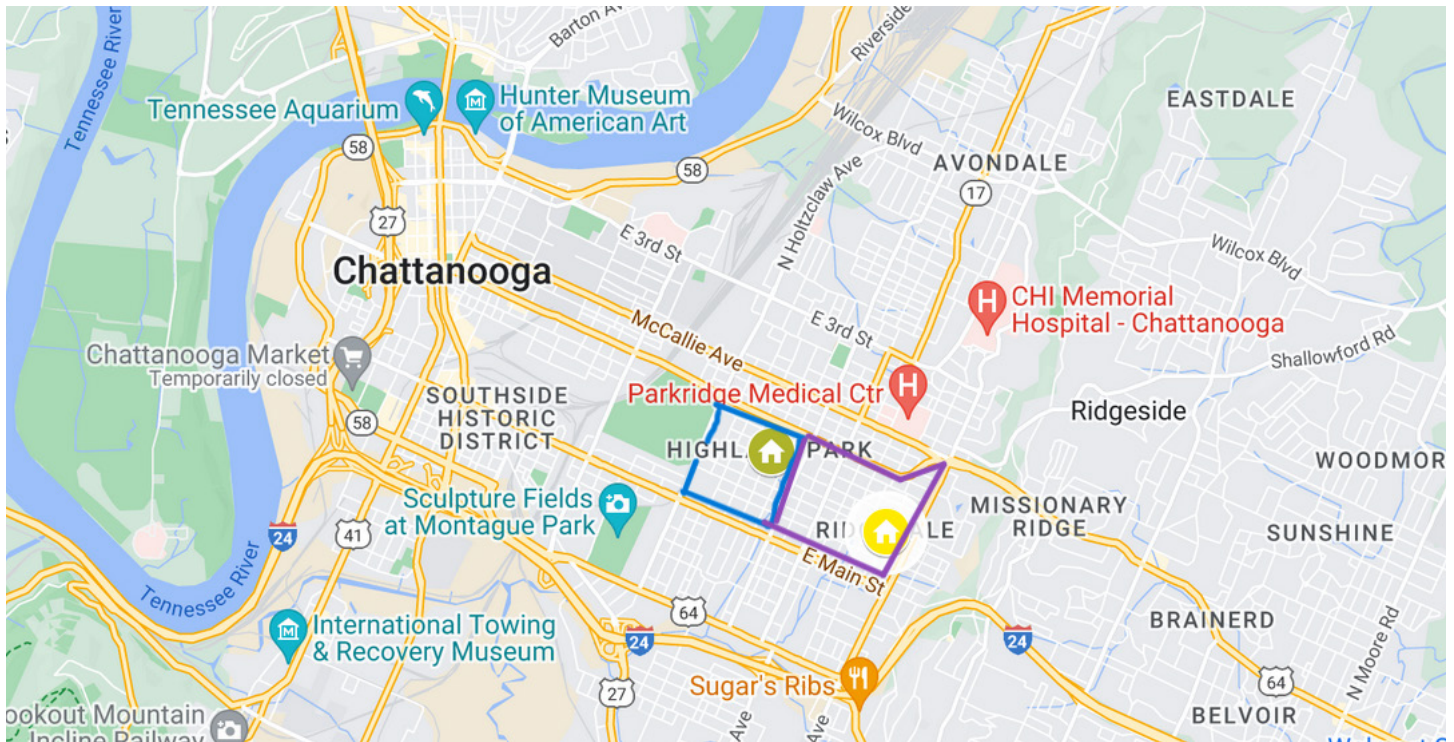
Building Types	
1	Narrow Lot Cottage
2	Standard Lot Cottage
3	Cottage Court
4	Duplex
5	Quadplex
6	Sixplex
7	Courtyard Sixplex
8	10-plex
9	12-plex
10	3-Story Walkup (Mai Bell II)
11	3-Story Small Format (Mai Bell)



(5 Blocks Northeast)



The Chattanooga Missing Middle Housing project transformed 50 vacant parcels in the Highland Park and Ridgedale neighborhoods into 181 homes. (Courtesy of Chattanooga Neighborhood Enterprise)



Highland Park and Ridgedale are historic neighborhoods southeast of downtown Chattanooga, known for their classic architecture, tree-lined streets, and community spirit. (Google Maps)

Project Overview

The Chattanooga Missing Middle Housing project, led by Chattanooga Neighborhood Enterprise Inc. (CNE), transformed 50 vacant parcels in the Highland Park and Ridgedale neighborhoods into 181 units of missing middle housing. Designed to bridge the gap between single-family homes and large apartment buildings, the project aimed to preserve neighborhood character while increasing density. The opportunity arose when Tennessee Temple University closed, freeing 34 scattered lots for redevelopment. Both neighborhoods were chosen for their traditional urban layout, walkability, proximity to downtown, and need for reinvestment.

Highland Park and Ridgedale are historic neighborhoods southeast of downtown Chattanooga, known for their classic architecture, tree-lined streets, and community spirit. Highland Park is closer to McCallie Avenue, while Ridgedale stretches toward Missionary Ridge and offers easy access to Interstate 24.

CNE's primary goals were to provide affordable rental and homeownership opportunities, rebuild disinvested communities, and create replicable prototypes for future developments. The target market included families and individuals earning between 60 and 80 percent of the area median income (AMI). Starter homes were developed on subdivided lots to create compact, affordable housing options, while sixplexes and quadplexes—designed to resemble single-family homes—were targeted at renters, including Section 8 voucher recipients.

Planning and Design

The design of the Chattanooga Missing Middle Housing project was heavily influenced by a desire to enhance the public realm. Sidewalk connections, landscaping, and architectural quality were prioritized to ensure the housing seamlessly blended into the existing neighborhoods. CNE focused on setting a high design standard for future development. Multiple designers collaborated through a design committee

to adapt each project to unique lot characteristics, ensuring flexibility and individuality in design.

Local zoning regulations presented significant challenges, as Chattanooga's outdated 1950s zoning code required the team to rezone many lots to commercial zones, often requiring variances. CNE worked closely with the City to create a streamlined zoning process, establishing a common language for planning approvals and paving the way for future missing middle developments.

Unique architectural features included sixplex prototypes with distinct facades that resemble large single-family homes, cottage courts with shared green spaces, and quadplexes that balance density with neighborhood aesthetics. Additionally, units compliant with the Americans with Disabilities Act were incorporated throughout the development, including within the cottage court layout.

Costs and Financing

The project's financing strategy relied on innovative layering of public and private funds. Initial funding came from foundational grants provided by partners such as the Lyndhurst and Benwood Foundations. As a Community Development Financial Institution, CNE accessed below-prime nonprofit loans, which significantly reduced borrowing costs. The team also secured Payment in Lieu of Taxes (PILOT) agreements from the City of Chattanooga for select projects, which alleviated the high property tax burden associated with commercial zoning.

Cost challenges arose from environmental issues, such as asbestos remediation and foundry sands, as well as higher costs associated with commercial building codes, including requirements for stormwater systems and sprinklers. Lengthy approval processes, rezoning delays, and variances further increased expenses. To ensure long-term financial sustainability, CNE leveraged land value appreciation and carefully layered financing mechanisms.

Community Engagement

Community engagement was integral to the project's success. CNE held frequent neighborhood meetings to address resident concerns and gather feedback. Initial resistance to multifamily housing was mitigated through significant design changes, such as replacing larger apartment buildings with sixplexes and quadplexes that resemble single-family homes. A pattern book showcasing housing prototypes helped neighbors visualize the project's impact and understand its alignment with the community's needs.

CNE maintained ongoing communication through a dedicated community engagement staff member, fostering trust and collaboration. Partnerships with local foundations, the City of Chattanooga, and neighborhood associations played a key role in funding, approvals, and community buy-in.

Construction Process

The construction process encountered significant challenges, including environmental remediation costs, compliance with commercial building codes, and delays caused by zoning approvals. Old dormitories on some lots required asbestos removal and site preparation. Building quadplexes and sixplexes required contractors with experience in multifamily construction, which initially proved difficult to find. Over time, CNE partnered with builders who expanded their expertise from single-family homes to missing middle housing, reducing costs and improving efficiency.

Sustainability practices were incorporated throughout the project. All units were designed to be all-electric, featuring high-efficiency mini-split HVAC systems and Energy Star appliances. Stormwater detention systems were installed for buildings with more than three units, and bike storage and an electric vehicle charging station were included to support eco-friendly transportation options.

Sixplex Prototype

An asymmetrical, stacked layout with double story front porch and center building circulation accessed from a sidewalk starting at the front of the property.

This is an excellent floor plan for use on a corner lot or aligned in a row with centralized parking in rear. The arrangement would also lend itself well to a courtyard configuration.

The sixplex is two stories, with three units per floor, one 2-bedroom and two 1-bedrooms. The two-bedroom unit has a large porch facing the street, which leads into a large kitchen and living room. Each one-bedroom apartment opens on to the center hall/stairway and has windows to the side yard.

Prototype Specs:

Architects: Elemi Architects

Current Locations: 2103-2105 Union Ave, 2102-2108 Union Ave, 2105-2111 Bailey Ave, 712 S Willow St

Unit Type A: 792 SF
(2-bedroom, 1-bathroom)

Unit Type B: 504 SF
(1-bedroom, 1-bathroom)

Total SF: 4176 SF

Footprint: 36' wide, 64' deep
(includes porches)

Typical Lot SF: 5360 SF

Lot Dimensions: 50' x 134'

Number of Buildings on Lot: 1

Parking: 6-9 spaces, onsite and on-street



Sixplex ground floor plan

A pattern book showcasing housing prototypes helped neighbors visualize the project's impact and understand its alignment with the community's needs. (Courtesy of Chattanooga Neighborhood Enterprise)



To build quadplexes and sixplexes, CNE partnered with builders who expanded their expertise from single-family homes to missing middle housing. (Creative Revolver, Chattanooga, Tennessee)

Housing Affordability, Building Types, and Unit Mix

A mix of sources and programs supported affordable housing costs for residents in the 181 units.

- **Deed restrictions:** 32 units (18 percent) in the Missing Middle Housing project have income limits that are enforced through a deed restriction for 20 years.
- **HOME funds:** Units using HOME Investment Partnership funds target renters whose income falls at or below 60 percent AMI.
- **PILOT program:** 47 units received a PILOT agreement that limits city and county property tax increases but allows school tax increases. The agreement requires that 50 percent of the units (24 units) are restricted at 80 percent AMI. This is enforced through the Health Education Board holding title to the property for the 10-year duration of the PILOT agreement.
- **CNE mission-based affordability:** 118 units in the Missing Middle Housing project have no restrictions but CNE holds the rents to levels affordable to households earning between 80 and 90 percent AMI. This is subject to change as operating costs increase necessitating rent increases.
- **The eight single-family detached homeowner units** are all 900-square-foot, two-bedroom homes with one and a half baths. They sold in 2019 for \$150,000 each.

BUILDING TYPE	# OF BUILDINGS	# OF UNITS
Duplex	3	6
Quadplex	5	20
Sixplex	11	66
Cottage courtyard	5	5
Small-scale apartment building	2	76
Single-family detached home	8	8
TOTAL	37	181

UNIT MIX	TOTAL UNITS		OVERALL UNIT CONFIGURATION			
	# OF UNITS	PERCENTAGE	STUDIO	1 BR	2 BR	3+ BR
At or below 60% AMI	32	18	0	22	9	1
Between 61 and 90% AMI	149	82	13	92	43	1
Market rate (not income-restricted) and other	0	0	0	0	0	0
Total units in development (renter + owner)	181	100	13	114	52	2

Marketing and Performance

The Chattanooga Missing Middle Housing project performed exceptionally well in the market. Ownership units sold quickly, reflecting strong demand for affordable starter homes. Rental units achieved a 97 percent occupancy rate, with traditional and creative marketing strategies helping to attract tenants. Three-story walk-ups required targeted marketing efforts, emphasizing the benefits of upper-floor units, such as better views and affordability.

Feedback from tenants highlighted appreciation for the thoughtful design, affordability, and proximity to downtown amenities. Property management, though more complex due to the scattered-site nature of the units, was handled effectively, with resident property managers providing additional community value.



The opportunity for the Missing Middle Housing development arose when Tennessee Temple University closed, freeing 34 scattered lots for redevelopment. (Creative Revolver, Chattanooga, Tennessee)

CHATTANOOGA MISSING MIDDLE HOUSING: PROJECT PRO FORMA

NAME	Chattanooga Missing Middle Housing
LOCATION	2003 Bailey Avenue, Suite 102, Chattanooga, Tennessee
PROJECT TYPE	Small-scale, multifamily affordable housing
NUMBER OF UNITS	181 units
SIZE	5 acres, scattered site

DEVELOPMENT PRO FORMA

TOTAL (\$)

PER UNIT (\$)

SOURCE OF FUNDS		
Hard debt: <i>Banks</i>	14,020,683	77,462
Soft debt: <i>HOME Investment Partnership funds</i>	1,320,000	7,293
Grant: <i>Benwood Foundation</i>	1,350,000	7,459
Grant: <i>Lyndhurst Foundation</i>	1,916,126	10,586
Other CNE sources	71,257	394
Total sources	18,678,066	103,194

USE OF FUNDS	
Acquisition (land and improvements)	441,634
Soft costs	3,362,051
Hard costs	14,874,381
Total uses	18,678,066

Lessons Learned

Plan for delays and unexpected costs. Delays due to zoning approvals, environmental remediation, and construction variances were more time consuming and costly than anticipated. Future projects should incorporate contingency plans with additional time and budget buffers to handle unforeseen challenges without disrupting progress.

Engage with the city and neighbors early for smoother approvals. Early engagement with city officials and neighborhood groups proved essential for addressing zoning hurdles and community resistance. Proactively collaborating with stakeholders helped build trust, reduce opposition, and streamline approvals, setting the stage for smoother project implementation.

Continuously improve prototypes based on feedback. Feedback from community members and lessons learned during construction led to design adjustments that improved the project's acceptance and functionality. By iteratively refining prototypes, CNE was able to create housing that better met the needs of residents while maintaining high-quality design standards.

Offer proactive education to neighbors to ease concerns. Educating neighbors about missing middle housing and its benefits—such as preserving neighborhood character while increasing affordable options—helped address misconceptions and ease concerns. Providing visuals like pattern books and examples from similar projects made the concept more relatable and less intimidating.

Sharing established prototypes makes future projects significantly easier. Once proven prototypes were established, they served as templates for future development, reducing design costs, approval timelines, and community skepticism. This replicable approach enabled CNE to scale missing middle housing projects more efficiently and adapt to new locations with minimal friction.

Conclusion

The Chattanooga Missing Middle Housing project aligns with national trends toward missing middle housing as a solution to affordability and density challenges. By revitalizing walkable, transit-oriented neighborhoods, the project supported broader urban development goals while addressing local housing needs. Chattanooga's economic conditions, including a rising demand for affordable workforce housing, made the project timely and impactful.

The development contributed significantly to the Highland Park and Ridgedale neighborhoods by replacing blight with vibrant, affordable housing options. Mixed-use elements, such as neighborhood-serving commercial spaces, further enriched community life.

CNE plans to replicate the success of the Chattanooga Missing Middle Housing project in other neighborhoods, applying lessons learned to improve efficiency and sustainability. The project's prototypes, financing strategies, and community engagement model provide a replicable framework for other cities seeking similar housing solutions.

About the Urban Land Institute

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ULI's interdisciplinary membership represents all aspects of the industry, including developers, property owners, investors, architects, urban planners, public officials, real estate brokers, appraisers, attorneys, engineers, financiers, and academics. Established in 1936, the Institute has a presence in the Americas, Europe, and Asia Pacific regions, with members in 84 countries.

The extraordinary impact that ULI makes on land use decision-making is based on its members sharing expertise on a variety of factors affecting the built environment, including urbanization, demographic and population changes, new economic drivers, technology advancements, and environmental concerns.

Peer-to-peer learning is achieved through the knowledge shared by members at thousands of convenings each year that reinforce ULI's position as a global authority on land use and real estate. Each year, thousands of events, both virtual and in person, are held in cities around the world.

Drawing on the work of its members, the Institute recognizes and shares best practices in urban design and development for the benefit of communities around the globe.

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About the Terwilliger Center

The mission of the Terwilliger Center for Housing is to ensure that everyone has a home that meets their needs at a price they can afford. Established in 2007 with a gift from longtime member and former ULI chairman J. Ronald Terwilliger, the Center's activities include technical assistance engagements, forums and convenings, research and publications, and an awards program. The goal is to catalyze the production and preservation of a full spectrum of housing options. [Learn more.](#)

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