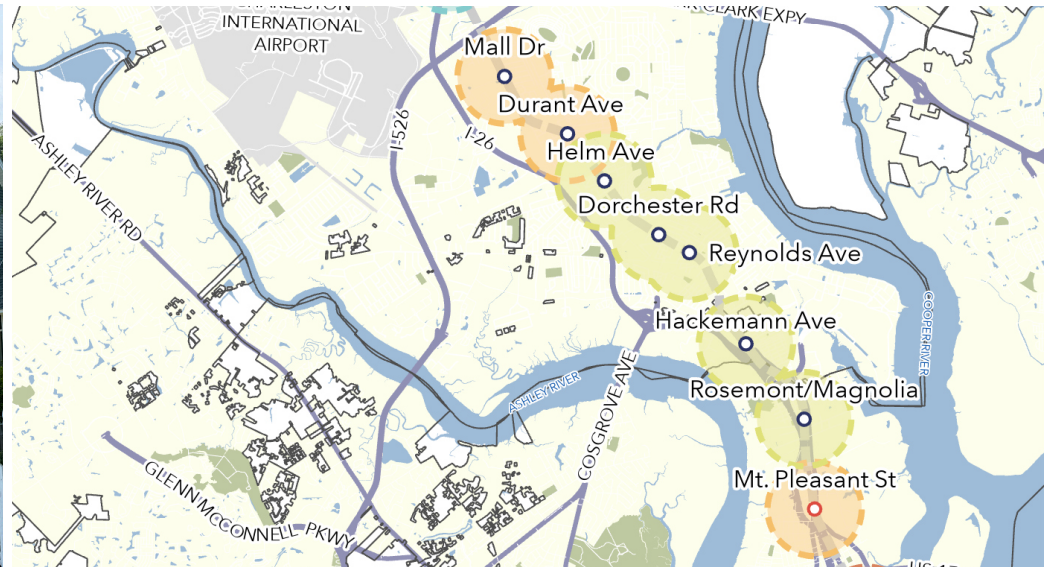


MMH Scan™ Analysis + Definition of Barriers to Missing Middle Housing



Prepared for:
City of Charleston,
City of North
Charleston, and
Berkeley-Charleston,
Dorchester Council
of Governments

October 2024



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Purpose + Objectives

CHAPTER

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1.1

What This Study is About

The goal of the Lowcountry Rapid Transit (LCRT) Missing Middle Housing Study is to ensure that future growth and reinvestment results in a variety of housing choices and affordability that are key to meeting the region's future needs and the LCRT's long-term success.

Focus of the Study



Figure 1.1 LCRT Transit Oriented Development (TOD) Strategy Report and Toolkit, 2022

The Lowcountry Rapid Transit is a planned bus rapid transit project that will connect communities within the Charleston region, specifically along a 21.3 mile corridor running through the cities of Charleston and North Charleston. This study assesses the areas surrounding the LCRT stations to identify regulatory barriers and potential opportunities for Missing Middle Housing (MMH). Funding and support for this report is provided by the Charleston Trident Association of REALTORS® (CTAR) with the goal of providing education on MMH and building support for strategies that would encourage broader housing choices in the neighborhoods surrounding the LCRT.

This work is guided by conversations with staff and stakeholders from the City of

Charleston, City of North Charleston, and Berkeley-Charleston, Dorchester Council of Governments (BCDCOG). In the current implementation phase, the LCRT line runs through Charleston County. Therefore, while the impact of the LCRT may extend beyond the direct BRT line location, this study focuses on the LCRT station areas within Charleston County only. While much of the information will be broadly applicable, the zoning analysis and recommendations seek to provide guidance to the cities of Charleston and North Charleston, both of which are evaluating their regulatory frameworks to better align with current housing needs and support opportunities near recent investments in transit.

Breakdown of Report Contents

This report provides a holistic overview of MMH including a look at the current housing stock, an in-depth analysis of current zoning barriers, and important criteria for future MMH development.

Chapter 1:

Purpose + Objectives

Introduces the study and the need for MMH within Charleston and North Charleston

Chapter 2:

About Missing Middle Housing

Provides an overview of key characteristics and attributes of MMH

Chapter 3:

Missing Middle Ready Areas

Provides an overview of how MMH fits within the proposed LCRT placetypes

Chapter 4:

Displacement Risk Assessment

Analyzes community vulnerability and displacement mitigation strategies

Chapter 5:

Analysis of Barriers

Identifies existing barriers in each city that prevent MMH development

Demand for Housing Choice

In the United States, 90 percent of available housing is located in conventional single-unit neighborhoods. This land use pattern, among other factors, has contributed to a housing shortage of approximately 35 million housing units.¹ At the same time, real estate trends indicate increasing demand nationwide for greater housing choices in walkable environments, with convenient access to amenities and services, and reduced dependence on driving for daily needs. But the choices offered by most housing markets continue to be either single-unit houses or large apartment projects.

The City of Charleston gained 17,656 units from 2010 to 2022, while its population grew by 33,613. The majority of new units were single-unit houses (9,513 units), while multi-unit houses increased by 8,143 units. The City of North Charleston gained 10,018 units from 2010 to 2022, while its population grew by 21,231. Most of the new units were single-unit houses (7,635 units), while multi-unit houses increased by only 2,383 units. The amount of small multi-unit buildings (two to four units) has decreased during this time with Charleston losing 1,165 units and North Charleston losing 400 units within this housing type.²

The Need for Regulatory Change

Cities are losing small multi-family at an alarmingly rate. Too often, the types and size of new dwellings that the market wants are not allowed by local policy or zoning regulations. Often innovative developments need to go through complex and uncertain review processes when trying to respond to the shifting market. Regulatory change is needed to encourage housing across cities, but especially near transit, as well as make new investment predictable and simple.

Missing Middle Housing (MMH) is intended to be part of low-rise residential neighborhoods, which are typically zoned as “single-family residential” in conventional zoning. In this analysis “single-family” is also referred to as “single-unit.” However, because MMH contains multiple units, it is, by definition, not allowed in single-unit zoning districts. On the other hand, most multi-family zoning districts in conventional codes allow much bigger buildings (both taller and wider) and also typically encourage lot aggregation and large suburban “garden apartment” buildings. The environments created by these zoning districts are not what is intended by Missing Middle Housing.

Sources:

¹Dr. Arthur C. Nelson “Missing Middle: Demand and Benefits”, Utah ULI Conference, October 21, 2014

²ACS 5-Year Estimates, 2010-2022



Figure 1.2 An example of a fourplex MMH type in North Charleston. These buildings provide needed choices and attainability but are being lost at an alarmingly fast rate.

1.2

Making the Case for Missing Middle Housing

A starting point to understanding Charleston County's housing needs is to review how the current housing stock aligns with the changing population of Charleston and North Charleston.

What the Numbers Say

According to the LCRT Market Assessment Briefing Book, there is a projected demand to deliver nearly 150,000 housing units by 2045 in the BCD region. The LCRT corridor is forecasted to accommodate 16,700 of those units, with the majority housed within multi-family buildings.¹ While these units are much needed to overcome the current housing shortage, the high demand is creating housing costs that outpace median income.

In Charleston, 25.9% of homeowners and 51.6% of renters are considered cost burdened. In North Charleston 31.2% of homeowners and 54.2% of renters are considered cost burdened.² The U.S. Department of Housing and Urban Development defines "cost-burdened" residents as those spending more than 30% of their income on housing (including utilities).³

Solutions to this housing and affordability gap will need to explore new types of housing that offer a broader range of price points and unit sizes. To understand if the existing housing stock is meeting the current housing needs, this report first assessed the range of existing housing types. While there are a number of existing MMH types located within the most historic and walkable areas of Charleston and North Charleston, the dominate type is single-family detached houses. Secondarily, there is a growing amount of units in buildings with 20 or more units. These two types do not match up with the shifting housing preferences and demographics of the people living and working in the region today. In addition to information on existing housing types, this report will use median home value, rent, and income to understand how middle housing can provide options at that best fit attainability levels in the region.

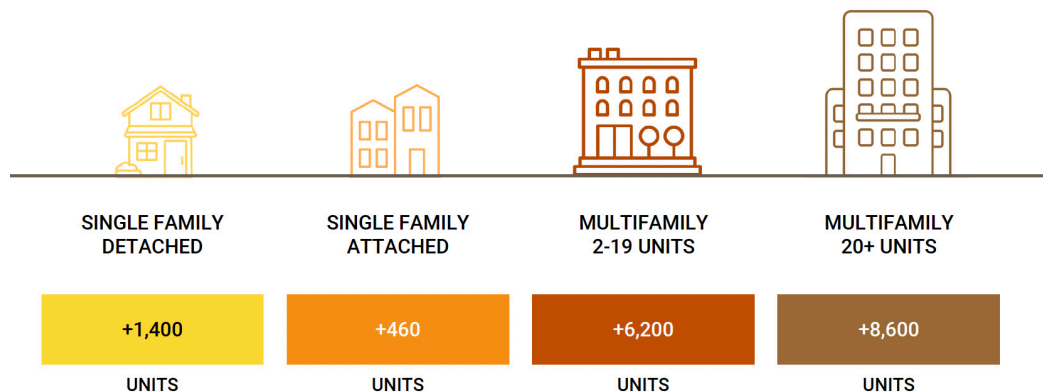
Sources:

¹ LCRT Market Assessment Briefing Book, 2024

² ACS 5-Year Estimates, 2010-2022

³ www.huduser.gov/portal/datasets/cp/CHAS/bg_chas.html

Figure 1.3 Housing demand forecast for the LCRT corridor. Image from the Market Assessment Briefing Book, 2024.



Housing and Income Snapshot

City of Charleston

\$83,891
median household income¹

With a median income of \$83,891; a Charleston household, without being cost-burdened, can afford...

\$577,500
median home price²

\$400k-\$450k
as a homeowner⁴

\$1,775
median monthly rent for a 1-bedroom apartment³

\$2,016
as a renter



51.6% of renters and 25.6% of homeowners are considered cost burdened.¹

Note: Data provided throughout the report is reflective of current conditions at the time of the release of this report in September 2024. Housing costs are rapidly increasing in both Charleston and North Charleston, therefore, while the analysis remains the same, the data is subject to change in the future.

City of North Charleston

\$58,534
median household income¹

With a median income of \$58,534; a North Charleston resident, without being cost-burdened, can afford...

\$348,500
median home price²

\$200k-\$250k
as a homeowner⁴

\$1,467
median monthly rent for a 1-bedroom apartment.³

\$1,256
as a renter



54.2% of renters and 31.2% of homeowners are considered cost burdened.¹

Sources:

¹ACS 5-Year Estimates, 2022

²Redfin Housing Market Data as of August, 2024

³Rent-o-meter Rent Estimates, 2024

⁴Utilized Mortgage Calculator from NerdWallet.com. Assumes a 30 year mortgage, 10% down payment, good credit score, and 6.596% interest.

⁵Zillow Home Value Index (ZHVI), inflation adjusted to 2022 dollars.

⁶ACS 5 Year Estimates Table B25064, inflation adjusted to 2022 dollars.

Charleston County is becoming a more expensive place to live...

87% increase in the cost of a typical home between 2012 and 2022.⁵

27% increase in the median household income which is not keeping up with the rising cost of housing.⁶

National Housing Needs are Changing

Sources:

¹ ACS 5-Year Estimates, 2022

² National Association of Realtors

³ NAIOP Commercial Real Estate Development Association

Missing Middle Housing is Important in the Future of Cities

Several national trends point to MMH as an essential strategy to help communities spur reinvestment and housing production. According to the US Census Bureau, 30 percent of all households today are single-person households, and this trend is anticipated to increase. Further, over 63 percent of US households do not have children.¹

Americans are also aging. The ratio of the senior households has been increasing steadily, and by 2050 one in every five Americans will be over the age of 65. Charleston and North Charleston show similar trends. These national demographic shifts signal a pressing need to create more diverse housing types that better fit our changing lifestyles and housing needs.

Recent surveys have also revealed that a significant percentage of the population would prefer alternate housing types to the single-unit house. Additionally, 60 percent of people favor neighborhoods with a walkable environment including a mix of houses and stores.² Office tenants also prefer locations in walkable environments over typical suburban office parks by a ratio of 4 to 1.³

To meet this demand, it will take a concerted effort by jurisdictions, financing institutions and the development community. To start, increasing housing choice near transit can help support more walkable neighborhoods that provide environmental, economic, and health benefits to all residents. Local regulations will also need to be adjusted to better recognize and align with these trends.

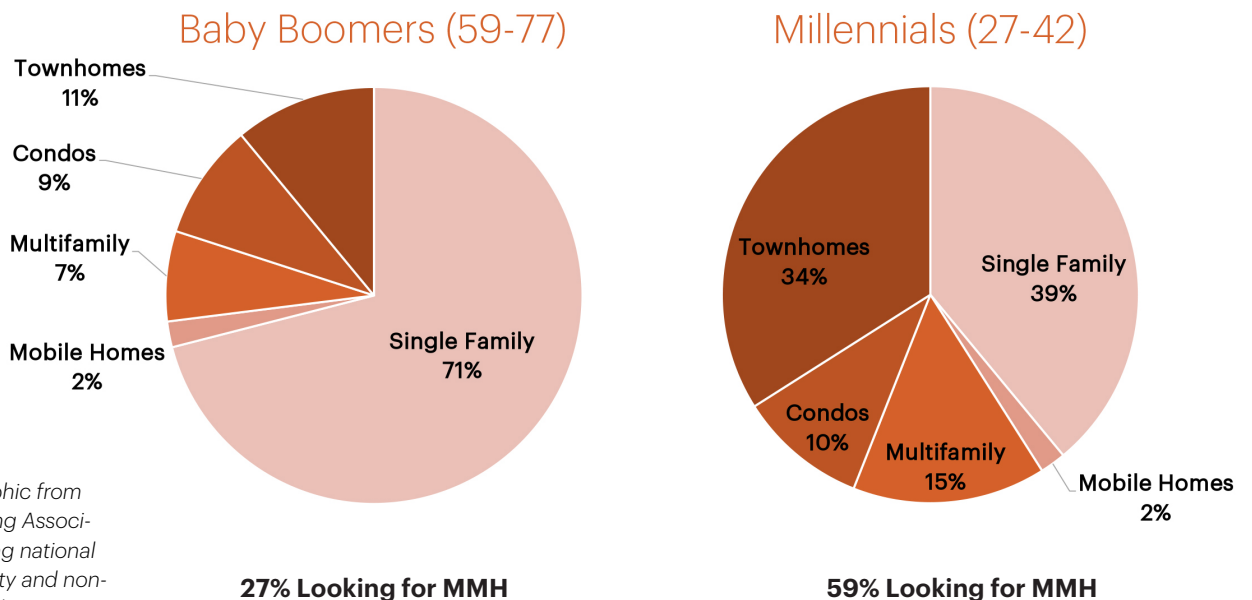
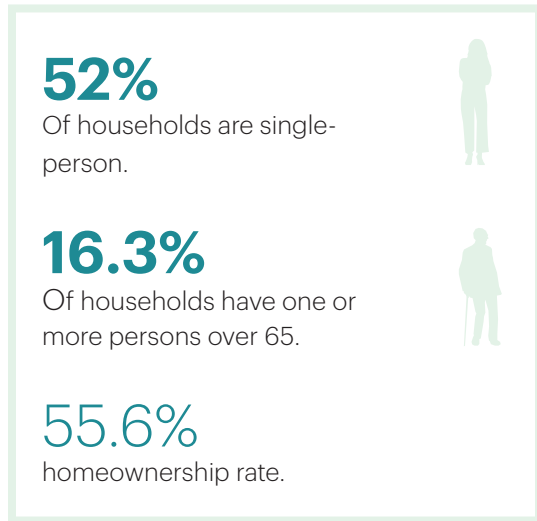


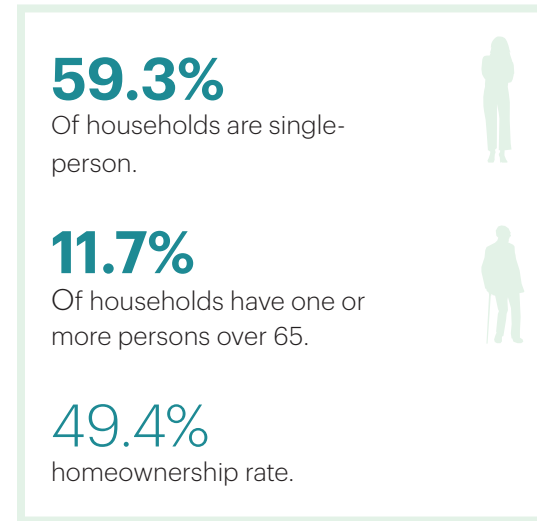
Figure 1.4 This graphic from the American Planning Association shows a growing national demand for walkability and non-single-unit housing choices.

Local Housing Needs are Changing

City of Charleston Demographics¹



City of North Charleston Demographics¹



Source:
¹ ACS 5-Year Estimates, 2022

Berkeley, Dorchester and Charleston County Housing Preferences²

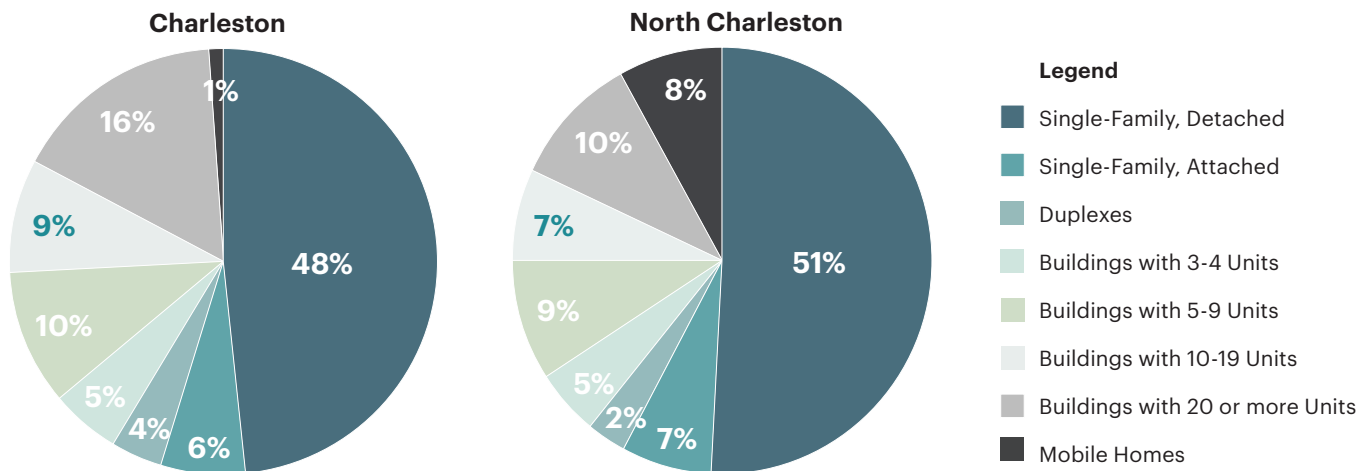
38% of households under the age of 35 prefer multi-family over single-family. This age cohort will have the least amount of growth in the next 20 years.

16-17% of households in the 35-54 and 55-74 age cohorts prefer to live in multi-family. Both cohorts show significant growth but their lifestyles create a continued demand for for-sale single-family products.

27% of households over the age of 75 prefer multi-family over single-family. The number of households within this age cohort is anticipated to triple between 2020 and 2040.

Source:
² LCRT Real Estate Market Findings, 2020

Existing Housing Stock by Housing Type¹







About Missing Middle Housing

CHAPTER
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2.1 Missing Middle Housing Overview

Missing Middle Housing (MMH) can be defined as house-scale buildings with multiple units in walkable neighborhoods. They are compatible in form and scale with typical single-family homes, and are an effective strategy for "gentle infill" within existing residential neighborhoods.

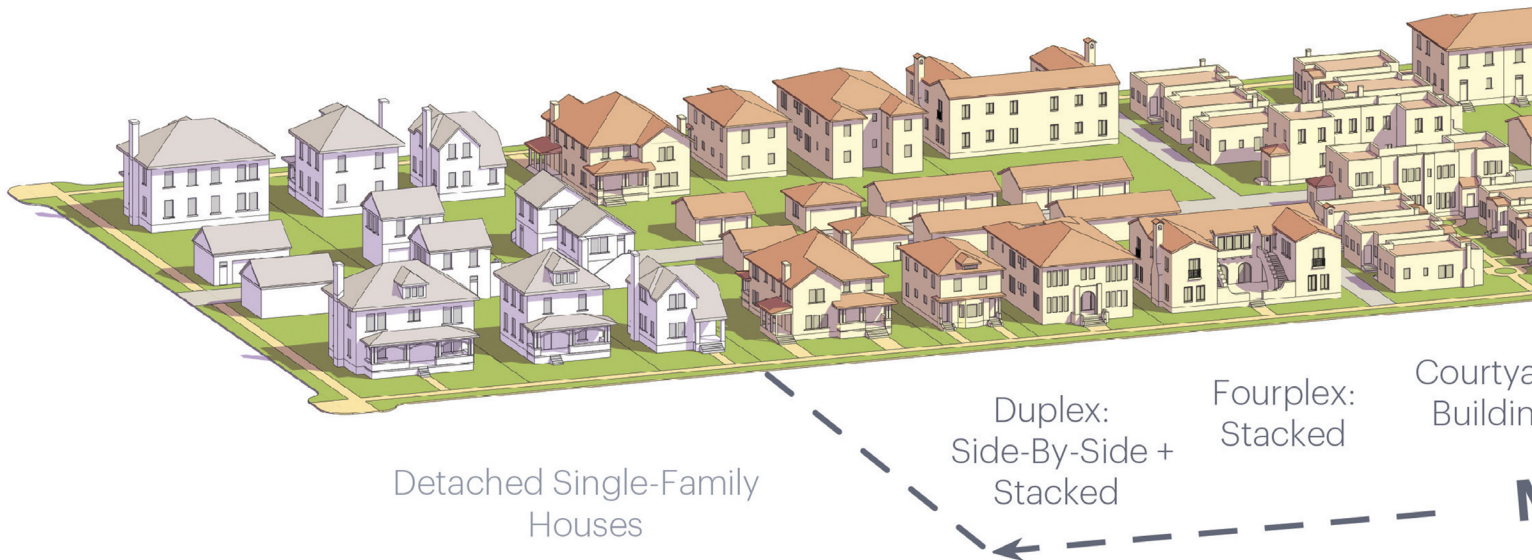
Missing Middle Housing (MMH) includes a range of house-scale buildings that contain more than one housing unit, such as duplexes, triplexes, fourplexes, and cottage courts, built to the same scale as a single-unit house. Missing Middle Housing responds to the shifting household demographics nationwide and can meet the need for more housing choices at different price points, including both rental and home ownership opportunities. Well-designed and simple, Missing Middle types achieve medium-density yields and provide high-quality, marketable options between the scales of single-unit homes and mid-rise apartments.

They are called "missing" because very few of these housing types have been built since the early 1940s due to regulatory constraints, the shift to

auto-dependent patterns of development, and the incentivization of single-unit homeownership by the federal government. Before the 1940s, they were a natural part of the housing mix, helping to provide housing choices to people at a variety of stages in their life and income levels. Communities and organizations, including AARP, are realizing that Missing Middle Housing is important in helping neighborhoods thrive while providing housing choices as people age and desire to stay in their neighborhood.

When implemented thoughtfully, MMH can provide pathways to ownership through smaller starter homes, increase rental options in small-scale multi-family housing, and build generational wealth with opportunities for passive income.

Figure 2.1 The palette of Missing Middle Housing types provide a range of "middle" building types between the scale of a typical detached single-unit house and that of larger residential buildings.



Benefits of Missing Middle Housing

When implemented correctly, MMH can be an important place-making tool with many community benefits including:

■ Provides housing options

MMH provides a middle-scale housing option with smaller-sized units that help keep development costs down. This attracts a different market of buyers and renters whose needs are currently not being met.

■ Promotes access to transit

MMH supports transit as a primary way to commute by adding housing units in transit-focused environments such as the LCRT corridor, where driving can be a choice but not a necessity. Housing near amenities and transit is a key component of fostering active lifestyles within pedestrian-safe neighborhoods.

■ Fosters sense of community

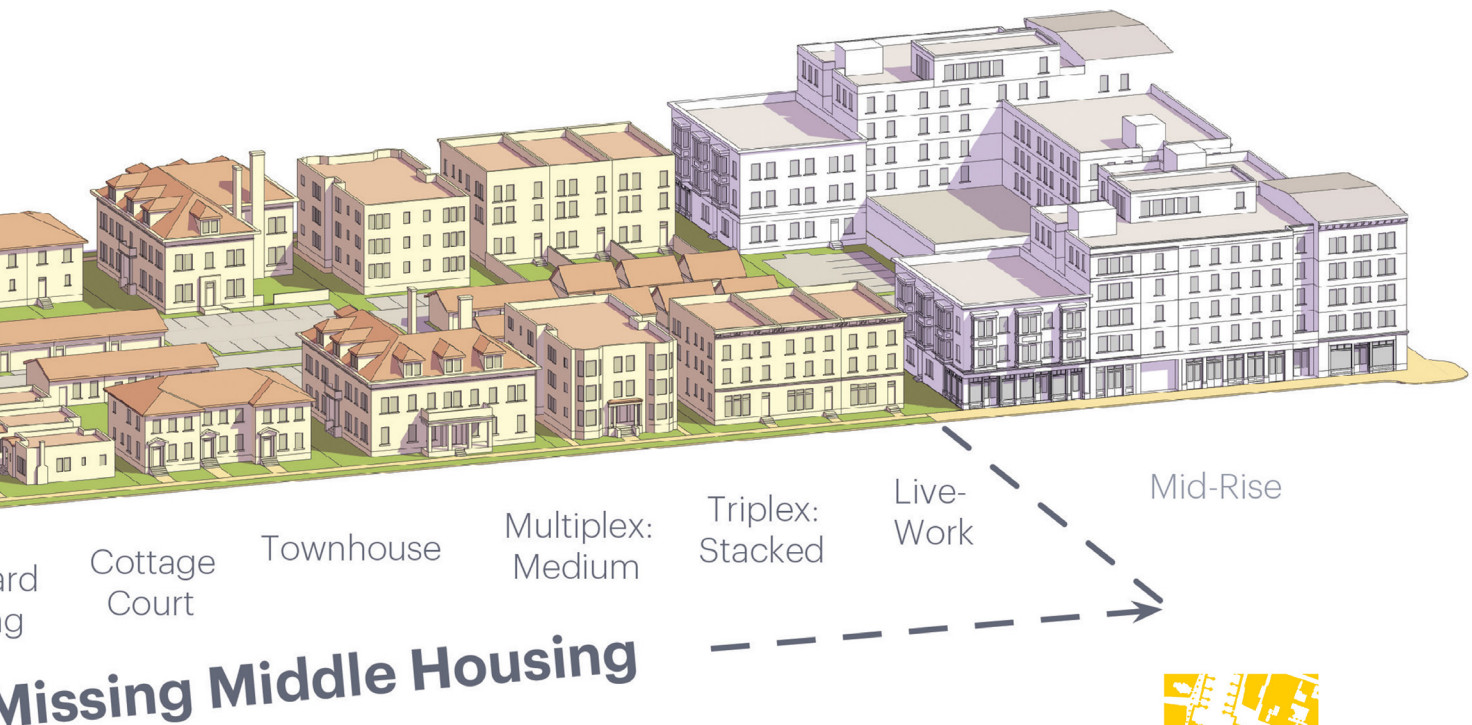
MMH integrates private and shared open spaces, promoting interaction between tenants and a sense of community that is important, especially considering the rise of single-person and older households. These types also encourage co-living, multi-generational living, etc.

■ Promotes sustainability

MMH uses land more efficiently by increasing the number of units per parcel, and consumes less energy than a single-unit house through shared walls and ceilings. These types also use less building materials to house more people.

■ Provide local equity-building opportunities

MMH can build local equity in the housing market. By allowing a wider range of housing types, MMH can increase attainable rental options, provide a pathway to homeownership for first-time homeowners, generate passive income that can lower housing costs for existing homeowners, and provide a low-cost to entry option for local builders. Because of their simple forms, smaller size, and Type V construction, MMH can be built incrementally over time help by local developers and housing providers.



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Figure 2.2 49 units, 30 du/ acre
Building 175' x 165', 3 Stories.

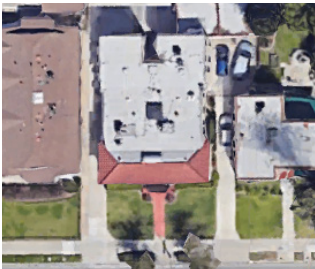
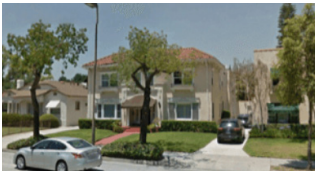


Figure 2.3 5 units, 29 du/ acre
Building 40' x 65', 2 Stories.



Figure 2.4 Shared open spaces
can foster a sense of
community and interaction
between neighbors.

RiverHouse, Healdsburg, CA
Photo credit: Kim Carroll, Carroll
Creative 2022

"Middle" in Two Ways

Importantly, Missing Middle Housing is "middle" in two ways. First and foremost, the term "middle" refers to the house-scale form and size that is compatible in width, depth, and height to a typical detached house. Second, "middle" refers to housing that is more attainable and able to deliver housing for middle-income families. Middle housing is designed to work on typical infill lots and use smaller units in buildings that can lower the land cost and be built incrementally over time. While MMH is not a guarantee of affordability, it is often called affordable by design. These two aspects, along with the following advantages, make it distinct from other development types and highlight why MMH needs to be part of a broader housing toolbox for all cities.

Medium-Density but Lower Perceived Densities

MMH building types typically range in density from 8 dwelling units per acre (du/acre) to up to 52 du/acre, depending on the building type and lot size. It is important not to get distracted with the density numbers when thinking about these types. Density is an unpredictable factor that depends on many variables; as shown by the examples in Figures 2.2 and 2.3.

Built form is more clearly articulated by factors such as building height, footprint, and massing. Due to the small footprint of MMH types, and the fact that they are usually mixed with a variety of building types, even on an individual block, their perceived density is usually quite low—they do not look like dense buildings (even though their densities may be quite high).

A combination of these MMH types provides a neighborhood with a minimum average of 16 du/acre. This is generally the threshold at which an environment

has enough households to be transit-supportive; and at which neighborhood-serving retail and other services become financially viable.

Smaller, Well-Designed Units

The starting point for MMH is smaller-sized units (500 to 1,000 square feet). A common mistake by architects or builders new to building MMH is trying to force suburban unit types and sizes into urban contexts and MMH types. The challenge is to create small spaces that are well designed, comfortable, and usable. As an added benefit, smaller unit sizes can help developers keep their costs down, improving the proforma performance of a project, while making housing options available to a larger group of buyers or renters at a lower price point.

Off-Street Parking Does Not Drive The Site Plan

Trying to provide too much on-site parking can make a MMH develop project not viable. If large parking areas are provided or required, these buildings become very inefficient from a development potential or yield standpoint, reducing the 16 du/acre density threshold. As a starting point, these units should provide no more than one off-street parking space per unit. To enable lower off-street parking requirements, access to transit within walking or biking distance, and/or on-street parking availability can enable a lower need for off-street parking. Housing design that forces too much on-site parking also compromises the occupant's experience of entering the building or "coming home." This street presence and welcoming entrance can greatly impact marketability.

Simple Construction

Because of their simple forms, smaller size, and Type V construction, Missing Middle building types can help developers maximize affordability and returns without compromising quality by providing housing types that are simple and affordable to build.

Marketability

A final critical characteristic is that these housing types are very close in scale to single-unit homes and provide a similar user experience. For example, in these types, you enter through a front porch facing the street instead of walking down a long corridor or anonymous stairway to get to your unit. This makes the mental shift for potential buyers and renters much less drastic than making a shift to live in a large apartment building. This, combined with the fact that many baby boomers likely grew up in or near to similar housing types in urban areas or had relatives that did, enables them to easily relate to these housing types.

Moving the Needle on Housing

Missing Middle Housing offers an opportunity for architects, planners, real estate professionals, and developers to think outside the box and to begin to create immediate, viable solutions to address the mismatch between the

housing stock and what the market is demanding: vibrant, diverse, sustainable, walkable urban places.

Missing Middle Housing types should be integrated into comprehensive and regional planning, zoning code updates, TOD strategies, and business models for developers and builders who want to be at the forefront of this paradigm shift. MMH and zoning reform is not a silver bullet.

The region needs more housing at all scales and will require thinking (and developing) in both big and small ways in order to respond to the housing crisis. Further, implementing policy and regulatory changes take many years or decades to see the full impact. Still, enabling MMH alongside TOD is a critical first step and important component in meeting the housing needs of Charleston and North Charleston. It is imperative that Charleston and North Charleston get zoning in place now to establish a path forward to build and deliver the housing necessary to support the arrival of the Lowcountry Rapid Transit.



Figure 2.5 The simple forms, smaller size, and compatibility with Type V construction help maximize affordability and investment returns, and are consistent with the construction strategies familiar to most residential homebuilders, as shown in this under-construction MMH project in Papillion, Nebraska.

Q CLOSER LOOK

What Does "Walkable Neighborhood" Mean?

For the purpose of this report, walkable describes places where a person can walk or bike to fulfill some or all daily needs. The compact form, pedestrian-oriented infrastructure, and mix of uses found in these neighborhoods was often the standard model developed prior to the 1940s. These environments allow for use of automobiles but do not require one for every trip.

Walkable does not mean recreational walking, such as on paths and trails, but rather walking to a destination like work, services, a coffee shop, restaurants, bars, entertainment, and other amenities.

2.2

Important Attributes of Missing Middle Housing

Important Design Elements of Missing Middle Housing Types

Key design features distinguish Missing Middle Housing from other multi-unit housing developments. All Missing Middle Housing types share the following important characteristics:

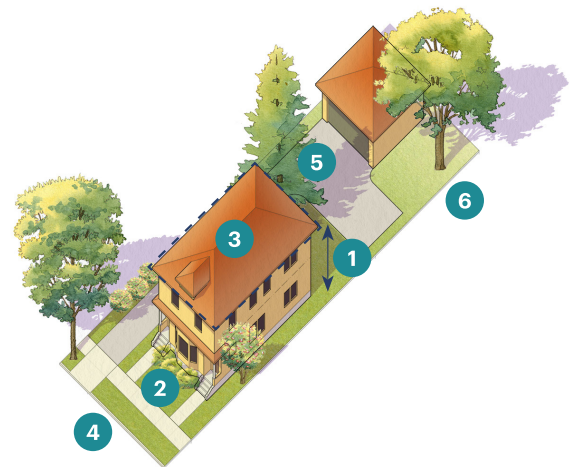
- **Height.** Like a single-unit home, MMH types are typically two to two-and-a-half stories maximum. A third story can be allowed with careful consideration of form and scale impacts on the surrounding built environment
- **Multiple units per building.** These types have anywhere from two to 12 units per building. Upper Missing Middle types may have a maximum of 20 units.
- **Footprint.** With a main body width of 50-60 feet along the street and up to 80 feet overall when secondary "wings" are included, MMH footprints are compatible to single-unit homes.
- **Off-street parking.** No more than one off-street parking space per unit is recommended for MMH. Detached parking structures can help to maintain a house-scale form for the primary building in neighborhoods that have houses with narrower widths.
- **On-site open space.** Private open space is not needed and should not be required. Instead, a shared open space is provided in the form of a rear yard, a wide side yard, or a courtyard space.
- **Driveways.** Driveway design for MMH types should match the neighborhood context on a per-lot basis. If no alley is present, single-wide driveways are recommended when possible to avoid building frontages dominated by parking.

Sources:

¹*Missing Middle Housing, Thinking Big and Building Small to Respond to Today's Housing Crisis, Dan Parolek, Island Press*

Figure 2.6 Important Form Characteristics of Missing Middle Housing

- 1 Maximum height
- 2 Number of units
- 3 Footprint/ main body dimensions
- 4 On-street parking
- 5 Driveways (if any)
- 6 On-site open space



Important Elements to Regulate through Zoning

Building on the important design elements, Missing Middle Housing requires zoning tools that are different from large-scale multi-unit housing development. For the successful application of MMH types, zoning and/or other applicable standards need to be calibrated to control the characteristics listed below.

■ Building Form + Scale

Overall building size (including maximum height, width, and depth) is best controlled by regulating lot width. Buildings the size of a house, or "house-scale," create an environment that is pedestrian friendly and ideal for residential zones.

■ Placement of Buildings, Parking, and Open Space

The location of a buildings' primary facade (how far a building sits back from the street), parking (limiting driveways and parking in the front of a building), and open space placement and layout help control neighborhood character.

■ Interaction with the Public Realm

The items listed above, as well as appropriate frontage types, ensure that housing developments contribute to the overall quality of the public realm and create a pedestrian focused environment.

Location of Missing Middle Housing in Walkable Contexts

A critical characteristic of MMH types is that they are most effective when located within an existing or newly created walkable context. Buyers or renters of these housing types choose to trade larger suburban housing for less space, less yard to maintain, and proximity to services and amenities such as restaurants, markets, services, and employment. Figures 2.7 and 2.8 shows examples of a "walkable neighborhood" in Charleston and North Charleston's surrounding mixed-use centers. Middle housing provides the density needed to support local mixed-use centers.

For most towns or cities, including Charleston and North Charleston, the most walkable neighborhoods are those located near downtown, in the historic core, or around mixed-use centers. These walkable neighborhoods likely already have or could support many Missing Middle types. In addition, there are areas that are not yet walkable but have the potential to become so with pedestrian-focused improvements and zoning that supports additional mixed use centers or corridors. Supporting more walkability will be a key factor in developing in and around the LCRT corridor.



Figure 2.7 Park Circle is a walkable neighborhood in North Charleston with a mix of housing types in blocks adjacent to a main street. These neighborhoods are essential to supporting local businesses.

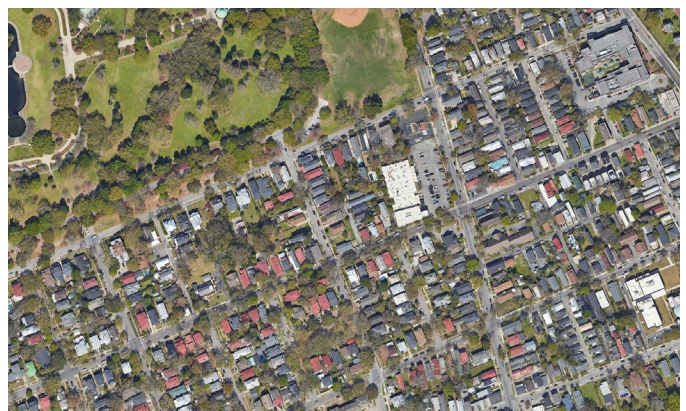


Figure 2.8 Hampton Park Terrace neighborhood in Charleston is considered walkable because of its connected and compact block structure.

Building Form & Scale

Elements of Building Form

The physical form of a building - its shape, size, height, and placement on a lot - is an important consideration when adding multi-unit housing within existing single-unit residential neighborhoods or establishing new neighborhoods. Controlling building forms helps to ensure that when new building types are introduced, they not only expand housing choice but also having a positive impact on the surrounding neighborhood.

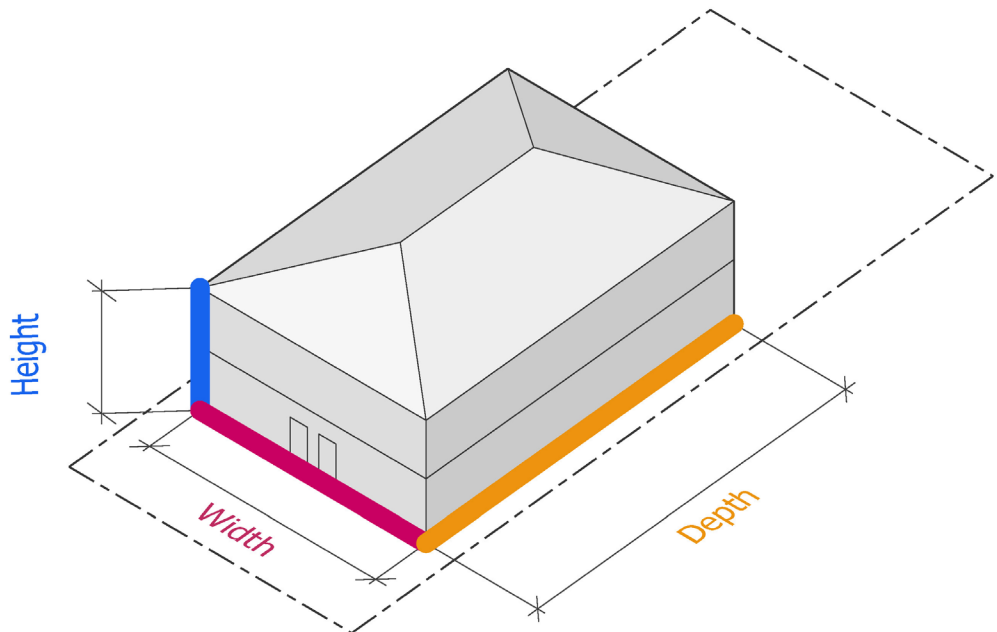
Because Missing Middle Housing includes a range of building types varying in scale and intensity, they can easily be applied across a spectrum of built environments. Broadly speaking, buildings can be categorized into two groups: house-scale buildings and block-scale buildings (see the facing page for more details). Each MMH type has unique characteristics that dictate whether it works best in a house-scale or a block-scale application.

Best Practice for Regulating

Regulating by building footprint, height, and type can yield more predictable results and therefore ensure the correct application of house-scale versus block-scale building that align with the scale of the existing or desired environment.

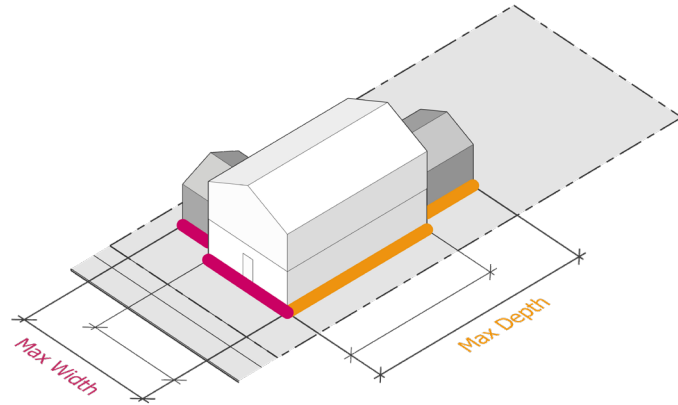
Notes:

Each Missing Middle Housing type has building dimensions (height, width, and depth) that are specific to it, and based on accurate internal layouts. See Section 2.3 for dimensions specific to each type.



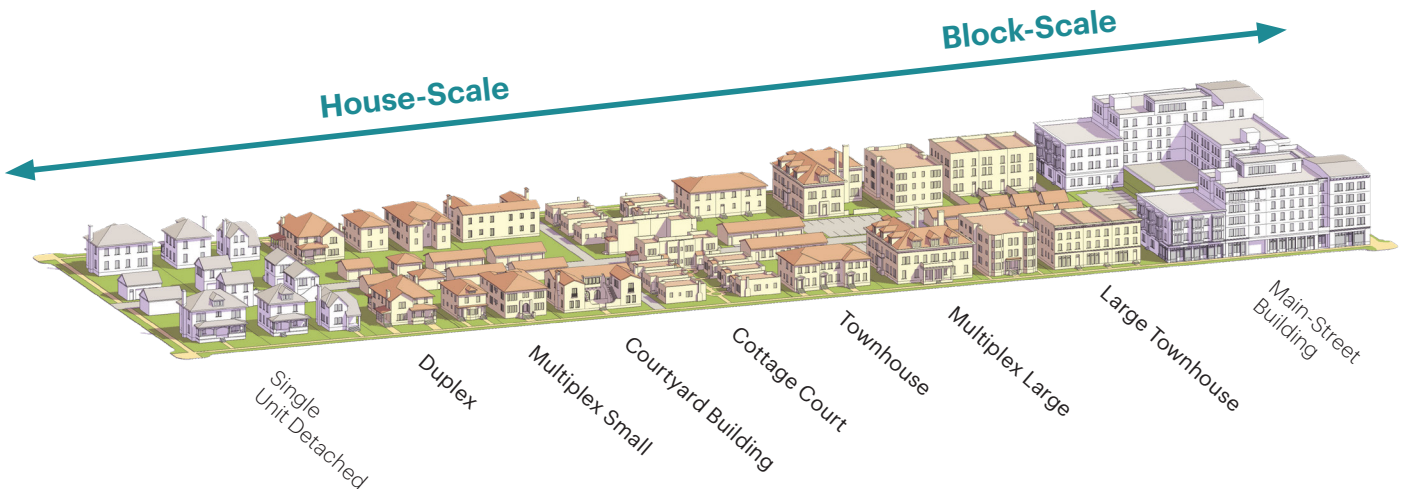
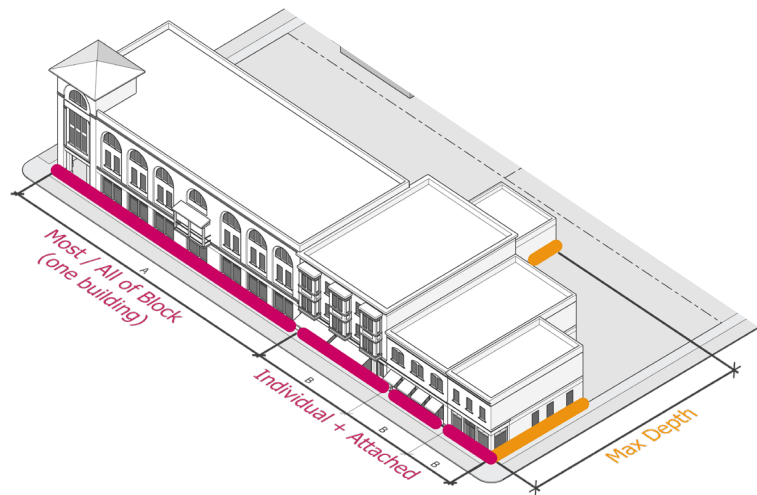
"House-Scale"

House-scale buildings are those that match the size and scale of a typical house, in terms of width, depth, height, and architectural details. House-scale buildings are typically a maximum 2.5 stories tall, such as single-unit houses, duplexes, triplexes, fourplexes, small multiplexes, cottage courts, and courtyard buildings. Building widths of these types range from 25 feet to 75 feet overall, including secondary wings. House-scale buildings will fit best in predominately residential zones.



"Block-Scale"

The footprint of a block-scale building occupies most of, if not all of, a city block; or, when multiple buildings are arranged together along a street, appear as long as most or all of a block. Examples include large multiplexes and townhouses. Block-scale buildings are most appropriate within Downtown fabric or directly along the LCRT Corridor. See Section 2.4 Upper Missing Middle Housing section for applications of block-scale middle housing types.



Lot Width

Importance of Lot Width

Zoning standards often regulate development by lot area to reinforce maximum allowed density. This approach may be appropriate for larger projects but not necessarily for infill lots. The approach of regulating using lot area prevents some housing types that are otherwise physically compatible with single-unit dwellings.

Applying lot width standards inherently controls the scale of buildings constructed on them. Lot width can be a more effective regulation than lot area because many projects can comply with the minimum lot area but still result in a building that is too large for its context. Even with low-density housing types such as a duplex, if allowed to fill up the building envelope, it can result in a building that is within the density limits but is larger than nearby houses in the same neighborhood. In conjunction with setbacks and height standards, a "buildable envelope" is created, ensuring a building's width, depth, and height dimensions cannot exceed that of the surrounding context.

Best Practice for Regulating

Regulating by lot width, and coordinating each lot size with housing types and maximum building footprints, creates Missing Middle Housing development that is correctly scaled across a range of neighborhood scales.

Typical Lot Widths of MMH Types

The graphic on the facing page shows the colored bars show the typical lot width range for each MMH type. A range is provided to accommodate both parking access from an alley in the rear of the lot, which allows for a narrower lot, and parking access from the front of the lot, which requires a slightly wider lot. Both parking access conditions are found in Charleston and North Charleston.

The Palette of Missing Middle Housing Types with typical Minimum Lot Widths

The palette of MMH types is provided for reference to the ideal lot width range of each type.



Duplex Side-by-Side
50'-75'



Duplex Stacked
40'-75'

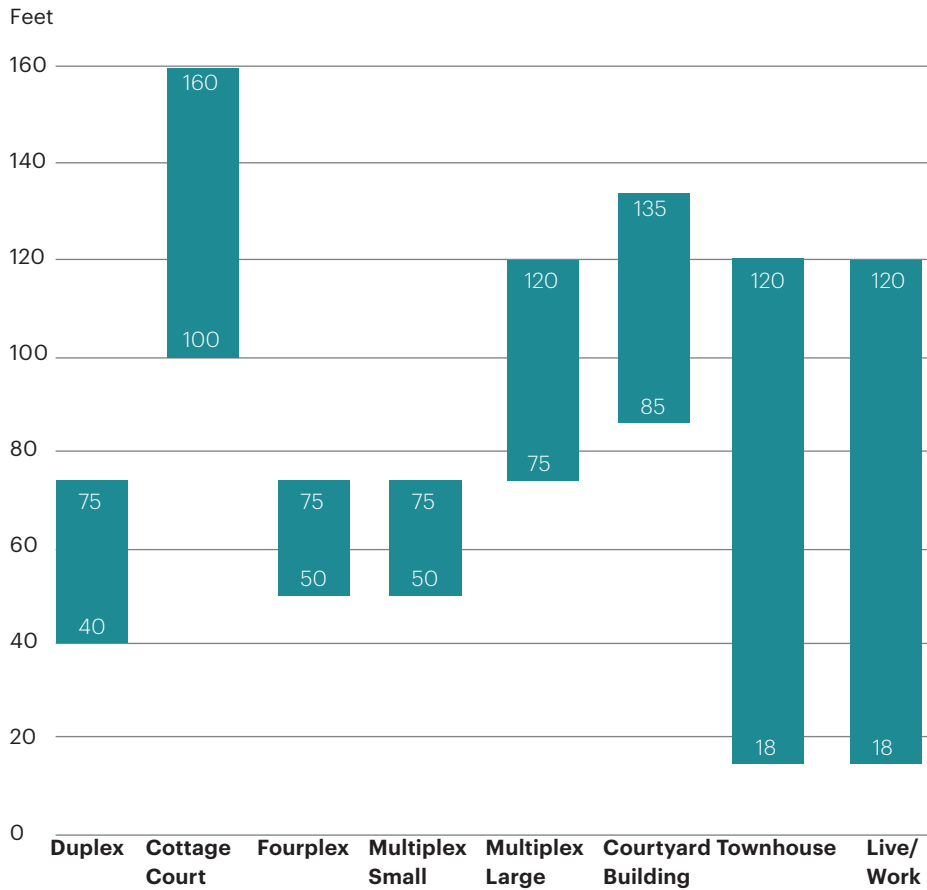


Cottage Court
100'-160'



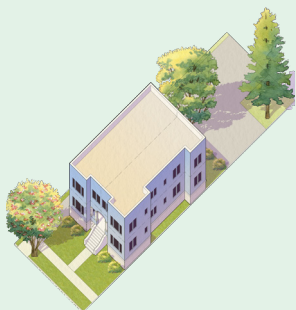
Fourplex
55'-80'

Lot Width Ranges for Typical MMH Types



Notes:

Width ranges of up to 120 feet for townhouses and live/work are assuming multiple attached housing units. Best practices limit these to a set or "run" of four to six attached units before a massing break is required.



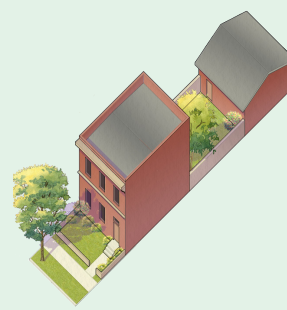
Multiplex Small
55'-80'



Multiplex Large
70'-120'



Courtyard Building
95'-150'



Townhouse
18'-25'



Live/Work
18'-25'

Frontages

What is a "frontage"?

A frontage is a ground-floor architectural feature (such as a porch, piazza, stoop, or storefront) that marks the entrance of a building and, therefore, provides a transition between the public and private realms. Frontages distinguish MMH from larger multi-unit buildings by mimicking the experience of entering a single-unit house from a privacy door, porch, piazza, or stoop as opposed to a long corridor.

Regulating frontages ensures that buildings interact with the public realm, and the transition between the two is designed to be pedestrian-scaled and encourage walkability.

The frontage types below are based on examples found in cities across the country. The most common frontage types in a particular neighborhood can be easily identified through a survey of existing conditions.

Why are frontages important?

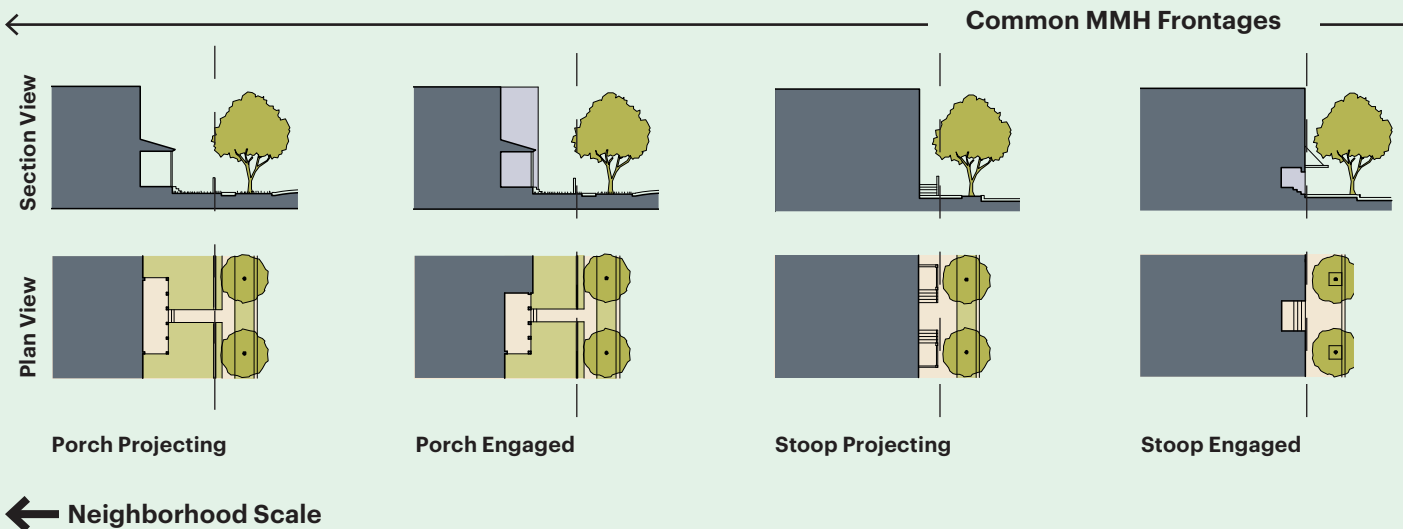
Because MMH types are often embedded in residential zones, frontages that are consistent with those used on single-unit houses, such as porches and stoops, help MMH contribute to the residential look and feel of neighborhoods where they are located.

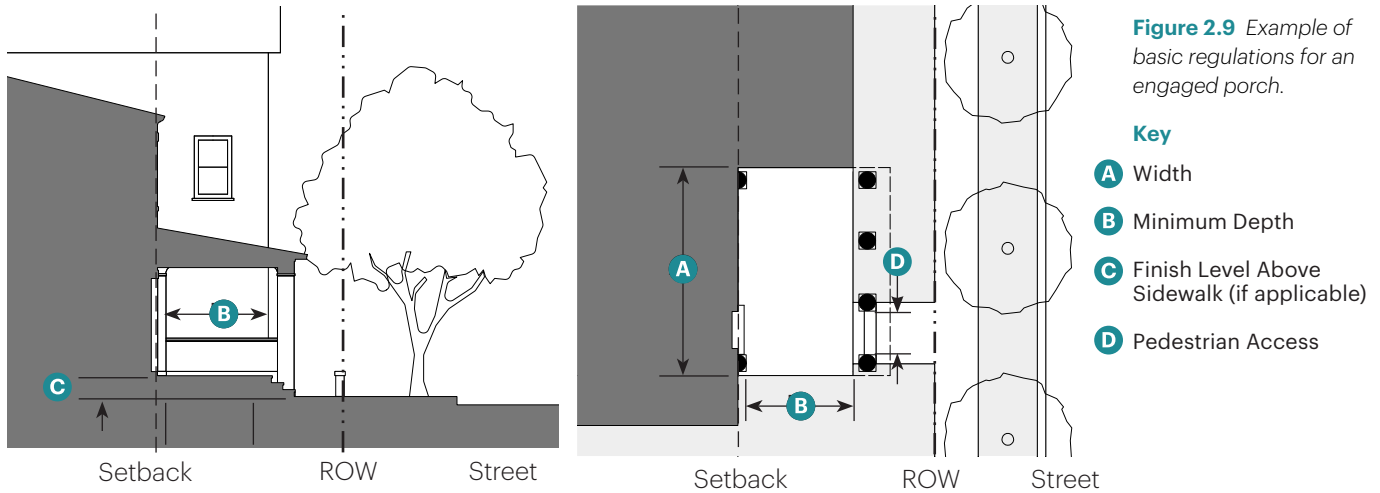
A strong sense of community is an important benefit that Missing Middle Housing provides to a neighborhood, and frontage types play a key role in this by creating a strong connection to the pedestrian-oriented streetscape.

Buildings with blank facades or entries that are not visible from the street can appear anonymous. Creating clear, distinct entryways with room for socializing reinforces the neighborhood character of MMH types and provides for a more convivial and welcoming streetscape.

🔍 CLOSER LOOK

Spectrum of Frontage Types





Best Practice for Regulating

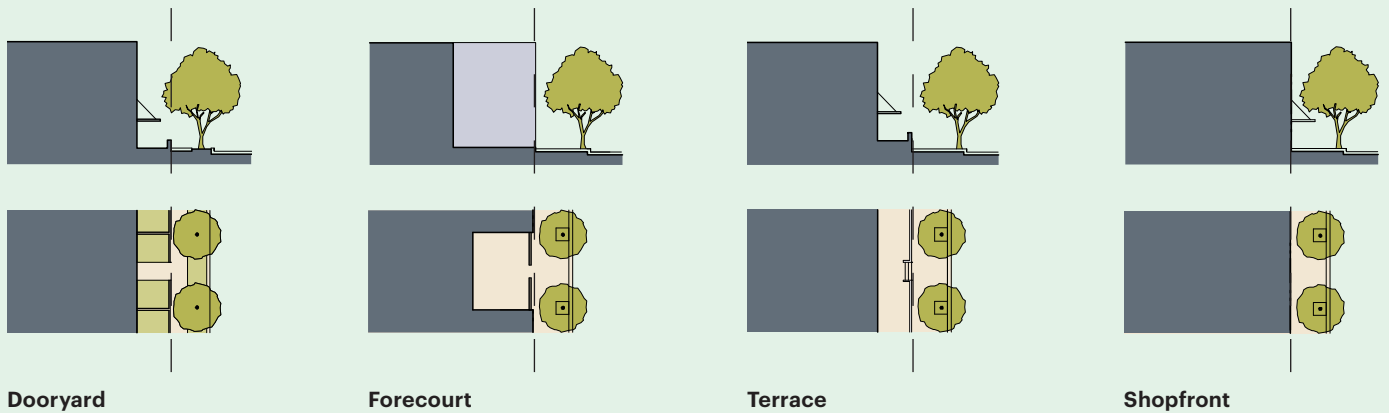
The detailed regulations for frontage types should be based on measurements from good local precedents to ensure they are appropriate. For instance, setting the correct minimum depth for stoops and

porches guarantees that they are usable, look like they are from the area, and that they improve the public/private interface by providing residents with a place to sit outside and greet their neighbors.

Source:

Form Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers, Dan. Parolek AIA, Karen Parolek, Paul C. Crawford FAICP, Island Press

..... Less Common MMH Frontages ➔



Downtown Scale ➔

Parking Requirements

Q CLOSER LOOK

The Real Cost of Parking

Surface Parking:
\$1,500 to \$5,000

Surface Parking with Roof: **\$5,000 to \$10,000**

Garage Parking:
\$25,000 to \$50,000

Costs are per parking space and inclusive of land costs. The costs shown above are US national averages from 2020.

Source: RS Means, www.rsmeans.com

Parking Design and Location

The number of required off-street parking spaces can greatly impact the feasibility of Missing Middle Housing, and is one of the most common barriers to enabling MMH. MMH building types rely on efficient use of available space on a lot for housing. For this reason, parking requirements can quickly become a barrier, as parking spaces use land on a lot that could be used for housing or shared open space.

The diagrams below illustrate how parking requirements can be a barrier to MMH on typical lots. In this example, no off-street parking requirements would enable a fourplex on even a small, 50-foot wide lot. When the requirement is two parking spaces per housing unit, most smaller lots could not accommodate the fourplex type because of the required parking spaces and driveways for access.

Apart from the land required to accommodate high parking standards, development costs for parking spaces, especially enclosed spaces, quickly affect the feasibility and attainability of MMH type projects (see national averages for parking space costs at left). High land costs in parts of Charleston and North Charleston further exacerbate this issue.

Best Practice for Regulating

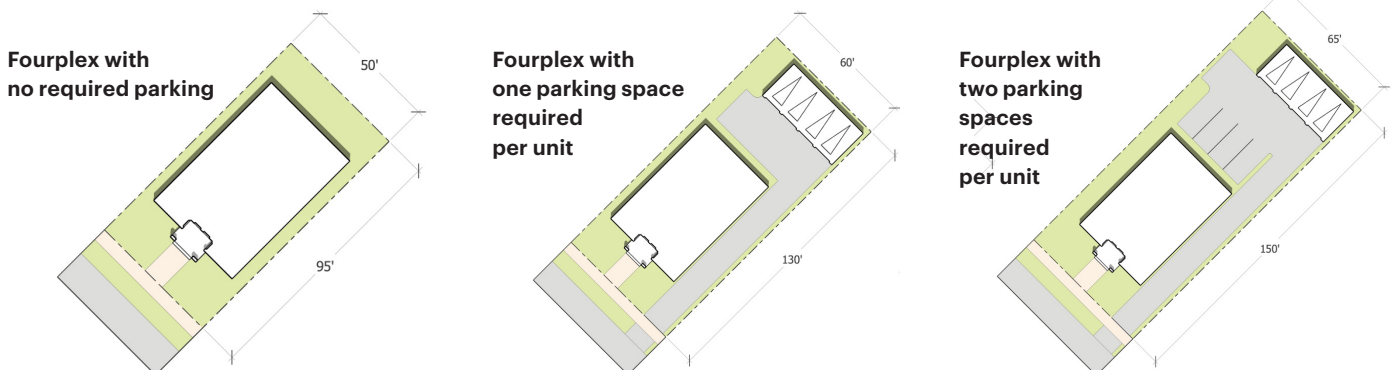
Parking requirements should be coordinated to existing conditions, such as available street parking, proximity to transit and alternate transportation modes.

Best practices advocate for removing parking minimums, and even setting parking maximums, particularly in areas with available mobility options. To control costs and open space, it is recommended to not exceed one off-street parking space per housing unit.

When parking is provided, paving materials should be selected which help minimize urban heat island effect and untreated storm-water runoff, such as the use of lighter-colored and permeable materials. Reducing impermeable surfaces also contributes to stormwater mitigation measures.

Finally, when possible, parking should be located in the rear of MMH buildings, reserving the front for frontage types and private open space to enhance the pedestrian experience of the street. At a minimum, parking garages should be required to be setback behind the front facade of the building.

Parking Requirements + Feasibility



Open Space

Benefits of Open Space

Open space is essential to encourage active and healthy lifestyles, allow people to connect with nature, increase tree canopy in communities, and help mitigate the effects of climate change.

Open space is an important attribute of MMH types, and is provided as both shared and/or private open space on the lot. Well-designed open spaces can create an inviting place for residents to relax and interact, allow for community gathering, provide greenery and trees. In addition, well-designed open space activates the adjacent street and public realm and helps connect neighborhoods.

Open Space Design Considerations for MMH

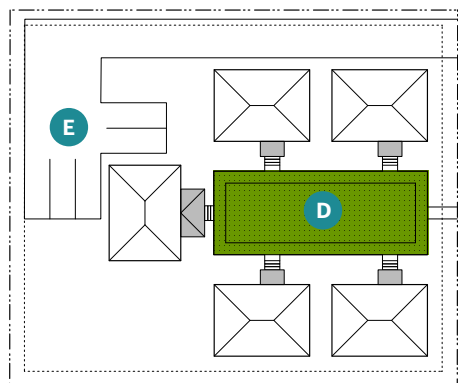
- Design open spaces to function as semi-private/private/shared spaces depending on the MMH type.
- Protect existing trees on the lot to the extent feasible, and provide space for new trees.

- For narrower front or side setbacks, consider uses such as native gardens, swales for stormwater treatment, etc.
- Utilize lighter-colored and permeable materials for hardscaped areas.
- Use landscaping to define building entrances and access.
- In MMH types with more units, such as a cottage court or courtyard building, the open space serves as the main gathering place. It is important to design the space to be usable (and ideally multi-functional), place it in a central location, and orient surrounding building facades and entrances to frame it. Frontages such as dooryards, stoops and porches can be used to make the open space inviting and encourage interaction.
- In the case of larger sites, the design of open spaces should consider existing mature trees and natural features such as creeks, and integrate them into the site layout.

Open Space Best Practices for MMH



- A** Building frontage and entrance face open space
- B** Front setback landscaped, pathways reinforce pedestrian entrances
- C** Shade trees and green infrastructure



- D** Recommended minimum 20 feet width for shared open space, building entrances from open space
- E** Open space oriented to street, parking at the rear of the lot

Figure 2.10 Left: Detached houses facing an open space.

Figure 2.11 Right: Open space within a cottage court.

2.3 Palette of Missing Middle Housing Types

A range of building types for different contexts.

Building types, meaning structures defined by their configuration, disposition, and function, are a fundamental element of urban design and development. Matching building types to the existing context based on their spatial requirements is essential to creating a cohesive built environment. The palette of MMH types below identifies the ideal lot dimensions

across the spectrum of types organized by scale. Each building type requires the minimum lot dimensions shown to provide a high-quality living environment for residents, and the maximum is the limit at which lots become too large to deliver compact development patterns that support walkable environments.



The Palette of Missing Middle Housing Types



Ideal Characteristics of Missing Middle Housing Types								
Vehicular Access	Front		Rear		Front		Rear	
Max. Height (Stories)	2.5		2.5		1.5		2.5	
Lot Width (ft.)	50' - 75'	40' - 70'	40' - 75'	30' - 70'	100' - 160'	90' - 150'	55' - 80'	50' - 70'
Lot Depth (ft.)	100' - 150'	100' - 150'	100' - 150'	100' - 150'	100' - 150'	100' - 150'	100' - 150'	100' - 150'
Area of Lot (sq.ft.)	5,000 - 11,250	4,000 - 10,500	4,000 - 11,250	3,000 - 10,500	10,000 - 24,000	9,000 - 22,500	5,500 - 12,000	5,000 - 10,500
Resultant Density								
Without ADU	8 - 17	8 - 22	8 - 22	8 - 29	18 - 22 ²	19 - 24 ²	15 - 32	17 - 35
With ADU	12 - 26	12 - 33	12 - 33	12 - 44	n/a	n/a	18 - 40	21 - 44

¹ Variation: Pocket Neighborhood. The lot for this variation is the size of most of a block, and the shared court is much larger, or consists of two or more shared courts. The individual cottages are expanded to include a mix of duplex and fourplex buildings.

The listed resultant densities are obtained from designing units that reasonably fit within each MMH building type. This differs from density regulations that predetermine how many units are allowed on a lot without regard for what can fit. In addition, the results vary depending on front or rear vehicular access to parking. The densities listed below correspond to each type's lot dimensions range.

Although lot area is regularly used as a zoning regulation, it should not be the primary regulation. Instead, lot width and the resulting building width should be prioritized. This approach provides more targeted regulations that have a greater impact on the quality of the public realm

and help to deliver more predictable building forms.

The dimensions shown in the palette below and on the subsequent pages result from years of on-the-ground research and design work by Opticos for private and public sector clients. These dimensions are meant to be used as a starting point and should be calibrated for each community's existing conditions, lot patterns, and desired community form.

Charleston has additional historic building types, such as the "Single-House" that are not shown within the typical MMH palette. This type, and alternative MMH types are discussed in Section 2.6.

The Palette of Missing Middle Housing Types



Ideal Characteristics of Missing Middle Housing Types

Vehicular Access	Front		Rear		Front		Rear		Front		Rear	
	Front	Rear	Front	Rear	Front	Rear	Front	Rear	Front	Rear	Front	Rear
Max. Height (Stories)	2.5		2.5 (3 ²)		2.5 (3 ²)		2.5 (3 ²)		2.5 (3 ²)		2.5 (3 ²)	
Lot Width (ft.)	55' - 80'	50' - 70'	70' - 120'	60' - 110'	95' - 150'	85' - 140'	n/a	16' - 45'	n/a	16' - 45'	n/a	16' - 45'
Lot Depth (ft.)	100' - 150'	100' - 150'	100' - 150'	100' - 150'	110' - 175'	110' - 175'	n/a	85' - 120'	n/a	85' - 120'	n/a	85' - 120'
Area of Lot (sq.ft.)	5,500 - 12,000	5,000 - 10,500	7,000 - 18,000	6,000 - 16,500	10,450 - 26,250	9,350 - 24,500	n/a	1,360 - 5,400	n/a	1,360 - 5,400	n/a	1,360 - 5,400
Resultant Density												
Without ADU	36 - 40 ²	41 - 44 ²	37 - 44 ²	44 - 48 ²	25 - 33 ²	28 - 36 ²	n/a	8 - 32	n/a	8 - 32	n/a	8 - 32
With ADU	n/a	n/a	n/a	n/a	n/a	n/a	n/a	16 - 64	n/a	16 - 64	n/a	16 - 64

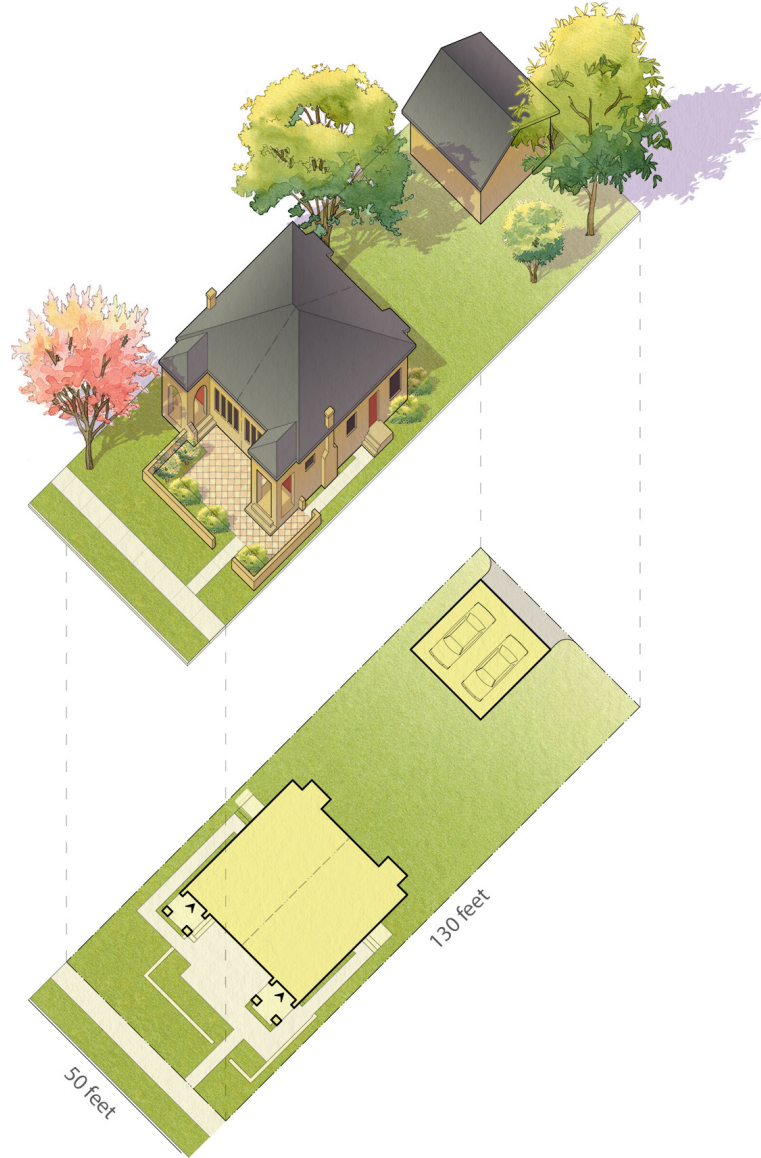
²In more intense neighborhoods, this type can be designed to have a third story, or a portion of a third story, depending on the intended physical character of the neighborhood.

Duplex Side-by-Side

Description

A small- to medium-sized building that consists of two dwelling units, one next to the other, both of which face and are entered from the street.

A variation of this is the "front-to-back" duplex. This variation and the side-by-side building type are meant to provide two units within the footprint of a single-unit building. These are distinct from the non-recommended practice of attaching two single-unit houses to form two attached units. This latter approach often results in a building that is larger and is out of scale with its single-unit neighbors.



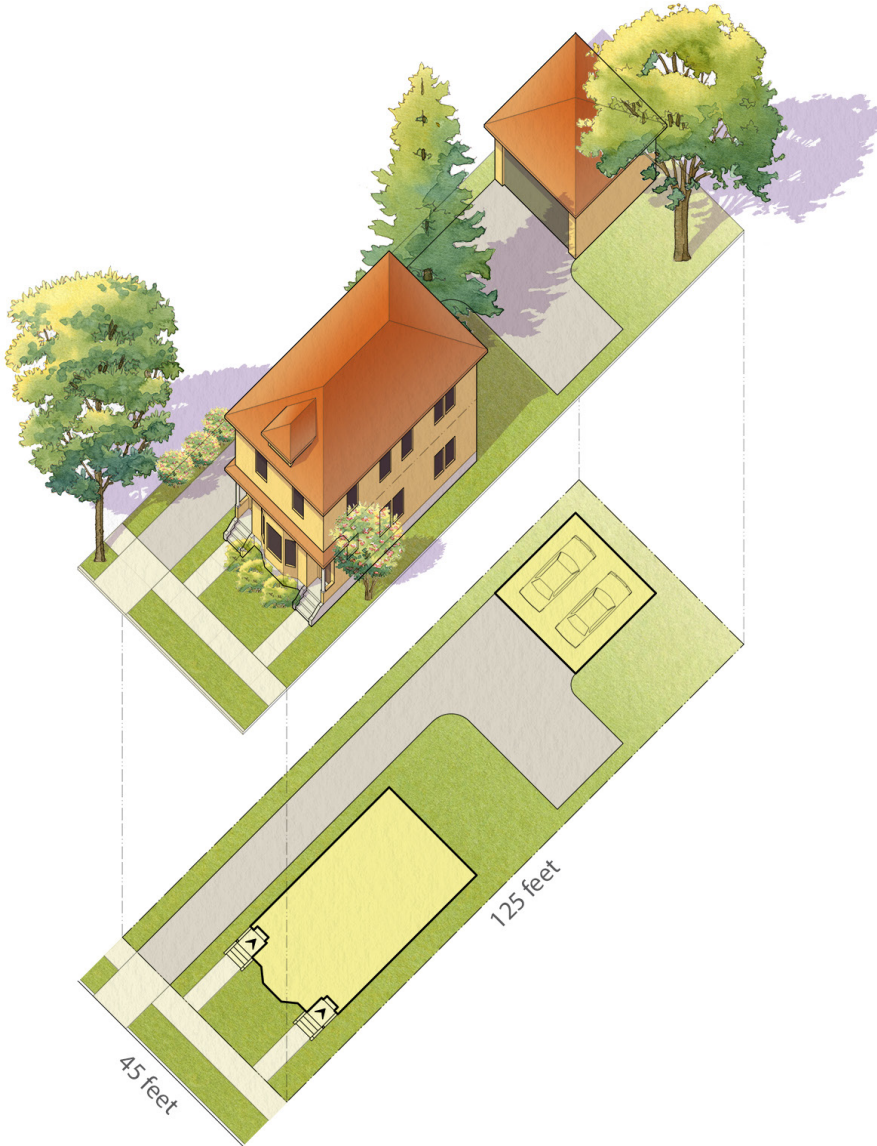
Accessory Dwelling Unit (ADU)

The ADU can be located above the garage building to provide an additional unit separate from the main building.

2

Duplex Side-by-Side		
Number of Units	Vehicular Access	
	Front	Rear
Lot Width (ft)	50' - 75'	40' - 70'
Lot Depth (ft)	100' - 150'	100' - 150'
Resultant Density (du/acre)		
Without ADU	8 - 17	8 - 22
With ADU	12 - 26	12 - 33

Duplex Stacked



Description

A small- to medium-sized building that consists of two stacked dwelling units, one on top of the other, both of which face and are entered from the street.



Accessory Dwelling Unit (ADU)

The ADU can be located above the garage building to provide an additional unit separate from the main building.

Duplex Stacked

Number of Units

Vehicular Access

Front

Rear

Lot Width (ft) 40' - 75 30' - 70'

Lot Depth (ft) 100' - 150' 100' - 150'

Resultant Density (du/acre)

Without ADU 8 - 22 8 - 29

With ADU 12 - 33 12 - 44

2

Cottage Court/Bungalow Court

Description

A series of small, detached buildings on a lot arranged to define a shared court that is typically perpendicular to the street. The shared court takes the place of a private rear yard and is an important community-enhancing element.

The accessory dwelling unit (ADU) is not recommended for this type due to the limited number of available off-street parking spaces.

A larger version of this type is known as the “pocket neighborhood”. This type differs from the cottage court primarily by site size. Typically, the pocket neighborhood is on a site at least twice as large as the cottage court, has larger dwellings and a variety of housing types (houses, duplexes, etc.).

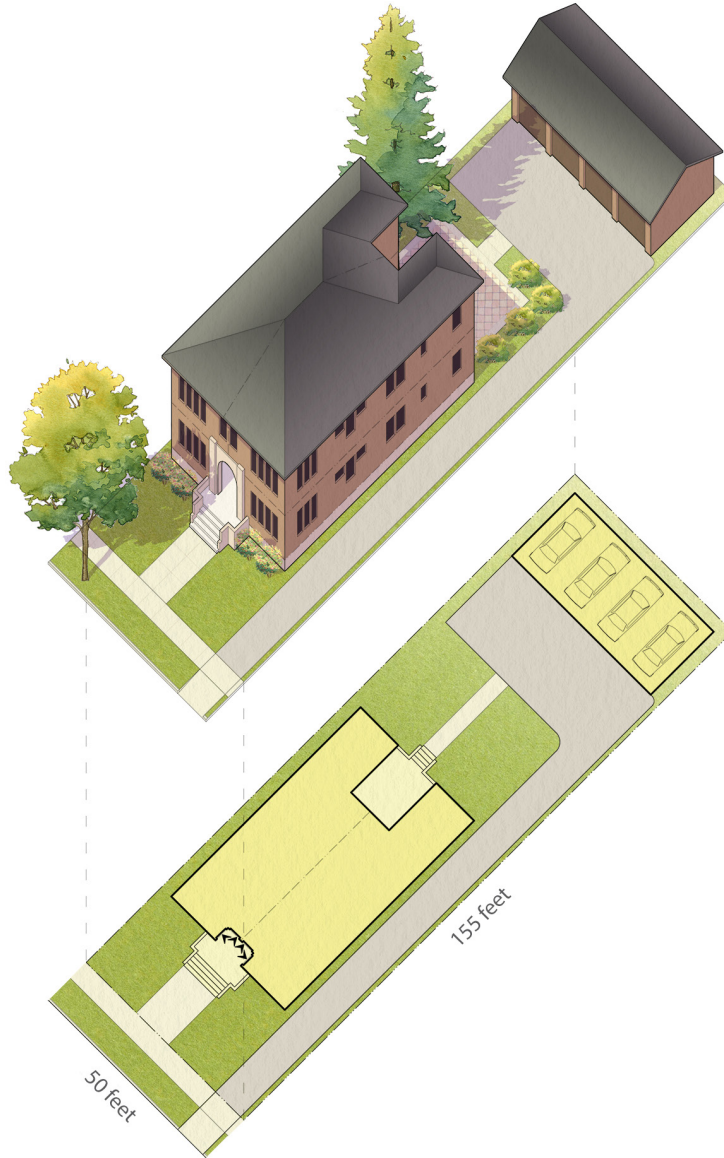


Cottage Court/ Bungalow Court

Number of Units	Vehicular Access	
	Front	Rear
Lot Width (ft)	100' - 160'	90' - 150'
Lot Depth (ft)	100' - 150'	100' - 150'
Resultant Density (du/acre)		
Without ADU	18 - 22	19 - 24
With ADU	n/a	n/a

5-10

Fourplex



Description

A medium-sized building that consists of four units: typically two on the ground floor and up to two above with a shared entry from the street. Although this type shows four units, a triplex has the same built form characteristics but contains three units, not four.



Accessory Dwelling Unit (ADU)

The ADU can be located above the garage building to provide an additional unit separate from the main building.

Fourplex

Number of Units

Vehicular Access

Front

Rear

Lot Width (ft)	55' - 80'	50' - 70'
Lot Depth (ft)	100' - 150'	100' - 150'

Resultant Density (du/acre)

Without ADU	15 - 32	17 - 35
With ADU	18 - 40	21 - 44

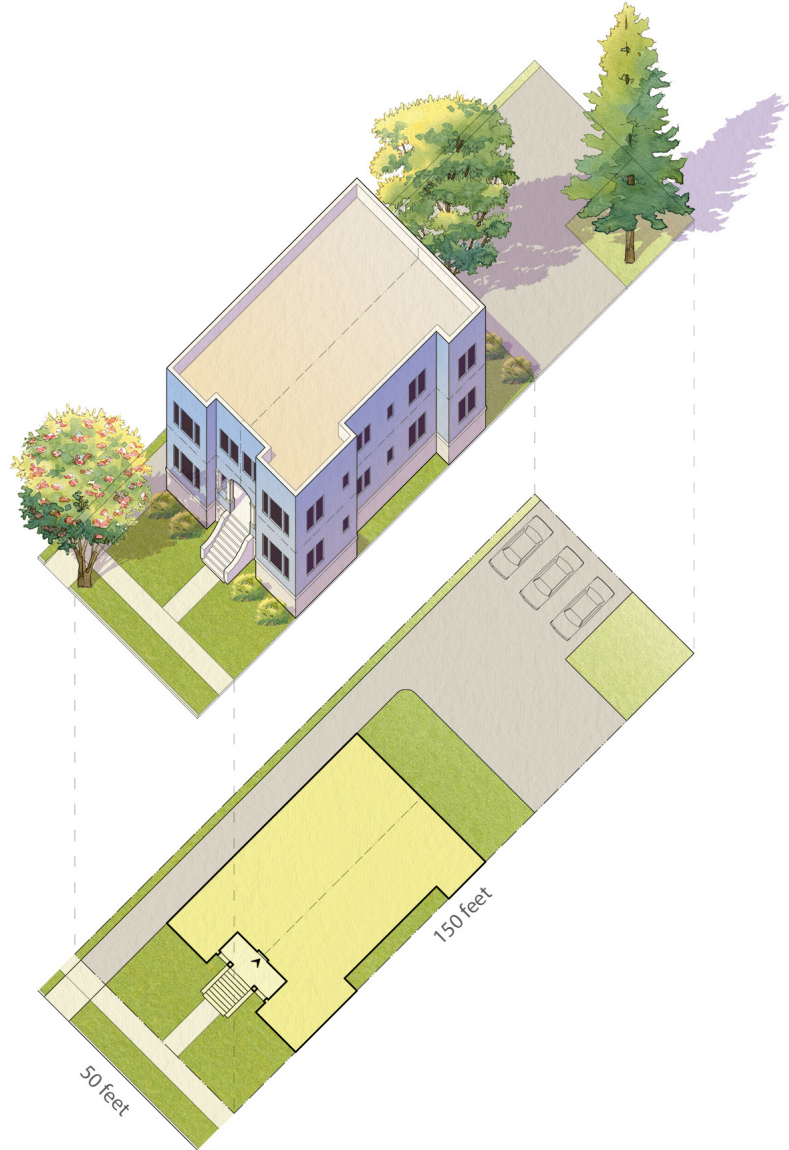
4

Multiplex Small

Description

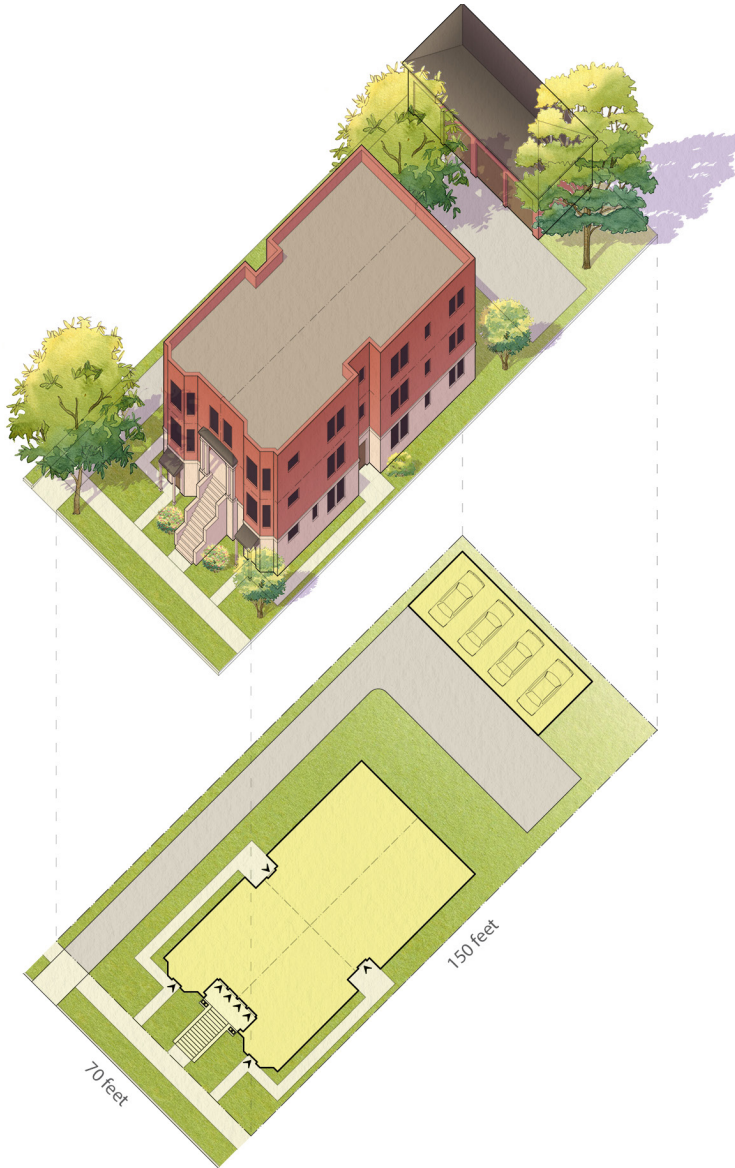
A medium-sized building that consists of five to 10 side-by-side and/or stacked dwelling units, typically with one shared entry or individual entries along the front and sometimes along one or both sides.

The accessory dwelling unit (ADU) is not recommended for this type due to the limited number of available off-street parking spaces. In some situations, this type provides 0.5 parking spaces per unit at the lower end of the range of units.



Multiplex Small			
Number of Units	Vehicular Access		
	Front	Rear	
5-10	Lot Width (ft)	55' - 80'	50' - 70'
	Lot Depth (ft)	100' - 150'	100' - 150'
	Resultant Density (du/acre)		
	Without ADU	36 - 40	41 - 44
	With ADU	n/a	n/a

Multiplex Large



Description

A medium-to-large-sized structure that consists of six to 18 side-by-side and/or stacked dwelling units, typically with one shared entry or individual entries along the front and sometimes along one or both sides.

The accessory dwelling unit (ADU) is not recommended for this type due to the limited number of available off-street parking spaces. In some situations, this type provides 0.5 parking spaces per unit at the lower end of the range of units.

Multiplex Large

Number of Units

Vehicular Access

Front

Rear

Lot Width (ft)	70' - 120'	60' - 110'
Lot Depth (ft)	100' - 150'	100' - 150'

Resultant Density (du/acre)

Without ADU	37 - 44	44 - 48
With ADU	n/a	n/a

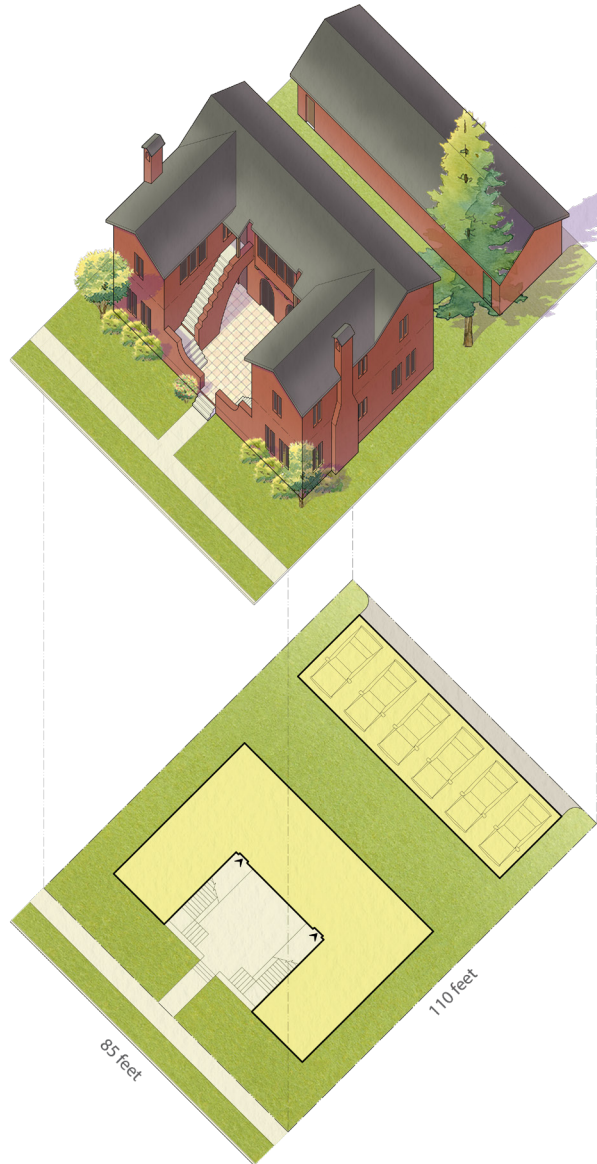
6-18

Courtyard Building

Description

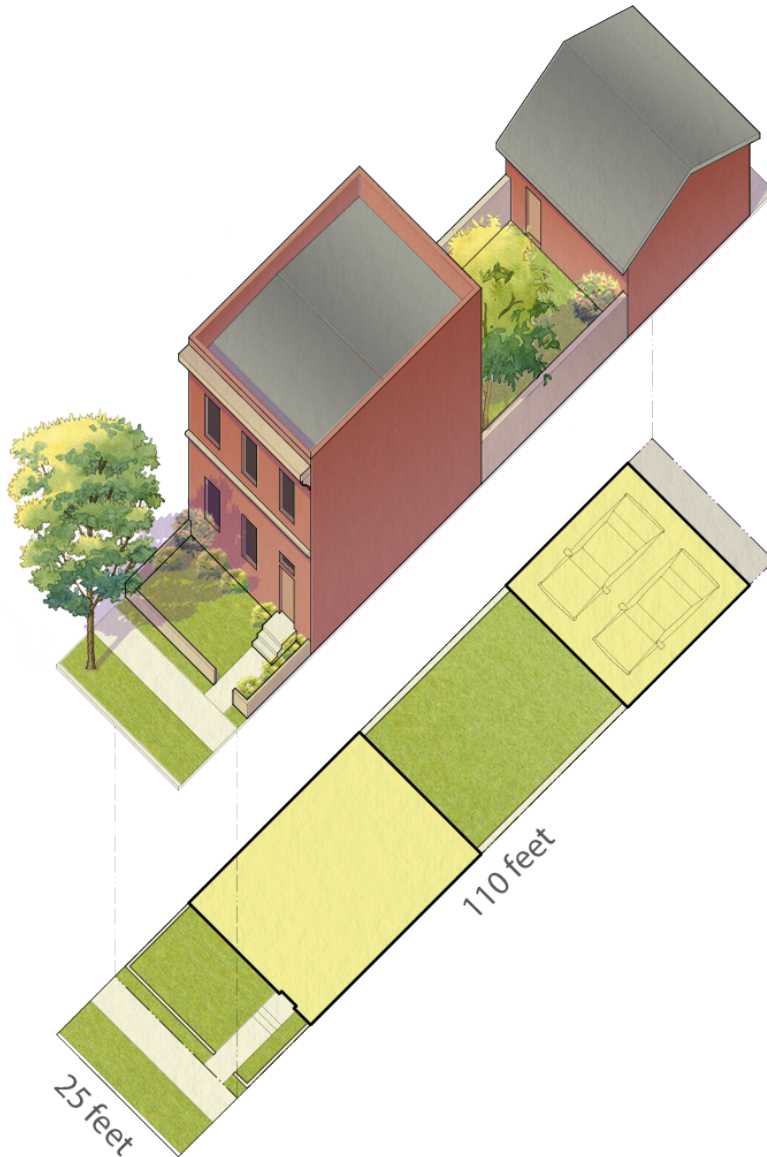
A medium- to large-sized building or up to three small-to-medium size detached buildings consisting of multiple side-by-side and/or stacked dwelling units arranged around a shared courtyard. Dwellings are accessed from the courtyard. Typically, each unit has its own individual entry or shares a common entry with up to three units.

The accessory dwelling unit (ADU) is not recommended for this type due to the limited number of available off-street parking spaces.



Courtyard Building			
Number of Units	Vehicular Access		
	Front	Rear	
Lot Width (ft)	95' - 150'	85' - 140'	
Lot Depth (ft)	110' - 175'	110' - 175'	
6-20	Resultant Density (du/acre)		
	Without ADU	25 - 33	28 - 36
	With ADU	n/a	n/a

Townhouse



Description

A small- to medium-sized building with one dwelling that is attached to other townhouses in an array of up to four, sometimes up to six, depending on the context.

A more intense version of this type is the “townhouse flat” that divides the building vertically into two to three flats.



Accessory Dwelling Unit (ADU)

The ADU can be located above the garage building to provide an additional unit separate from the main building.

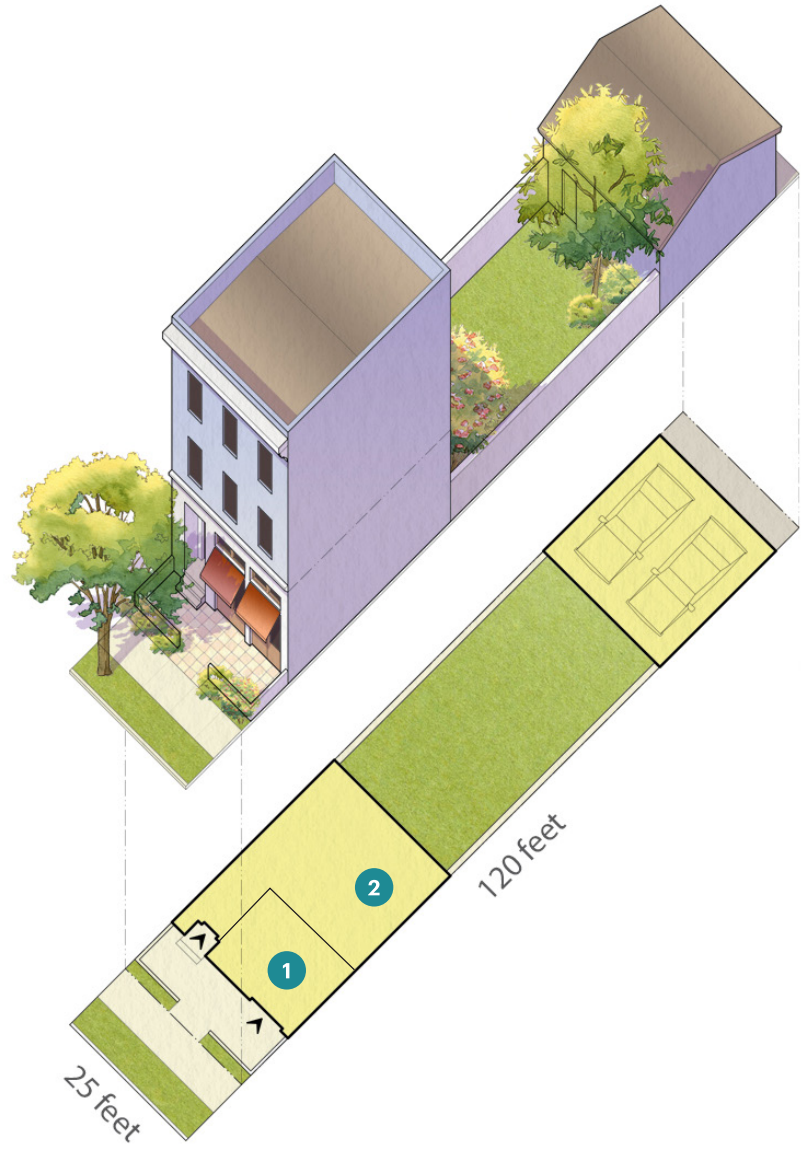
Townhouse			
Number of Units	Vehicular Access		
	Front	Rear	
1	Lot Width (ft)	n/a	16' - 45'
	Lot Depth (ft)	n/a	85' - 120'
	Resultant Density (du/acre)		
	Without ADU	n/a	8 - 32
	With ADU	n/a	16 - 64

Live/Work

Description

A small- to medium-sized attached or detached building consisting of one dwelling unit above or behind a flexible ground floor space for residential, service, or retail uses. Both the primary ground-floor flex space and the second unit are owned by one entity.

These types can be arranged to form what looks like a neighborhood main street building.



- Key**
- 1 Flex Space
 - 2 Dwelling Unit

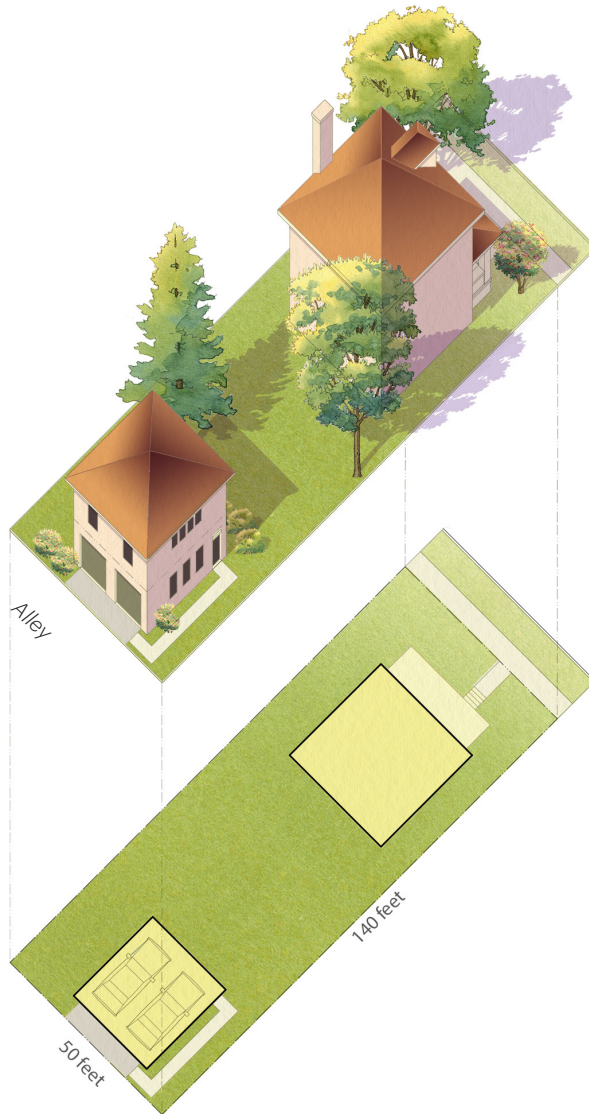


Accessory Dwelling Unit (ADU)

The ADU can be located above the garage building to provide an additional unit separate from the main building.

Live/Work			
Number of Units	Vehicular Access		
	Front	Rear	
1	Lot Width (ft)	n/a	16' - 45'
	Lot Depth (ft)	n/a	85' - 120'
	Resultant Density (du/acre)		
	Without ADU	n/a	8 - 32
	With ADU	n/a	16 - 64

Carriage House



Description

An accessory structure located at the rear of a lot, above a garage, that provides a small residential unit, home office space, or other small commercial or service uses permitted in the applicable zone.

A carriage house is smaller in scale to the primary building on a lot, with main body dimensions that do not exceed 30'x36', and is no taller than two stories.

Carriage House

Number of Primary Units

1

Typical lot size is determined by the principal building type. A carriage house may be access from the front of a lot (through a private drive) or the rear of a lot (when an alley is present).

Resultant Density (du/acre)

ADUs are typically not counted as an additional unit for density or minimum lot size calculations.

Q CLOSER LOOK

How can Accessory Dwelling Units benefit Charleston and North Charleston?

Accessory dwelling units are a unique housing type that offers a high level of flexibility and can be achieved in various forms. Because of this, they offer many benefits:

- An increase in housing variety to the local community.
- Does not require the purchase of new land; can easily be constructed on a lot fit for a single-unit home.
- Suitable in a variety of locations and contexts.
- Creates supplemental income when rented out.
- Allows for independent living, family-care, and aging-in-place.
- Creates privacy for multi-generational housing.

Choosing the most appropriate configuration of an ADU should consider the following variables:

- Cost differences between a detached, attached, or junior ADU;
- The impact on the primary residence as an ADU will reduce the amount of open space on a lot or within the residence;
- The amount of parking that may be required or reduced; and
- Privacy, as attached and junior ADUs will result in shared walls that can transmit noise while detached will create shared open spaces and additional adjacencies to neighboring properties.

Accessory Dwelling Unit

What is an Accessory Dwelling Unit?

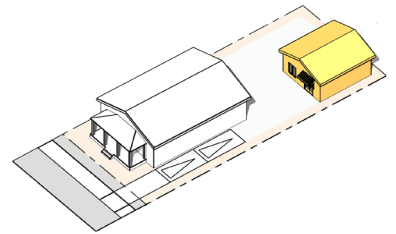
An accessory dwelling unit (ADU) is an attached or detached residential dwelling unit, often located in the rear of a lot or behind a primary dwelling. These units provides complete and independent living facilities; including permanent provisions for living, eating, cooking, sleeping, and sanitation. They are also referred to as "in-law units" or "granny flats."

Additionally, a "junior" accessory dwelling unit (or JADU) is sometimes used to refer to a unit that is less than 500 square feet and contained entirely within a single-unit house. A JADU typically includes an efficiency kitchen and space for sleeping. Sanitation space can also be included in a JADU, or it can share a bathroom with the primary residence.

Typical ADU Configurations Illustrated

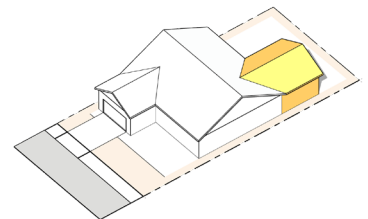
Detached ADU

An ADU that is physically detached from the primary structure on a lot. Achieved by erecting a new accessory structure or adapting an existing accessory structure to contain a residential unit.



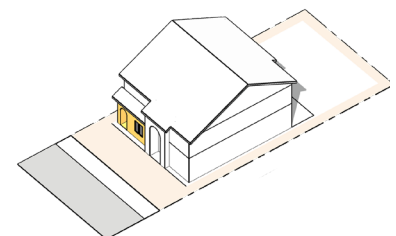
Attached ADU

An ADU that is physically attached to the primary structure on a lot, but can be entered separately. Created by converting a secondary wing into an ADU, or building a secondary wing with autonomous facilities.



Junior ADU

An ADU that is contained within a primary structure. When an existing residence has additional space, it can be converted into a JADU by adding key amenities for sleeping and cooking.



Other Housing Types

Innovation and Future-Proofing the Housing Stock

Apart from the Missing Middle types discussed in this section, there are also a variety of innovative housing configurations that provide additional flexibility and housing options.

These types include co-housing, co-living, and micro-units that can support a wide range of household types and lifestyle choices. The small size and shared common spaces provide inherent flexibility and cost savings. Further, buildings that incorporate these types can easily adapt to market conditions and evolve over time which only increases the resiliency of Charleston and North Charleston's housing stock.

Similarly, one housing option that meets changing demographics and housing needs is the multi-generational house. This type allows a homeowner to stay on their property over many different life phases if desired. The configuration of a multi-generational house may include an ADU.

These types are often applicable within MMH buildings but can be tricky to align with standard zoning districts. Cities can support these configurations by ensuring that regulations do not prohibit small unit sizes or shared common spaces, particularly kitchens, within a building.

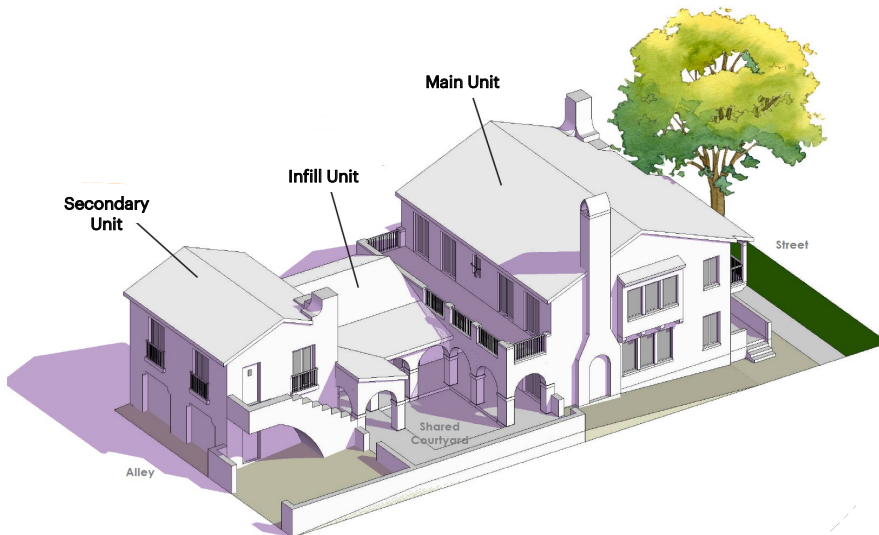


Figure 2.12 A multi-generation house where several attached housing units on a single lot that allow multiple generations to have both separate and shared living space.



Co-housing

One-to-two story residential buildings with common spaces designed for communal use.



Co-living

Three-to-four story buildings with units that share a kitchen and other communal living spaces.



Micro-Units

Very small studio units (under 400 sf) in an apartment configuration.

2.4 Upper Missing Middle Housing Types

Upper Missing Middle Housing

Upper Missing Middle Housing (upper MMH) is the category of multi-unit buildings taller and deeper than typical MMH that still fit on the size of lots you would find in a single-unit neighborhood. MMH types that often fall into the category of upper MMH are multiplex large, courtyard buildings, and live/work units.

Upper MMH can be used strategically in areas adjacent to existing or planned centers and transit hubs, higher-intensity residential and mixed-use neighborhoods. In Charleston and North Charleston, appropriate applications would be directly along the LCRT corridor as well as some properties immediately adjacent to the highest intensity stations, areas of downtown, or institutional uses. Upper MMH types can provide a transition from larger-scale buildings along corridors and mixed-use centers to smaller-scale buildings within neighborhoods. The diagram below illustrates the concept with upper MMH types along the short end of the block and smaller MMH types

integrated into the neighborhoods. While these types are larger than typical MMH types, they can be designed to be compatible with single-unit buildings. upper MMH types are likely to be more financially feasible especially in areas with higher land costs, and can provide more attainable units.

The following are best practices to consider when using upper MMH:

- Most effective where a greater degree of change is happening or desired;
- Use in transition areas of a neighborhood to connect to more intense nodes or transit centers;
- Allow more lot coverage and/or deeper building footprints than typical MMH;
- Require rear setback based on size of neighboring rear setbacks (up to 20 feet maximum); and
- Allow three to four stories in height.

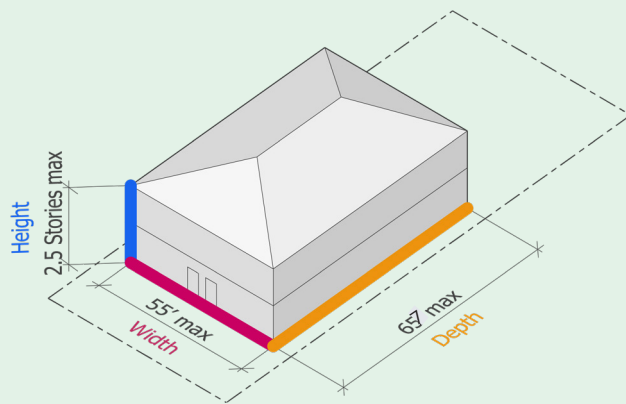


Comparing Missing Middle and Upper Missing Middle Housing

Upper Missing Middle Housing types have slightly larger footprints and additional height as compared to small to medium Missing Middle.

Missing Middle Housing (MMH)

Located within and along edges of low-to-moderate intensity, "house-scale" neighborhoods.

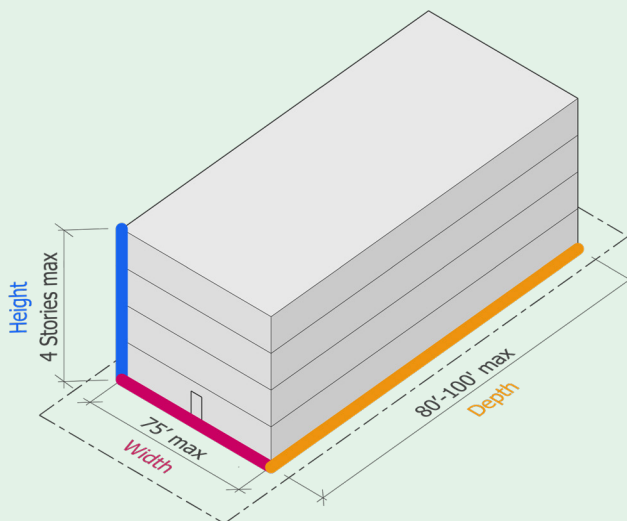


Duplex Side-by-Side

(Two units) Park Circle, North Charleston, SC

Upper Missing Middle Housing (Upper MMH)

Located along corridors and edges of neighborhoods where larger buildings are appropriate; or as effective transitions from higher-intensity built environments to lower-intensity neighborhoods.

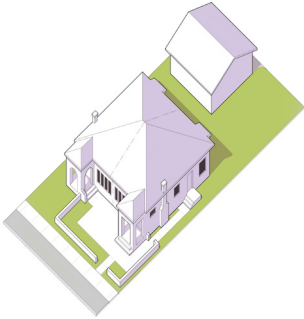


Townhouse Large (Upper MMH)

(7-18 units) Summey Street, North Charleston

2.5

"Almost" Missing Middle Housing



Note: Refer to Section 2.2 of this chapter for an explanation of the characteristics of Missing Middle Housing types.

Getting it Right

Missing Middle Housing is more than just multiple dwelling units fit into a house-scale building form. The location, frontage, and scale of MMH are essential design elements that foster a pedestrian-focused environment in addition to creating a variety of housing choice. When these elements are executed to a high degree, they contribute to a lively streetscape and sense of place that meets the housing needs of multiple communities.

Not Quite Right

It is not uncommon to see a building that, at first glance, appears to fall into the category of Missing Middle Housing. Upon further inspection, however, there is something that is "not quite right" about it. The following characteristics are common multi-unit housing design mistakes:

- Lack of easily identifiable entrances, street-facing windows, and/or frontages such as porches or stoops mean that they may not be contextually appropriate in Charleston and North Charleston neighborhoods where those types of building details constitute an important element of the physical character; and
- Lack of diversity of building types or design along a block creates clusters of the same, repetitive type. MMH works most effectively when a variety of housing types or facades are mixed along a block.

When the design elements laid out in Section 2.2 are excluded, the more qualitative benefits of MMH fall short. The examples on the following page provide much-needed housing and are generally house-scale, but they lack other important attributes of MMH. It is important that MMH types demonstrate good design so that they can be perceived as benefiting the architectural quality and livability of a neighborhood.

- Location of parking at the front of the lot and lack of pedestrian frontages mean that they do not support the type of walkable contexts where MMH is most effective;

Applying the Criteria to Multi-Unit Types



Characteristics

- Multi-unit building
- Three stories, large lot coverage
- No ground floor frontage articulation
- Street frontage dominated by parking that eliminates any shared open space

Criteria of MMH	
In a Walkable Context	✓
Multiple Units	✓
House-Form Building	✗
Pedestrian Building Frontage	✗
Parking behind Front Facade	✗



Characteristics

- Two unit building
- Two stories, 50 percent lot coverage
- Ground floor with no street-facing windows
- Frontage dominated by parking and front driveway does not contribute to public realm

Criteria of MMH	
In a Walkable Context	✗
Multiple Units	✓
House-Form Building	✓
Pedestrian Building Frontage	✗
Parking behind Front Facade	✗



Characteristics

- "Tall and skinny" detached units are out of scale adjacent buildings
- Three stories, high lot coverage
- Frontage dominated by parking with driveway that does not create pedestrian-friendly public realm

Criteria of MMH	
In a Walkable Context	✗
Multiple Units	✓
House-Form Building	✗
Pedestrian Building Frontage	✗
Parking behind Front Facade	✗

2.6

Local Missing Middle Housing Examples



Figure 2.13 MMH walking tour in North Charleston helped to build support and understanding of local MMH types.

Identifying local Missing Middle Housing types helps determine housing precedents that are appropriate for the local context.

Local Examples

Like most cities built before the 1940's, Charleston and North Charleston both include many examples of MMH types. These types are found primarily in older neighborhoods adjacent to downtown or smaller neighborhood centers. Before the widespread adoption of automobiles, housing needed to be located close to areas where jobs were concentrated, since long commutes were inconvenient or infeasible. These housing types played a critical role in providing housing for workers and offering opportunities to build generational wealth.

Why Did They Go Missing?

Changes to zoning codes, incentives from the federal government to build single-unit homes, and changes to the real-estate finance landscape made it either impossible or financially unattractive to build smaller, multi-family housing products. Municipalities rarely allow these types by-right and instead require developers to undergo lengthy or unpredictable processes to approve the construction of multi-unit types. However, recent shifts in consumer demand and new ways of thinking about zoning are encouraging cities to consider new opportunities to invest in MMH projects.

Q CLOSER LOOK

How to Identify MMH Building Types

Taking an inventory of existing MMH types is a key step in creating new standards. Many existing MMH types may be non-conforming with current zoning, or may have been converted into other uses, such as a single-unit home or offices. Mailboxes, electrical and gas meters, and window type/composition on the facade can indicate a Missing Middle type. Existing Missing Middle types can provide guidance for calibrating zoning standards. Measuring lot dimensions,

building footprints, frontage details, parking configurations, building height, location of units within the buildings, and location of building/unit entrances can help to define the unique characteristics of MMH types in Charleston and North Charleston. Photo documentation also helps to inform standards, as well as providing examples of intended building form and character that can inform both new development and infill projects.



Townhouses

1 unit per building - Cannonborough/Elliottborough, Charleston



Fourplex

4 units - Park Circle, North Charleston



Duplex

2 units - Park Circle, North Charleston



Duplexes

2 units - Cannonborough/Elliottborough, Charleston



Duplex

2 units - Park Circle, North Charleston



Fourplex

4 units - Wagener Terrace, Charleston

Charleston Single-House

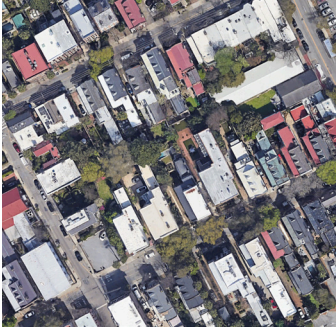


Figure 2.14 Typical pattern of single-houses in a typical Charleston block, oriented to southwest provide density with livability.

The Charleston Single-House is a local building type, that provides a range of single-unit and multi-unit house-scale housing, similar to the typical MMH types.

What is the Charleston Single-House (also called Sideyard)?

The Charleston Single-House is a traditional building type of the region that was derived from place-specific constraints. The compact form (narrow and tall) was developed to create a housing type that fit into the historic urban fabric of the peninsula. Its placement on a the lot maximizes airflow and mitigates intense sun exposure in the hot, humid Charleston climate. Typical characteristics include:

- A large side porch, commonly referred to as a piazza, and balconies on the South and West side.
- Narrow design with the longer side of the building perpendicular to the public realm.
- Many of these homes included a "kitchen house" used for utilitarian structures that were either demolished or later attached to the main home.



Figure 2.15 Example of a Charleston Single-House.

How can Single-Houses be used for Infill Housing Opportunities?

While most Charleston Single-Houses only include a single-unit, their footprint is large enough to fit additional units as has been demonstrated by many retrofit examples found throughout the city and demonstrated on the following page.

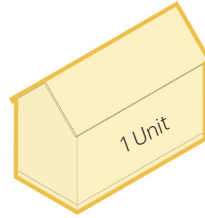
The building can be split up by stories to create multiple stacked units while maintaining the same footprint. Additionally, the kitchen houses may be used as ADUs.

The narrow design of the Charleston single-house is an adaptable building type that provides important lessons on how to fit multiple units on small infill lots of both Charleston and North Charleston.



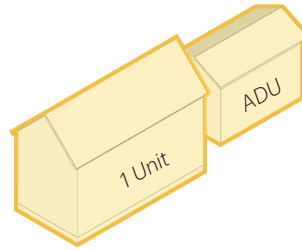
Figure 2.16 Example of a Charleston Single-House.

Infill Opportunity



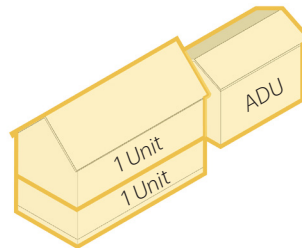
Single-Family

- 1 Unit Total
- 1 Parking Space



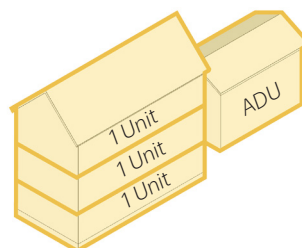
Single-Family + ADU

- 2 Units Total
- 1 Parking Space



Duplex + ADU

- 3 Units Total
- 2 Parking Spaces



Triplex + ADU

- 4 Units Total
- 3 Parking Space





Missing Middle Ready Areas

CHAPTER
3

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3.2 Middle Housing Applications in Walkable Contexts	56
3.3 Transforming Auto-Dependent Locations for MMH Applications	58

3.1

Understanding the LCRT Context through Placetypes

Recognizing the different physical characteristics and functions that exist along the LCRT is key to applying Missing Middle Housing in a manner that supports walkability and increased transit use.

LCRT TOD Placetypes

The Transit Oriented Development Strategy Report and Policy Toolkit categorizes the LCRT station areas into a set of "TOD Placetypes" including:

- Downtown Employment Center
- Downtown Neighborhood Center
- Employment Center
- Town Center
- Neighborhood Center

Each placetype is defined by a distinct set of characteristics and patterns. These placetype designations help categorize strategies and built environment goals that are specific to unique conditions along the corridor. The LCRT report identifies different development targets specific to each placetype including recommendations for building form, development intensity, job capture, and household capture.

Middle Housing Applications within Placetypes

Understanding the potential capacity and degree of change possible in these different placetypes is an important step in guiding the implementation strategies, zoning recommendations, and appropriate middle housing types that will be most effective for different locations.

This chapter in the report aims to provide guidance for the most appropriate applications of different scales of middle housing types that align with the direction for each placetype outlined in LCRT reports. These recommendations are outlined within this chapter and based on different development patterns in proximity to the station or "center" using the following assumptions:

- Within 1/4 mile of TOD center
 - Can support the most intense development within station area
 - 5-min walk to the station
- Within 1/2 mile of TOD center
 - Can support moderate intensity and likely includes mostly residential uses
 - 5-min bike ride or 10-min walk to the station
- Within 1 mile of TOD center
 - Can support lower intensity and is predominately residential uses
 - 10-min bike ride or requires vehicular (or secondary transit access) to station for first/last mile connection

As Charleston and North Charleston pursue amendments to zoning regulations, the mapping of any new or modified districts should prioritize the housing types outlined in the following tables.

Charleston and North Charleston's LCRT Stations and Placetypes

The map below identifies placetypes using a half mile radius, or 10-min walk, surrounding the LCRT stations that are located within Charleston and North Charleston.



Housing Types by Placetype

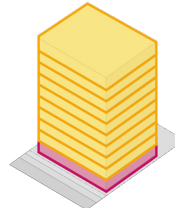


TOD Centers

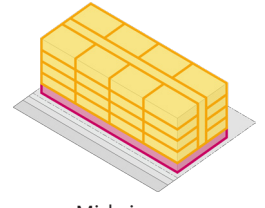
within 1/4 mile of station (walkable)

Downtown Employment Center

This placetype is made up of predominately high intensity buildings of 10 stories or above which collectively take up the majority of a block.



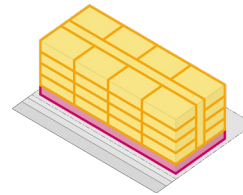
High-rise Building



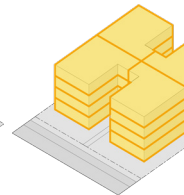
Mid-rise Building

Downtown Neighborhood Center

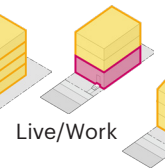
This placetype accommodates a mix of small-to-medium intensity buildings of 2-6 stories with the most intense buildings located along a corridor.



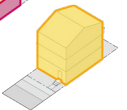
Mid-rise Building



Multiplex Large



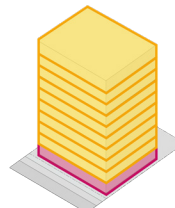
Live/Work



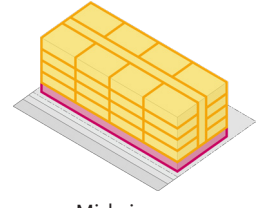
Townhouse Large

Employment Center

This placetype accommodates a mix of medium-to-high intensity buildings of 6-10 stories which collectively take up the majority of a block.



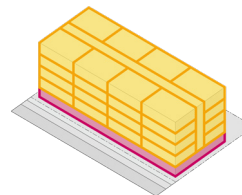
High-rise Building



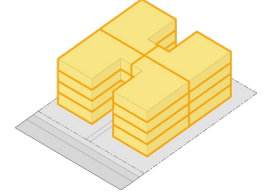
Mid-rise Building

Town Center

This placetype accommodates a mix of small-to-medium intensity buildings of 4-8 stories with a mix of uses in the center surrounded by primarily residential uses in close proximity.



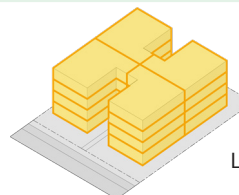
Mid-rise Building



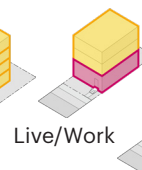
Multiplex Large

Neighborhood Center

This placetype is made up of predominately small house-scale buildings of 2-4 stories with a mix of uses in a small center surrounding by residential.



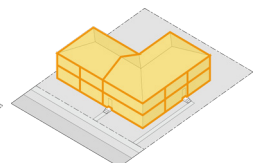
Multiplex Large



Live/Work



Townhouse Large



Multiplex Medium

Adjacent Neighborhoods

Within 1/2 mile of station (walkable for some, bikeable)

Near Neighborhoods

Within 1 mile of station (walkable & bikeable for some, likely need transit or car access)



3.2

Middle Housing Applications in Walkable Contexts

Applying MMH in conjunction with other housing types in established or new walkable contexts is key for successful transit.

Missing Middle Housing types are most successful when located in an existing or newly built walkable context, but what exactly does that mean?

A place is considered walkable when a person can walk or bike to fulfill some or all their daily needs. These environments allow for the use of automobiles, but they are not required for every outing. Those who are interested in buying or renting middle housing types are often looking to live in walkable environments and are willing to trade unit size for close access to amenities such as shopping, dining, recreation, and entertainment.

What characteristics of the built environment support a MMH-Ready neighborhood?

- **Smaller block sizes** that allow for better street network connectivity. More compact block patterns encourage walkability by providing more route choices and reducing the walking distance to get between destinations. In general, dead-end streets, cul-de-sacs, and looping streets diminish an area's walkability, while through-streets tend to increase walkability.

- **Access to bicycle routes** that provide an alternative to driving for longer-distance destinations. Safe, convenient, and well-connected bicycle facilities provide access to transportation options for destinations and neighborhoods that are too far away for walking.

- **Accessible to mixed-use areas**

that make it possible to satisfy most daily needs — living, working, playing, shopping, dining, worshiping, and socializing — without needing to leave the neighborhood. While commuting for work, school, and special trips may still require transit or a car, most other daily needs should be accessible within a ten-minute walk or ½ mile from housing.

- **Appropriate zoning** that allows for a variety of housing types in proximity to mixed-use or commercial centers and encourages compact development patterns to support walkability. See Chapter 5 for recommendations on zoning adjustments to support MMH.

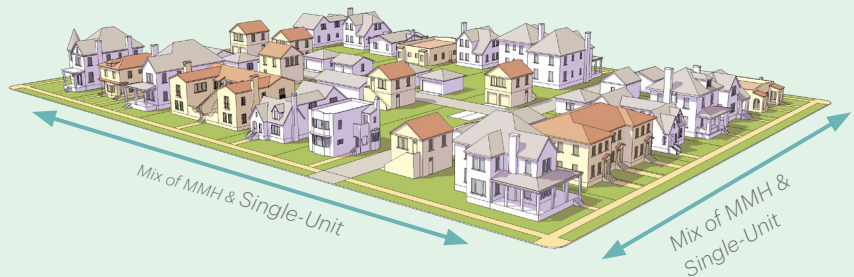
- **Small to medium lot sizes** that promote house-scale development and disincentivize large tracts of identical housing types, where repetition of building forms leads to a diminished public realm.

Middle Housing Applications within a neighborhood block: One size does not fit all!

Middle housing types can be grouped into small, medium, and large categories because they range in scale, even though all MMH types are house-scale. The table in Section 3.1 provided guidance on the scale of MMH types that are appropriate within different distances of the LCRT station centers. On a more fine grain level, MMH types should also be applied thoughtfully within each block. MMH types can serve as 1) transitions between higher intensity station areas that may include mixed-use or employment centers to lower intensity developments and/or 2) as a way to provide additional housing opportunities or "gentle density" as infill within a neighborhood block or at the end grain of a block.

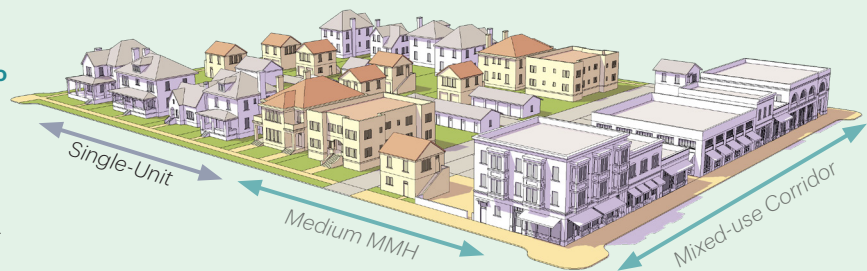
Small & Medium MMH: Distributed throughout the a single-unit neighborhood as infill.

Small and Medium Middle Housing types such as duplexes, cottage housing, triplexes/fourplexes and small courtyard buildings provide "gentle density" by infilling into a neighborhood of primarily detached houses. These small to medium housing types blend in well due to their house-scale size and form.



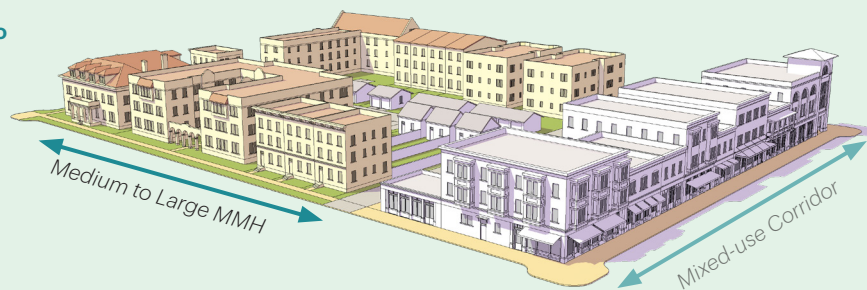
Small & Medium MMH: Provides transition from a mixed-use corridor to single-unit neighborhood.

Small and Medium Middle Housing types can create great transitions in scale and massing between busier mixed-use corridors and quieter primarily single-unit detached residential neighborhoods.



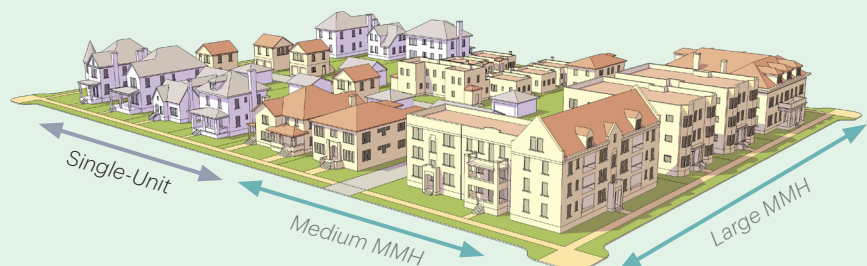
Medium to Large MMH: Provides transition from a mixed-use corridor to multi-unit neighborhood.

Medium and Large Middle Housing types can create transitions in use and massing between busier mixed-use corridors to primarily residential neighborhoods. Additional housing units provides more ridership opportunities for transit.



Medium to Large MMH: Provides additional housing units along the corridor to support transit use.

Medium and Large Middle Housing types can provide additional housing units along the corridor in areas where mix-use, commercial, and/or larger-scale apartment buildings (4+ stories) is not appropriate for the context or feasible. Additional housing units provides more ridership opportunities for transit.

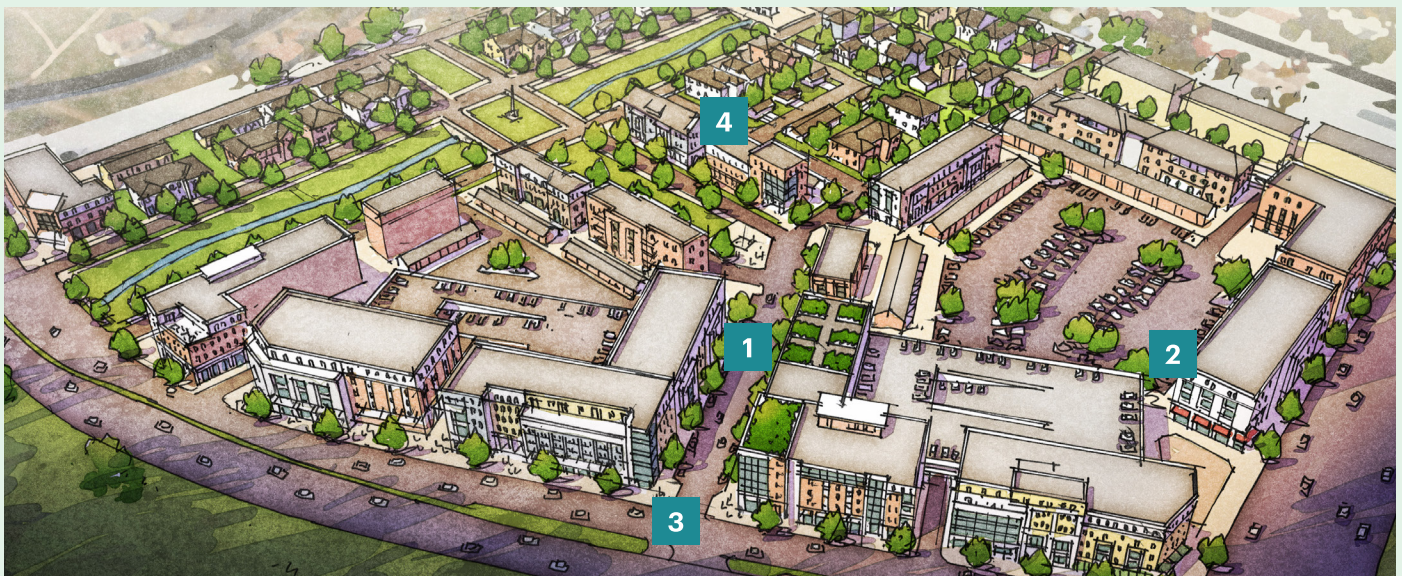


3.3 Transforming Auto-Dependent Locations for MMH Applications

How auto-dependent locations can become walkable neighborhoods that support a wider diversity of housing types and safe access to transit.

While many of the station areas along the LCRT corridor are walkable, many stations are in locations that are currently auto-dependent. It is not uncommon for a community to have a shortage of walkable context types and instead have a surplus

of automobile-oriented zones. Auto-oriented context are typically places where the car is prioritized, buildings are pushed back from the street in favor of parking lots, and "big box" stores drive commercial activity.



An example from Austin, TX shows the transformation of a declining 1-story shopping center with a large parking lot facing the main corridor. The transformation relied on the key elements to the walkable center (at right) to create a neighborhood-serving walkable center that still provides parking, but significantly improved the pedestrian experience, while also providing housing opportunities that helped transition to the nearby neighborhood.

Many of the LCRT stations currently follow a more auto-oriented pattern. In these locations it will be important to align the zoning with the realities of these environments to transition incrementally and/or transform into more walkable places. The approach to creating walkability to support TOD in such places could involve transforming existing commercial centers, like an old mall or shopping center, or by developing undeveloped land. New or redeveloped walkable centers have the potential to transition an area from an auto-oriented pattern of development to a more walkable environment that can transform nearby areas into MMH-Ready neighborhoods.

Key Elements to Walkable Center Transformations

Below and on the following pages are examples of transformations from auto-dependent centers to walkable

centers. While the scale of development in for different station areas in Charleston and North Charleston would likely be different, the following characteristics still apply:

- **Mixed-use** to satisfy the conditions of a vibrant active node that offers a variety of choices, from dining, entertainment, housing and amenities.
- **Pedestrian-oriented** and active public spaces to create a more welcoming and safe environment for residents, employees, customers, and visitors.
- **Multi-modal access** that allows people living nearby to access amenities and transit by biking, walking, and/or driving.
- **Transition areas** to ensure compatibility and comfort between mixed-use and employment centers with adjacent and existing residential neighborhoods.



1
Mixed-use center as the destination



2
Pedestrian-oriented physical character



3
Multi-modal access



4
House-scale transitions to adjacent neighborhoods

One-Size Doesn't Fit All

Transformations into walkable centers are not limited to one size. LCRT placetypes intended for less intense development, such as Town Centers or Neighborhood Centers, can be easily embedded into or developed adjacent to residential neighborhoods. Smaller changes such as providing a corner market can provide convenient services for nearby residents, and help meet multiple daily needs in a single trip made by foot, bike, or car. These neighborhood-scale walkable centers can serve as nodes of local activity that help

to re-enliven a neighborhood and spark small-scale infill opportunities with low-intensity Missing Middle Housing types.

LCRT Placetypes intended for more intense development, like Downtown Neighborhood Center, can support a greater level of development. More intense centers may also spark a greater transformation in adjacent neighborhoods, therefore transitions into small-scale neighborhoods need to be provided with medium intensity housing types, like Missing Middle Housing.

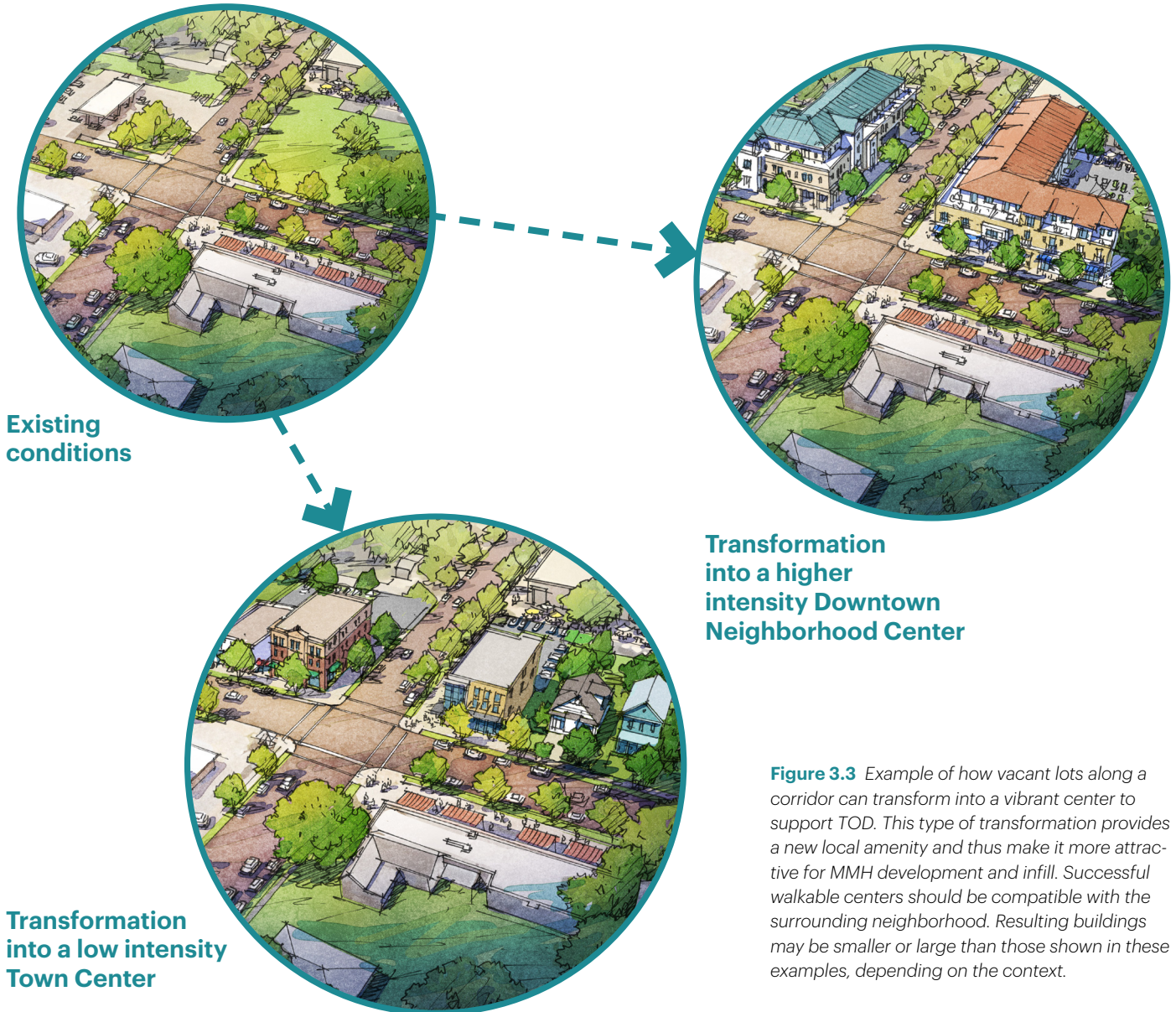
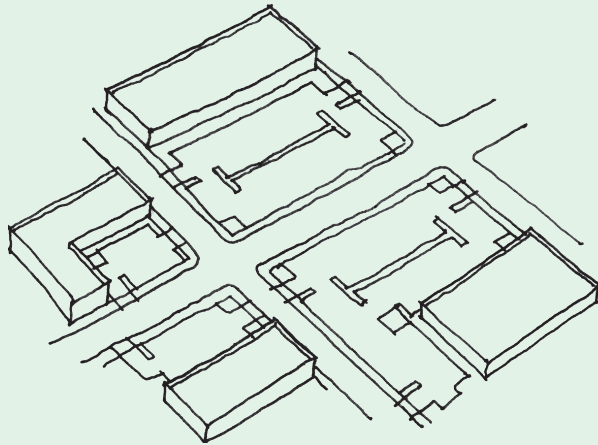


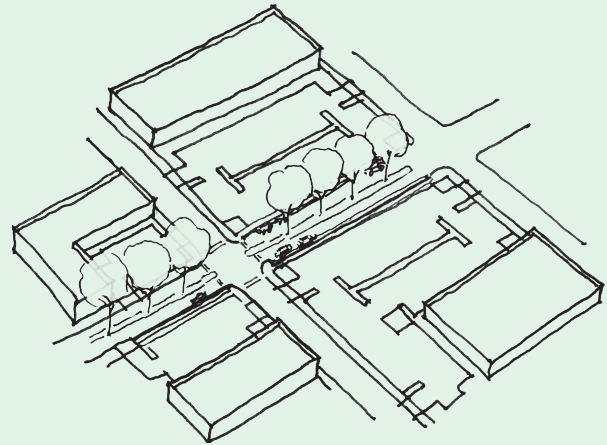
Figure 3.3 Example of how vacant lots along a corridor can transform into a vibrant center to support TOD. This type of transformation provides a new local amenity and thus make it more attractive for MMH development and infill. Successful walkable centers should be compatible with the surrounding neighborhood. Resulting buildings may be smaller or large than those shown in these examples, depending on the context.

Incremental Change

Small, incremental changes can be just as important in the long run as big, transformative change. The following incremental changes can lay the groundwork for a walkable center that can transform surrounding neighborhoods into more MMH-Ready Neighborhoods over time and create suitable environments for Missing Middle Housing.

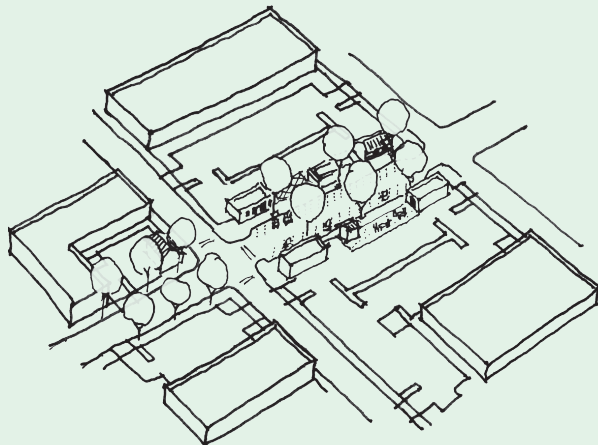


Existing Conditions



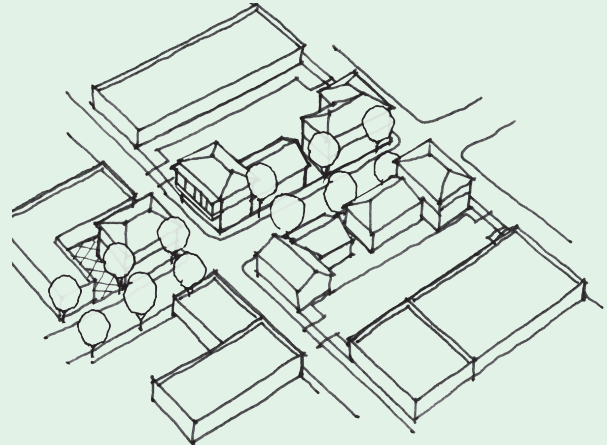
Step 1

Small changes could include landscaping, streetscape improvements (sidewalks, crosswalks, etc), and shared roads for bikes and cars. It is important to coordinate these investments with zoning and development efforts.



Step 2

Temporary spaces for businesses at the sidewalk edge can help form a center of activity. These small changes can be made where buildings and lots are privately owned and where major changes in near term are unlikely. It is important that local regulations allow these incremental placemaking solutions.



Step 3

Bigger changes may include infill, subdivision, and new development at the sidewalk edge or around public space in areas where there is a desire for development to establish a more urban character.





Displacement Risk Assessment

CHAPTER
4

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4.1

How the Displacement Risk Assessment Informs the MMH Study

This chapter summarizes a displacement vulnerability analysis conducted for neighborhoods near to the proposed Lowcountry Rapid Transit (LCRT) line in Charleston County. The analysis findings will inform the zoning, design and policy recommendations in Chapter 5.

The Missing Middle Housing (MMH) Scan is one of many efforts the The Charleston Trident Association of Realtors® (CTAR) is undertaking to help address the housing crisis in Charleston and North Charleston. This study’s final recommendations are intended to encourage development of more diverse and attainable housing types. While these regulatory changes are necessary to expand housing options and supply, they also have the potential to increase displacement pressure on the most vulnerable communities if they are not thoughtfully implemented. Findings from this Displacement Risk Assessment may complement the work that Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) has already undertaken to mitigate displacement risk around the planned transit line.

The purpose of the Displacement Risk Assessment is to help the cities of Charleston, North Charleston, and their residents understand where existing residents are most vulnerable

to displacement, where displacement is already occurring, and how to enable MMH in a way that maximizes its benefits while minimizing potential harm.

The Displacement Risk Assessment uses local data and academic research about the risk factors for displacement to map vulnerability as well as demographic and market change in census tracts across Charleston County. These factors are then used to create a “strategy typology” that will help the stakeholders understand where anti-displacement strategies may be needed.

Finally, the Displacement Risk Assessment presents a menu of anti-displacement strategies gathered from academic research and other jurisdictions. This menu also includes some guidance on where certain strategies may be appropriate and how they can be used to minimize potential harm and maximize the community benefits of policies that reduce barriers to housing production, or pro-housing policies.

Figure 4.1 Images of middle housing types currently providing attainability including an Affordable housing cottage court development in Charleston (right) and a naturally occurring affordable duplex in North Charleston (far right).



What We Found

The Displacement Risk Assessment includes data, maps, and a framework for how to implement pro-housing policies with an anti-displacement lens. Key findings from the analysis are include:

- Within Charleston County, **market pressure is particularly high and increasing** in the cities of Charleston and North Charleston. According to census data and stakeholder interviews, the area is becoming a more expensive place to live and housing is becoming increasingly hard to find.
- **Census tracts with risk factors for displacement vulnerability are concentrated along the LCRT line.** Areas in the east, west, and coastal south of Charleston County are comparatively low risk.

- **Census tracts experiencing change at a rate that outpace the county** as a whole are loosely clustered in and around the LCRT station areas, and mostly in the City of Charleston.
- Academic research¹ suggests that pro-housing policies (like allowing MMH) **could help bring down housing costs and stabilize rents city, or even, county-wide.**
- Research² also suggests that **broader geographic application of pro-housing policies** reduces hyper-local displacement pressure.

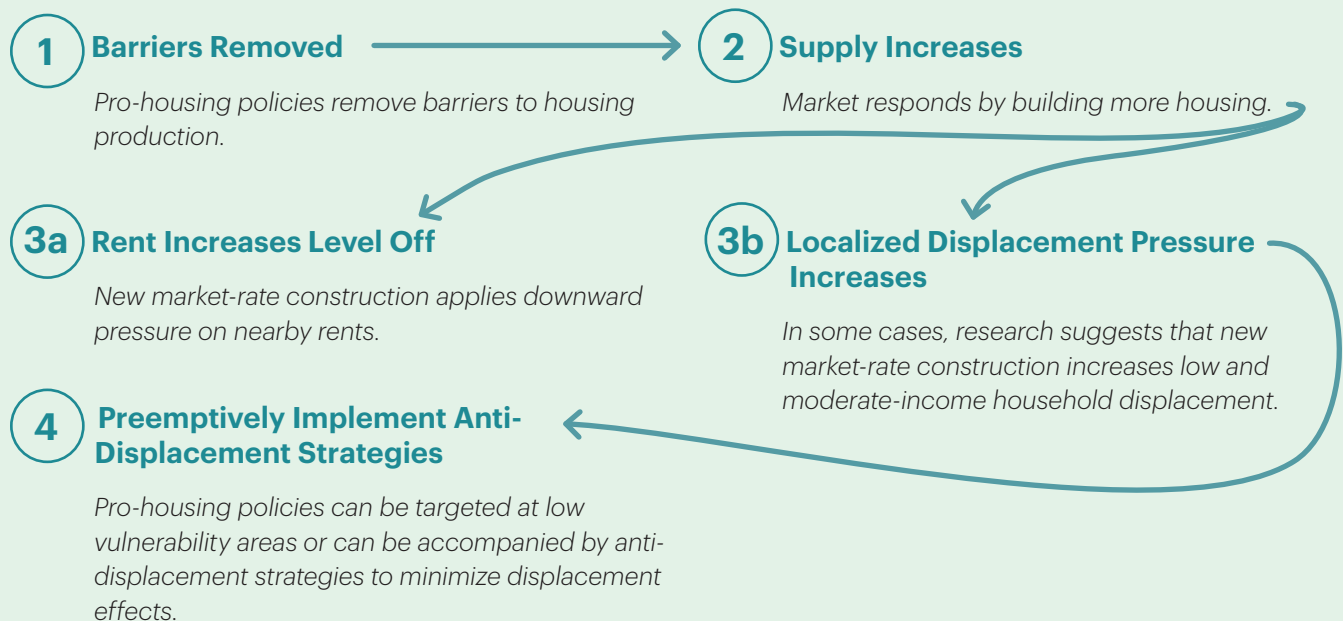
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¹Chapple, K., & Loukaitou-Sideris, A. (2021). *White Paper on Anti-Displacement Strategy Effectiveness*. <https://www.urbandisplacement.org/wp-content/uploads/2021/08/19RD018-Anti-Displacement-Strategy-Effectiveness.pdf>

²Chapple, K., Hwang, J., Sik Jeon, J., Zhang, I., Greenberg, J. & Shrimali, B. (2022). *Housing Market Interventions and Residential Mobility in the San Francisco Bay Area*. <https://www.urbandisplacement.org/maps/housing-by-block/>

🔍 CLOSER LOOK

How are Pro-Housing Policies and Displacement Related?



Strategy Typology

The Strategy Typology combines two components of displacement risk – vulnerability and change – to form a picture of how gentrification is impacting neighborhoods along the LCRT line in different ways.

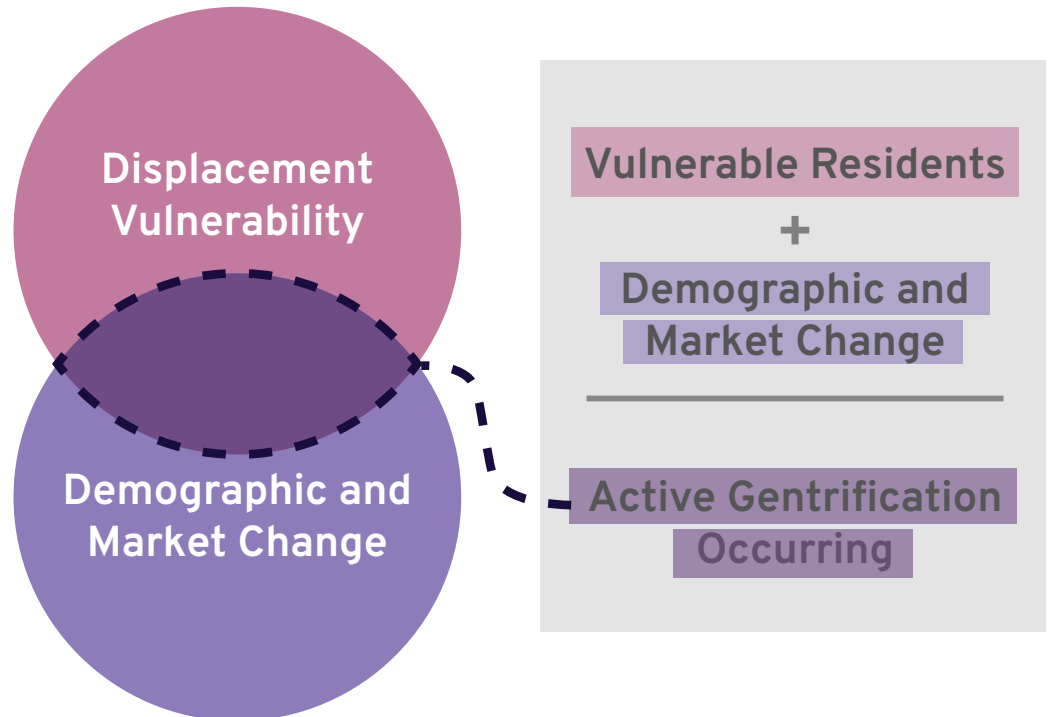
Displacement Vulnerability is a measure of the potential of a household to be displaced if housing prices and rents appreciate. It is not a measure of gentrification, but rather the potential for harm if gentrification were to occur.

The **Demographic and Market Change** analysis tracks risk variables over time to understand whether gentrification-related change is occurring.

Taken together, these two analyses can illuminate where gentrification has not yet occurred, but would be very likely to displace residents if it did (high vulnerability, low change), and where gentrification is already occurring (high vulnerability, high change).

Evaluating an area's stage of gentrification can guide proactive anti-displacement measures and policy changes that keep residents in their homes and allow them to benefit from positive changes in their neighborhood.

Figure 4.2 Displacement vulnerability combined with demographic and market change informs us on where active gentrification is occurring.



Key Terms and Definitions

American Community Survey (ACS): An ongoing survey that provides essential annual data on demographics, occupations, educational attainment, housing status, and other information on people living in the United States. The information collected helps determine how trillions of dollars in federal funding are allocated annually.

Census Tract: small areas within counties that typically have between 2,500 and 8,000 people, with boundaries that follow recognizable landmarks like roads or rivers. When created, these areas are meant to group together people with similar population traits, income levels, and living conditions.

Comprehensive Housing Affordability Strategy (CHAS): Dataset produced by the U.S. Department of Housing and Urban Development (HUD) in collaboration with the U.S. Census Bureau. It provides detailed information on the housing needs of different income groups at national, state, and local levels.

Demographic Change: Gentrification-related demographic change often describes the out-migration of long-term residents due to the in-migration of more affluent, more educated residents that increase demand for housing and ultimately raise housing costs.

Displacement: Gentrification-related displacement that occurs when residents can no longer afford to remain in their homes due to eviction or rising housing costs.

Gentrification: A process of neighborhood change that includes economic change in a historically disinvested neighborhood —by means of increased market pressure and new higher-income residents moving in—and typically threatens the displacement of existing residents.

Housing Market Appreciation: Refers to a housing market trend where property values have increased over time.

Housing Tenure: Refers to whether a household owns or rents the unit they live in.

Median Household Income: Median income estimate produced by HUD for Charleston-North Charleston metro area, adjusted to a 4-person family size, was \$101,300 in 2023.

Naturally Occurring Affordable Housing (NOAH): Residential properties that are considered "affordable" but are not supported by federal subsidies; their rents are naturally lower than the regional market average.

Pro-Housing Policy: A policy designed to accelerate, streamline, or encourage housing production.

4.2

Displacement Vulnerability

Displacement vulnerability is a measure of the potential of a household to be displaced if housing prices and rents appreciate. By measuring displacement risk, it is possible to identify areas where market pressure has not started displacing residents, but where residents are susceptible to gentrification.

The methodology was adapted from 2013 and 2018 studies by Dr. Lisa Bates for the City of Portland, Oregon’s Comprehensive Plan. Bates’ risk assessment is a sophisticated multi-part analysis assessing the susceptibility or risk of gentrification for different neighborhoods.

Displacement Vulnerability Index

The Displacement Vulnerability Index measures high concentrations of four demographic variables known to be risk factors for displacement because they signal a reduced ability to withstand housing price increases¹:

- **Educational Attainment:** Attainment of a bachelor’s degree is a major determinant of income and financial stability.
- **Household Income:** Lower income households are more susceptible to displacement from increases in housing prices/rents.
- **Housing Tenure:** Renters are at greater risk of displacement due to rent increases and the potential for the homes they rent to be bought and sold.
- **Race and Ethnicity:** Being part of a community of color implies a greater likelihood of experiencing bias that could limit economic stability.

For each variable, areas are identified as vulnerable if they have risk factor rates greater than Charleston County as a whole.

Sources:

¹Portland Bureau of Planning and Sustainability. (2013). *Gentrification and Displacement Study*. <https://www.portland.gov/bps/adap/documents/2013-gentrification-and-displacement-study/>

Displacement Vulnerability Index				
Factor	Description	Source	Year	County Threshold
Educational Attainment	% of population age 25+ with less than bachelor’s degree	ACS 5 Year Estimates Table S1501	2022	52%
Household Income	% of population with income less than 80% of median household income	CHAS	2016-2020	42%
Housing Tenure	% of households that rent their home	ACS 5 Year Estimates Table B25003	2022	37%
Race & Ethnicity	% of residents who are of a non-white race or ethnicity	ACS 5 Year Estimates Table DPO5	2022	35%

Displacement Vulnerability, 2022

The census tracts most at risk for gentrification and displacement—primarily due to existing market and demographic pressures—are concentrated in Charleston and North Charleston. This underscores the urgency of implementing proactive measures to protect residents before, during, and after the construction of the LCRT line.

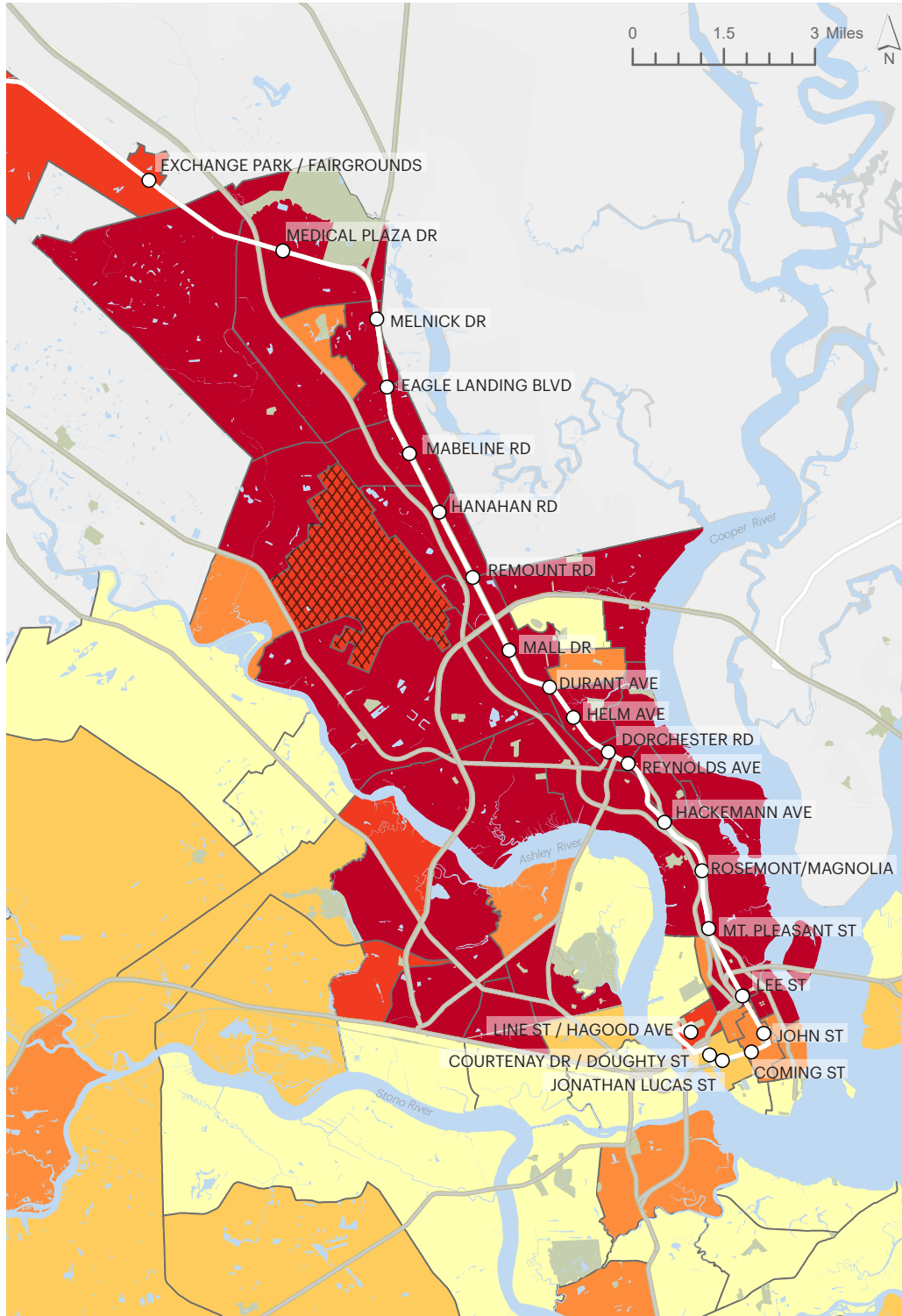
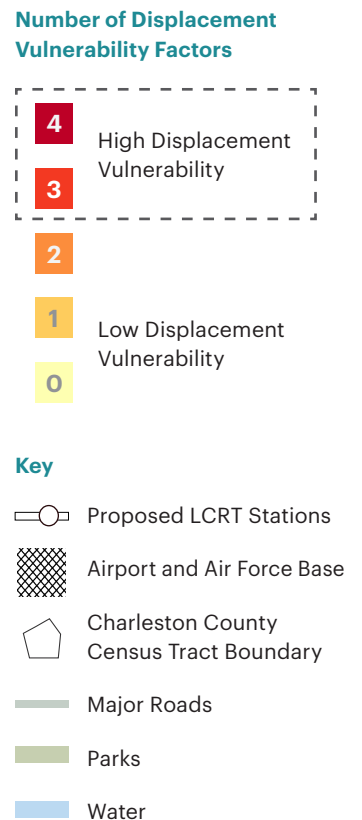


Figure 4.3 Displacement Vulnerability by Census Tract in Charleston County, 2022



4.3 Demographic + Market Change

The Displacement Vulnerability Index described in Section 4.2 identifies areas of Charleston County where a high proportion of residents experience three or four factors that make them susceptible to displacement. The Demographic and Market Change Composite Index uses many of the same variables but tracks them over a period of time to understand whether gentrification-related change is occurring.

The index combines two separate analyses of change: demographic change and housing cost change between 2012 and 2022. As we will see in the next section, areas with high rates of change and high

rates of vulnerable populations are likely experiencing some stage of gentrification.

Demographic Change Index measures change over time (2012-2022) in the four vulnerability indicators used in the Displacement Vulnerability Index. Areas with higher shifts than Charleston County as a whole are considered to be experiencing high rates of demographic change.

Housing Market Change Index measures change in home prices and rents over time (2012 - 2022). Areas with higher rates of change than the Charleston County as a whole are considered to be experiencing high rates of housing market change.

Demographic and Market Change Composite Index			
Factor	Description	Source	County Threshold
Demographic Change Index			
Educational Attainment	% of population age 25+ with less than bachelor's degree	ACS 5 Year Estimates Table S1501	10% Decline
Household Income	Change in median household income by census tract	ACS 5 Year Estimates Table B19013, inflation adjusted to 2022 dollars	28% Increase
Housing Tenure	% of households that rent their home	ACS 5 Year Estimates Table B25003	2% Decline
Race & Ethnicity	% of residents who are of a non-white race or ethnicity	ACS 5 Year Estimates Table DP05	3% Decline
Housing Market Change Index			
Typical Home Value	Change in typical home value by zip code	Zillow Home Value Index (ZHVI), inflation adjusted to 2022 dollars	87% Increase
Median Rent	Change in median rent by census tract	ACS 5 Year Estimates Table B25064, inflation adjusted to 2022 dollars	25% Increase

Demographic and Market Change, 2012 to 2022

Between 2012 and 2022, census tracts changing at a rate that outpace the county as a whole are loosely clustered in and around the LCRT station areas, and mostly in the City of Charleston.

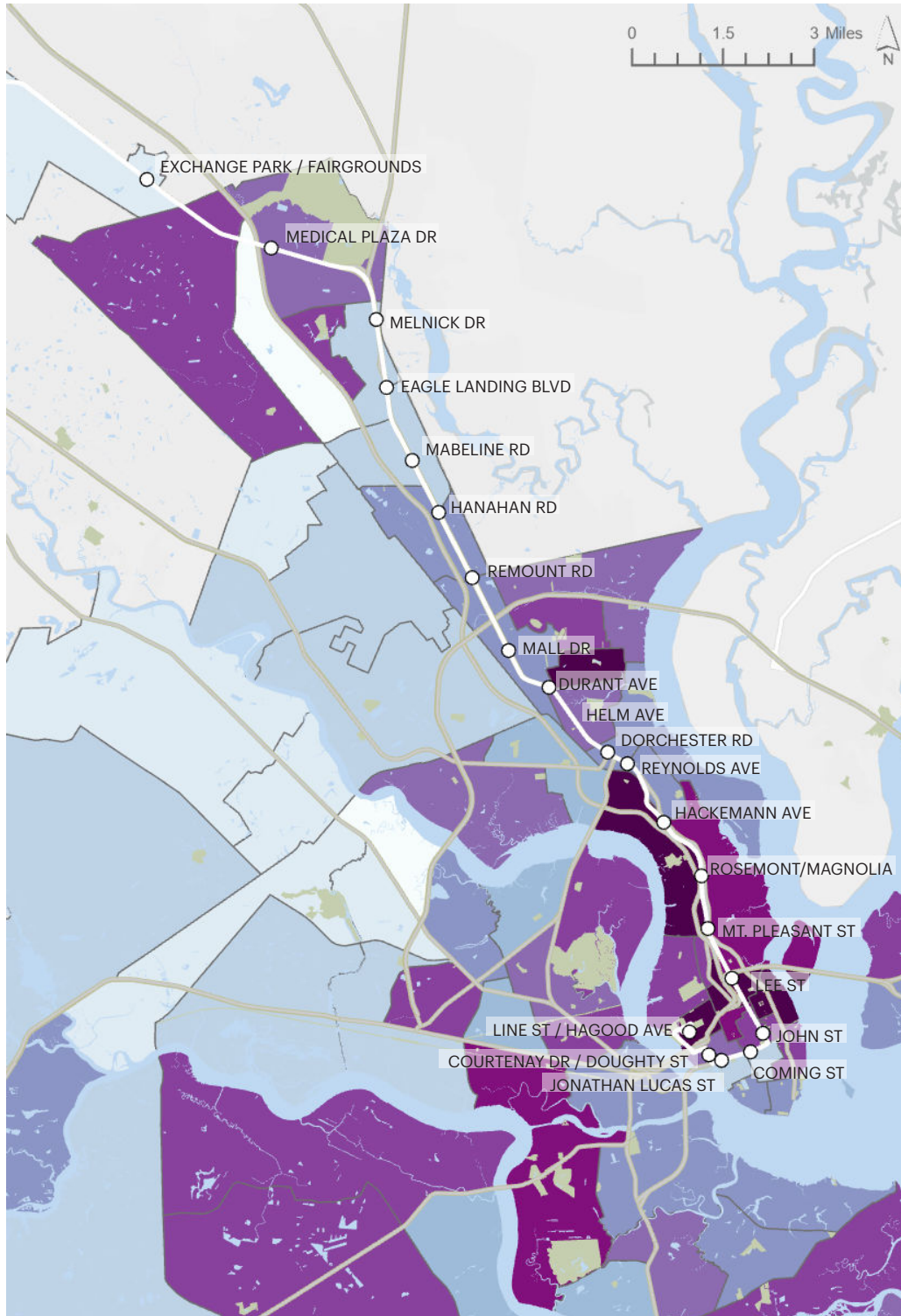
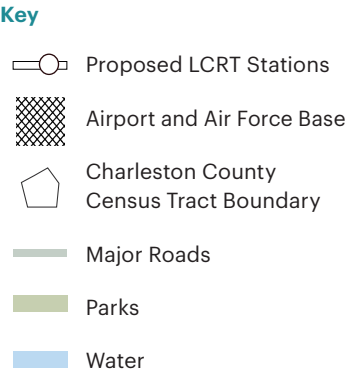
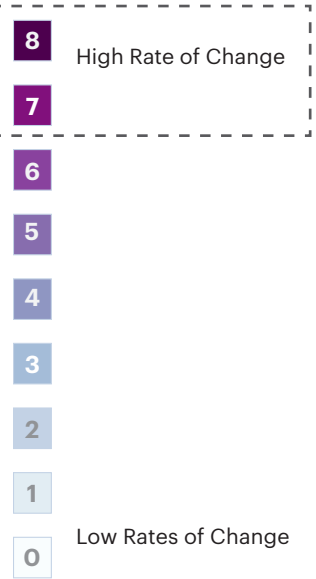


Figure 4.4 Demographic and Market Change from 2012 to 2022 by Census Tract in Charleston County

Number of Change Factors



4.4

Strategy Typology

The Displacement Risk Assessment Strategy Typology combines two components of displacement risk — vulnerability to displacement and change in demographics or markets — to form a picture of how gentrification is impacting Charleston and North Charleston neighborhoods in different ways.

This Strategy Typology is a proactive decision-making tool that will help Charleston and North Charleston understand how proposed policy changes to encourage Missing Middle Housing might impact existing and future residents. In addition, it is linked to guidance for anti-displacement strategies that can help maximize the benefits and minimize potential displacement impacts of encouraging Missing Middle Housing.

In areas of **high vulnerability and low change**, gentrification has not yet occurred, but would be very likely to

displace residents if it did. These are areas where proactive anti-displacement measures can maximize the benefits of Missing Middle Housing while minimizing harm.

Gentrification is already occurring in **high vulnerability, high change areas**. These are areas where major demographic changes have occurred. In these areas, policy changes should be paired with anti-displacement strategies that keep residents in their homes and allow them to benefit from positive changes in their neighborhood.

EARLY STAGE /
NOT GENTRIFIED

GENTRIFICATION
ACTIVELY OCCURING

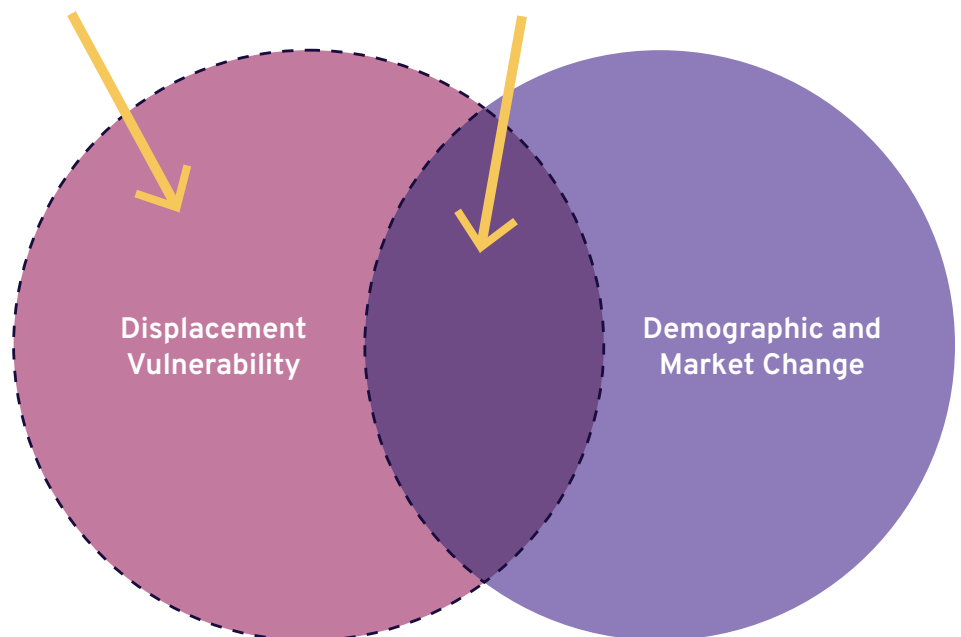


Figure 4.5 Strategy Typology in areas of high vulnerability and either low or high change.

Early Stage and Gentrifying Neighborhoods, 2022

This map shows census tracts along the planned LCRT route that are at risk of gentrification or are actively gentrifying.

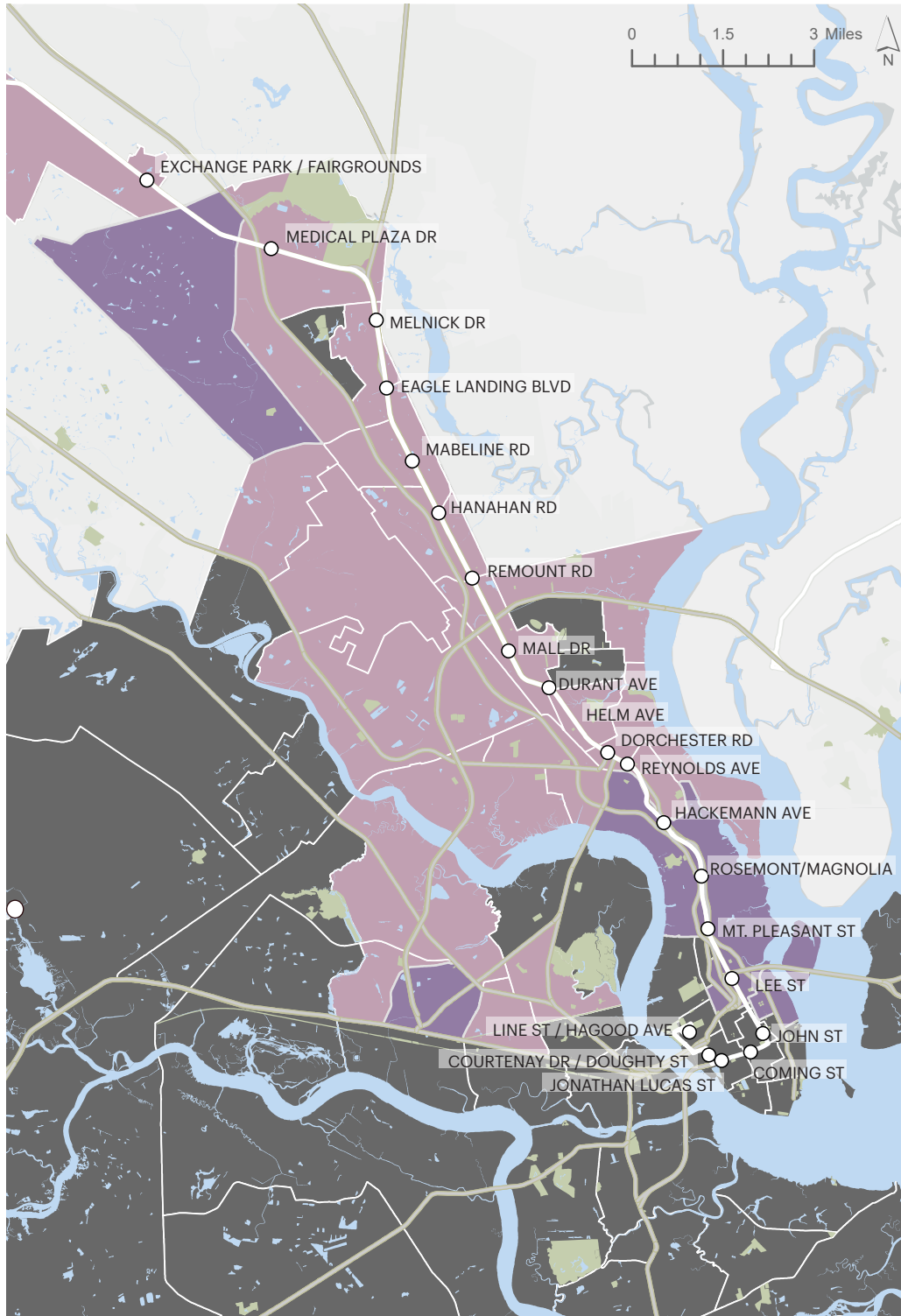


Figure 4.6 Early Stage and Gentrifying Neighborhoods, Charleston County, 2022

Early Stage / Not Gentrified

High Vulnerability + Low Change

Gentrification Actively Occurring

High Vulnerability + High Change

Low Displacement Risk

Low Vulnerability + Low Change

Key

- Proposed LCRT Stations
- ▣ Airport and Air Force Base
- ▭ Charleston County Census Tract Boundary
- Major Roads
- ▭ Parks
- ▭ Water

4.5 Anti-Displacement Strategies

Anti-displacement strategies are wide-ranging and can apply across a jurisdiction or to very specific areas or groups.

Some anti-displacement strategies focus on funding or building new affordable housing by requiring fees or reducing barriers to construction. Other strategies aim to preserve existing affordable housing by assisting low-income residents or disincentivizing replacement housing or other uses. Still others may combine both goals by reducing barriers to new construction while protecting existing affordable housing.

Strategies can vary in the way they are structured, requiring funding and some level of administration while others may be rule based. All can have varying levels of effectiveness at minimizing displacement of vulnerable populations. That effectiveness may depend on the context of their application – whether it is an area already experiencing change or not yet changing but at risk, for example.

Anti-displacement strategies largely fall under two approaches to housing: production and preservation.

- **Producing** more housing at a range of price points can help reduce overall housing costs. Production-focused strategies aim to streamline the development process, making it easier to build new homes. These strategies may involve reducing regulatory barriers to encourage diverse housing types, such as missing middle housing, or offering financial support and incentives for the development of deed-restricted affordable housing.
- **Preserving** the existing affordable housing stock can protect against the displacement of vulnerable residents. This can involve purchasing unprotected "naturally occurring" affordable housing (NOAH) and transferring it to public or non-profit ownership. Strengthening renter protections is another key strategy, along with exploring the use of land banking or community land trusts to secure long-term affordability and community control over housing resources.

Anti-Displacement Strategy Framework

Production and preservation-focused strategies are important to consider in both early stage and actively gentrifying neighborhoods. The framework below outlines how different strategies may be better suited for different conditions.

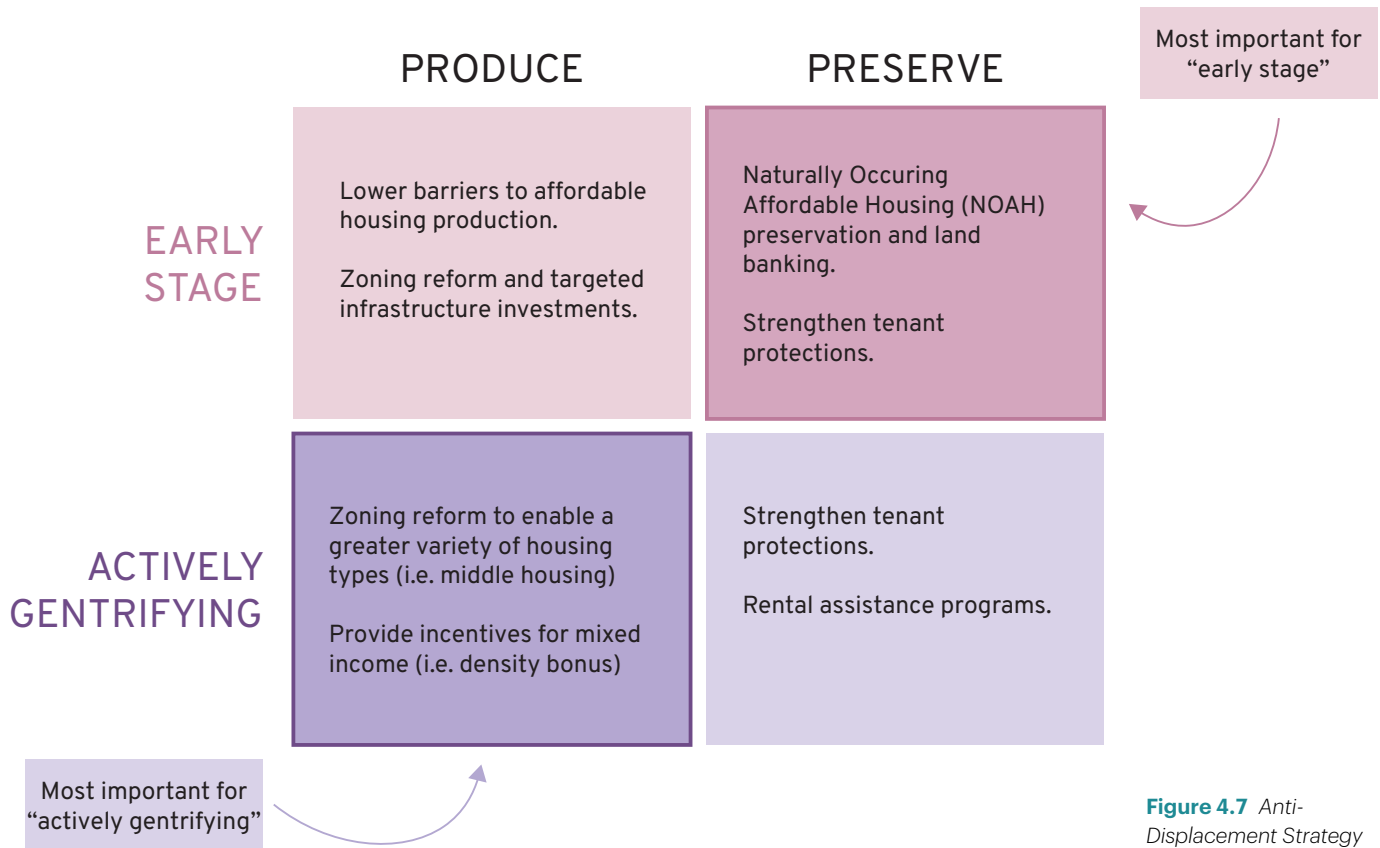


Figure 4.7 Anti-Displacement Strategy Framework

Preservation and Production Strategies Along the LCRT Line

The tables on the following pages of this report present potential housing production and preservation strategies for Charleston and North Charleston aimed at preventing displacement.

The two tables include seven strategies aimed to produce housing and expand housing supply, and seven additional strategies aimed to protect existing affordable housing and vulnerable residents. Each strategy is also tied to its effectiveness in early and later stages of gentrification.

These recommendations are intended to serve as a starting point for a broader

conversation about displacement in and around the LCRT corridor. Both cities will need to undertake further research and analysis to fully vet any of the strategies presented in this document and are encouraged to perform a broader review of production and preservation strategies that have worked in other jurisdictions.

To track changes and adjust policies as needed, strategies should be reassessed every five to eight years. This allows for the incorporation of updated five-year estimates from the American Community Survey remain sensitive to a typical eight-year real estate cycle.

Production Strategies

Strategy	Description	High Vulnerability, Low Change	High Vulnerability, High Change
Reform Zoning Code	Reforming the zoning code to allow for a wider variety of housing types in more places creates opportunity for housing development. With fewer development constraints and sufficient land capacity, developers are better incentivized to meet the demand for multi-family and middle housing.	X	X
ADU Affordable Loan Program	One of the principle barriers to providing additional housing through accessory dwelling units (ADUs) is financing. To assist qualifying homeowners, cities can provide discounted loans for the construction of these smaller independent units on a homeowner's property.	X	X
Broaden Definition of Housing Type in Zoning	Broaden the definition of "housing unit" to allow for more flexibility across use types. For example, single room occupancies (SROs) are not always allowed in certain residential zones. Including them in the definition of housing unit, or broadening the set of uses allowed across all residential districts, would allow for greater flexibility of housing type.		X
Community Benefits Agreement	Community Benefit Agreements (CBAs) happen between local stakeholders and developers, often brokered by government entities. They usually take place in strong real estate markets, in which developers are willing to grant concessions (such as affordable housing, job opportunities, etc.) to neighborhood groups in exchange for enjoying substantial financial returns upon project completion.	X	
Density Bonuses	Density bonuses provide a benefit to developers such as additional height, allowed units per acre, or reductions in required parking. In exchange, developers must provide a public good like affordable housing, senior housing, or other public good that the market does not typically provide without subsidy.	X	X
Fee Rebate Program	Fee rebate programs empower cities to refund all or a portion of development impact fees for projects providing affordable housing or another public good.	X	X
Streamlining Permit Approval	Lengthy permitting processes can add uncertainty, complexity, and cost to development projects. Jurisdictions can choose to accelerate or streamline permit approval processes for certain types of housing (such as missing middle housing) or for projects containing affordable housing.	X	X

Preservation Strategies

Strategy	Description	High Vulnerability, Low Change	High Vulnerability, High Change
"Just Cause" Evictions	Just Cause Eviction Programs forbid property owners from evicting tenants except under certain specified circumstances, such as nonpayment of rent, violation of lease terms, or permanent removal of a dwelling from the rental market.	X	X
Affordable Housing Preservation Inventory	Publicly-managed inventories of subsidized and naturally occurring affordable housing (NOAH) to support proactive policies intended to preserve the affordable housing stock. This strategy is intended to be paired with funding to assist in acquiring and preserving these affordable units (see Affordable Housing Strike Fund). Note that rising costs make this strategy less effective in High Vulnerability, High Change communities.	X	
Affordable Housing Strike Fund	Affordable housing strike funds provide flexible, below-market financing to fund the preservation of existing affordable multi-family housing by utilizing a combination of public, private, and philanthropic dollars.	X	X
Foreclosure Assistance	Foreclosure Assistance Programs assist homeowners by offering them financial and non-financial (counseling) support to avoid displacement. Such programs can be initiated at the local (municipal) and state levels.	X	X
Home Repair Assistance Fund	Home repair can address displacement by improving habitability in low-income neighborhoods and by reducing needs for expensive repairs that may displace owners in gentrifying neighborhoods. Assistance programs can include low-interest loans that are not subject to the restrictions of federal subsidy programs and can address local priorities and needs.	X	X
Manufactured Housing Community Preservation Zone	Create a manufactured housing park zone and re-zone existing manufactured housing communities to the preservation zone that only allows manufactured housing communities. Purpose is to prohibit the redevelopment of manufactured housing communities into other uses or luxury housing.	X	X
Property Tax Relief for Income-Qualified Homeowners	Property tax relief programs cap the amount of property tax that homeowners have to pay as a share of their income. Some jurisdictions also provide relief to lower-income renters by treating some portion of their rent as attributable to property taxes and then providing an income tax credit to offset the increase in taxes.		X

Appendix

Literature Review

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Analysis of Barriers

CHAPTER
5

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5.1

Overview of Barriers Assessment

Identifying and understanding zoning, policy, and entitlements barriers is the first step to enabling MMH types.

What does the barriers analysis tell us about next steps?

This chapter provides a deeper analysis of the existing policy and zoning along the LCRT corridor. It is important to note that MMH is one tool in the wider toolkit of housing solutions that is needed to provide necessary housing units along the LCRT corridor. The following is an overview of this chapter.

- Section 5.2 (What We've Heard) provides a summary of stakeholder meetings conducted throughout this process. This section provides insight into "on-the-ground" experience and perception of barriers to diversifying housing. To note, as in all public processes, this is a snapshot in time and may not reflect the opinions of all stakeholders.
- Section 5.3 (Policy Analysis) dives into the LCRT policy and strategy reports from the inception of the project through the time of this writing. The analysis identifies how the LCRT policy can be modified and/or more robust in supporting MMH-specific applications.
- Sections 5.4 and 5.5 (Zoning & Regulatory Barriers) provide an in-depth analysis of the residential zoning districts identified as potentially applicable to MMH development. The analysis identifies specific zoning standards that create barriers to MMH development based on the best practices outlined in Chapter 2.

Preliminary Recommendations

Preliminary recommendations are provided throughout this chapter. These recommendations are based in best practices and broad experience implementing these strategies across the country. These solutions have not been tested specifically for the physical and market conditions of Charleston and North Charleston. Further analysis is recommended, as referenced in 5.7 (Next Steps), in order to confirm and specify recommendations that are best suited to each community.

Additionally, as future regulatory amendments or housing strategies develop fully, the displacement mitigation strategies of Chapter 4 should be taken into consideration with any policy and zoning changes in order to avoid adverse effects on the community that these changes are meant to benefit.

5.2

What We've Heard

Conversations with various stakeholder groups give insights into the barriers and opportunities related to housing and development.

“ There is no code to support MMH. A lot is being rezoned as single-family which takes away the ability to build MMH.”

Development & Design Community including developers of small-scale and large-scale developments, architects, landscape architects, and city planners

“ Processes are being updated to better support the development of MMH.”

Planning & Zoning Staff including those involved with approval processes

The following summarizes what was heard in stakeholder interviews with various interest groups involved with housing development and/or community members with a vested interest in creating an inclusive, livable Charleston and North Charleston. The consultant team also met with City staff from departments that are involved throughout the entitlement process.

Planning and Zoning Staff

Charleston

- **Planning.** Zoning code is currently being rewritten to consolidate zones and calibrate standards for middle housing.
- **Entitlements.** The entitlements process involves a Technical Review Community as well as a design review board. Staff is working on developing a clear user guide for affordable housing development to help shorten the process.
- **Stormwater.** Stormwater reviews are complex and rigorous in Charleston due to the increasing threat of flooding in the peninsula. Having a local consultant prepare stormwater applications can be helpful and using the many resources available online. However, this process can be lengthy due to high number of development projects, staff capacity, and complexity of the review.
- **Fire.** Charleston Fire has multiple guides on their website to provide developers clarity on regulations and what is required in site plan review. The most common reason for a delayed approval is due to an incomplete plan submission. MMH types often require sprinklers, but

the cost for single- and two-unit housing is moderate and can offset insurance costs. Additionally, South Carolina law is unique in that cities cannot required additional fees related to sprinklers.

- **Architecture.** Charleston has many historic districts and design review loops to preserve the unique character, especially near LCRT. Some of these requirements and reviews can add cost to smaller multi-family projects.
- **Affordable Housing.** There is an expedited entitlements process for affordable housing. Typically, the affordable projects seen by staff are higher intensity than middle housing, but there have been some successful middle housing infill projects in the city.

North Charleston

- **Planning.** Most development proposed in N. Charleston are for single-unit developments or large-scale apartment buildings. Staff identified a need for standards that enable more housing options such as ADUs, duplexes, and fourplexes.
- **Entitlements.** The process does not involve any Technical Review Committee, making reviews simpler and faster. N. Charleston is generally known as development-friendly environment with little guardrails on the review process and their continual updates for the application process. For example, the City is currently in the process of launching a new permit program to streamline the entitlements process

■ **Stormwater.** Some issues were noted on the requirements for detention/drainage on smaller sites. There is currently effort for creating more stormwater tools for developers such as design manuals, checklists and 1-on-1 meetings.

Local Developers (for-profit)

- **Opportunities.** Developers are seeing an increased desire to build entry-level homes and smaller units.
- **Barriers/Concerns.** Long technical processes and review are a major barrier towards development, especially related to stormwater. Any development more intense than a single-family building is seen as a higher-risk project because of the rigorous entitlement process. A lot of land is limited and zoned with single-family districts with no standards to support MMH. There are fire access regulations that impact the design of MMH which should be considered early in the entitlement process.

Local Housing Providers and Developers (non-profit)

- **Opportunities.** Local communities desire options to increase housing affordability.
- **Barriers/Concerns.** African American communities are experiencing gentrification. There is a lot of misconception in the community about more intense housing, partially due to the abundance of single-family homes.

Missing Middle Walking Tour

Opticos conducted a walking tour in the Park Circle neighborhood of North Charleston with over 18 participants, including city and county staff, council members, developers, and local residents. The goal of the tour was to observe the massing, building forms, parking locations, and site designs of existing MMH types found in North Charleston. Participants provided input on building features, the

scale of the buildings compared to the context, the difficulty of parking multiple units, and on architectural style. Many participants noted that they did not notice the existing middle housing, even though they were familiar with the neighborhood, because these types fit in well with the single-family context. There was also a general consensus on the growing demand for housing in this neighborhood because of its walkability and proximity to amenities as well as an increasing need for housing at different price points.

Feedback Group on Displacement Risk Assessment

A group of 11 stakeholders, including housing providers, council members, and community leaders, participated in a preliminary review of the displacement risk assessment in Chapter 4. This conversation aimed at "gut-checking" the data, methodology, and maps of displacement vulnerability to ensure that the results were in line with local experience and understanding. Overall, the group felt the maps accurately expressed what was happening on the ground, particular a shift in development pressure towards more vulnerable areas of North Charleston from Charleston.

Notably, in African American communities it was discussed that an increase in rezoning applications is seen as a red flag for gentrification. It was noted that vulnerable areas tended to have higher percentage of renters, making it easier for outside developers to buy up housing.

Finally, there was an overarching concern for the loss of historical character, especially in areas of rapid change. The group agreed protections and education are necessary to balance these concerns with the need for housing and zoning changes that enable more housing.

“ You don't even notice that there are MMH types within the single-family scale of the neighborhood.”

Community leaders including housing non-profits, staff and council members, and affordable housing developers



Figure 5.1 Walking tour map guided participants through the Park Circle neighborhood to discuss existing MMH examples.

5.3

Policy Analysis: LCRT Strategies and Policies

The following summary identifies which MMH types are encouraged or enabled by Lowcountry Rapid Transit Plan strategy and policy reports.



Figure 5.2 LCRT Transit Oriented Development (TOD) Strategy Report and Toolkit, 2022

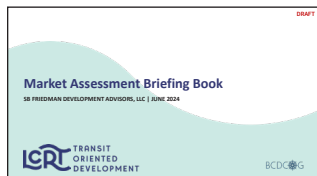


Figure 5.3 LCRT Market Assessment Briefing Book, 2024

Sources:

¹ LCRT Market Assessment Briefing Book, 2024

The Lowcountry Rapid Transit is a planned bus rapid transit project that will connect communities with the Charleston region/ The Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) is leading the policy planning which has involved a significant amount of community input, market research, guidance for new housing opportunities at a variety of price points, and consideration for displacement mitigation.

Overall, the policy and strategy approach to the LCRT project is highly favorable to MMH, as it gives clear direction as to where specific new housing types are meant to be enabled. Regulatory updates and rezoning decisions to support MMH can be effectively calibrated on this basis.

TOD Strategy & Policy Report

- The TOD report identifies placetypes for each station along the corridor based on existing context and character around the stations. These placetypes promote housing diversity as a measure to address affordability challenges, providing a critical framework to identify which MMH types and scales of development should be encouraged.

- The report aptly encourages increasing density closer to the LCRT stations and transitioning to lower density residential farther away from the stations. Middle housing applications work well within this policy framework, providing a transition between large-scale podium development (4-10+ stories) and single unit neighborhoods. See Chapter 3 for

specific recommendations about how to place different scales of middle housing within the different scales of placetypes.

Market Assessment

- Through 2045, the population in Berkeley, Charleston, and Dorchester Counties is expected to increase by 133,000 new households. The report identifies a need for more multi-family housing to meet this demand as well as shifting housing preferences, particularly noting that the demographic with the highest preference for multi-family housing typologies are households under 35 years of age and over 75 years of age, with households of over 75 having the highest population growths.¹ Density ranges and the type of multi-family product were not identified in the market assessment. It may be helpful to more explicitly call out the application of MMH along and adjacent to the corridor as one of the multi-family types to meet the housing needs in addition to more traditional large-scale multi-family.

Anti-Displacement Toolkit

- The Affordable Housing Assessment and Anti-Displacement Toolkit identifies the need for additional housing choices in the region. While the toolkit provides recommendations that support affordable housing units, it doesn't explicitly identify MMH as an option which could be problematic or limiting to implementation. Recommended strategies in Chapter 4 of this report should be considered to support specifically MMH development.

5.4 Zoning & Regulatory Barriers: Charleston

The following analysis focuses on the City of Charleston Zoning Ordinance code diagnosis to identify potential barriers and solutions to enable MMH in the forthcoming Zoning Ordinance update.

The following analysis focuses on the three mixed residential districts proposed in the 2024 Charleston Code Assessment. The first subsection focuses on the district standards, analyzing permitted uses, lot size, and density. Other zoning regulations pertaining to MMH are analyzed in the next subsections. This analysis assumes that “multi-family dwelling” could refer to MMH types (e.g. cottage courts, fourplexes, multiplexes, etc.).

Preliminary Recommendations: Reduce minimum lot size for duplexes to 4,000 square feet or eliminate to match the proposed standards in RM-L for triplex/fourplex. Adjust density to match desired MMH or consider regulating by lot width instead of density. When developing cottage court standards, see Chapter 2 for best practices for building form dimensions and open space standards.

New or Consolidated Districts

RM-L: Residential Mixed Low

The intent of the RM-L district is to support a “variety of housing types at a modest density of nine-units per acre.” As proposed, RM-L is intended to permit single-family and multi-family by-right, including duplexes, triplex/fourplexes, cottage courts, and small courtyards. The primary barrier in this zone is the density threshold that would limit most MMH building types. See Section 5.6 for alternative zoning standards to density.

This zone is a good starting point for small to medium MMH types. However, a few key metrics may need to be adjusted. The minimum lot area for duplexes is 9,000 square feet in RM-L. This lot area creates a barrier for duplexes to be built on Charleston’s typical historic lot sizes, especially for sites predominately surrounded by single-family development. The proposed lot size standards for townhouses are consistent with best practices for the townhouse type.

RM-M: Residential Mixed Medium

The intent of the RM-M district is to support a mix of housing types and considers allowing moderate-intensity retail uses. RM-M would not permit detached single-family and permits most multi-family by-right, including townhouses, triplex/fourplexes, cottage courts, small courtyards, and multiplexes. The primary barrier in this zone is the density threshold, proposed at either 12 or 16 units per acre. This maximum prevents most medium to large MMH types and limits housing types that can achieve the density necessary to support transit. See Section 5.6 on further discussion on allowed density. The RM-M zone proposes carrying over the dimensional standards from the existing DR-12, which may require calibration using standard size lots.

Preliminary Recommendations: Adjust density to match desired MMH or consider regulating by lot width instead of density. Test lot area standards on actual lots to confirm that size thresholds and setbacks



Figure 5.4 Duplex Stacked building type can create densities of 8-29 du/ac. For more explanation on density regulations, see Section 5.6.

accommodate the desired MMH building types using actual site conditions.

RM-H: Residential Mixed High

The intent of the RM-H district is to support “high density residential mixed-use.” RM-H permits multi-family by-right, including townhouses, duplexes, fourplexes, and multiplexes. While most MMH types are allowed, the district would not allow cottage courts and courtyard buildings. This zone supports moderate intensity retail and will include “standards that provide for increased walkability, along with basic form and design standards.” These are promising components that will need to be tested on both small and large size lots to ensure they are producing the desired outcomes.

The primary barrier in this zone is the density threshold, proposed at 25 units per acre. This maximum would prevent some medium and most large MMH types that may be necessary to transition from and to support TOD development. See Section 5.6 on further discussion on allowed density.

The minimum lot area for fourplexes and multiplexes is 1,650 square feet. This requirement may create a barrier for these types because it regulates by number of units rather than building footprint and

could require lot sizes that are larger than typical parcels in Charleston.

Preliminary Recommendations: Adjust density to match desired MMH or consider regulating by lot width instead of density. Test lot area standards on actual lots to confirm the size thresholds and setbacks accommodate the desired MMH building types and actual site conditions.

Neighborhood Compatibility Standards

■ The intent of these proposed standards is to “limit new development from dramatically contrasting with the character of the surrounding neighborhood.” For example, these standards try to mitigate the impact of a larger building on the adjacent single-family neighborhoods through building facade standards, adjusted building height and articulation, site design standards, parking mitigation, and additional standards for loading, refuse, signs, and open space. In general, the proposed standards encourage MMH, especially as a tool to help transition from more intense development into single-family neighborhoods.



Figure 5.5 Architectural compatibility and style standards can encourage building design that is consistent with the existing architectural character. Standards should be measurable and objective, instead of guidelines that require an extra level of review. Reducing subjectivity in the standards and approval process reduces the development timeline and risk to the developer, which means lower development costs.



Figure 5.6 Communities such as Buffalo, New York have taken the initiative to reduce costs on new development by removing minimum parking requirements, resulting in about 21% less parking spaces that would have been previously mandated and freeing up valuable land for more development.

Source: Strongtowns.org

- These standards would apply to non-residential, mixed-use, and intense multi-family development above a certain density. It is unclear if these standards would apply to most or any MMH building types. The primary barrier for these types of standards is that they can add cost or take up space on a smaller lot that may impact the viability of smaller multi-family projects.

- The 100' or 150' dimension from single-family may be limiting in urban areas or on shallow lots along a corridor. Often large upper floor building stepbacks create a loss of units, sometimes rendering a housing project infeasible.

Preliminary Recommendations: *The standards should be considered as base requirements applying to all pedestrian-oriented environments where it is desirable to provide usable open space or locate parking behind the building or screened. Additionally, regulations that mitigate the impact of drive-throughs, loading, or refuse should be considered broadly, not just for single- or low-intensity adjacencies.*

Additionally, adjacency standards should be tested and calibrated using a variety of lot scenarios. Consider allowing more flexibility by allowing options in how to achieve the intent of the standard, such as with stepbacks of the upper floor building facade or a setback of the entire building from rear/side property. Weighing the tradeoffs of preserving character and allowing necessary housing units near station areas, should be considered when developing the standards.

Parking

- Recent efforts and recommendations to further amend parking requirements are helpful in making MMH more viable. The existing parking requirements of Article 3 are relatively high and reflective of a more auto-dependent context. Currently, single-family and duplexes require a minimum of 2 spaces per unit which will limit opportunities for 2 units on a typical infill lot that cannot fit 4 parking spaces. Multi-family buildings with 3 or more units require a minimum of 1.5 spaces per unit. This ratio will also be limiting for both small and large MMH that could otherwise fit on a standard lot.

- Parking location should be screened from adjacent residential per the Neighborhood Compatibility requirements but it is important to ensure that the required orientation of parking areas away from single-unit neighborhoods should not be at the expense of locating large parking lots directly against the corridor as this could impact walkability and access to transit stations.

- The City has taken steps to remove parking minimums within the peninsula with the Special Parking District Overlay applied to King Street.

- Affordable housing development also has lower parking minimums than market-rate. All development can apply for parking reductions through a shared parking plan approved on a case by case basis by the Technical Review Committee.

Preliminary Recommendations: *Per the recommendations in the code assessment, a reduction of parking minimums or setting maximums may be beneficial. The development of the LCRT provides an opportunity to rethink the parking*

minimums to set up a more compact and walkable development pattern.

Decreasing parking ratios for smaller-sized units and MMH can help support attainability and feasibility. As outlined in Section 2.1 and 2.2 of this report, it is recommended that units in MMH buildings require no more than one off-street parking space per unit. Standards for shared and on-street parking can provide further flexibility. In some cases, there may be potential adverse effects that can be addressed through policies such as local resident parking permits or parking management plans.

The parking reductions and overlay options that have been pursued by the City for other applications are encouraging and should also be considered for MMH and/or the LCRT corridor. Expanding a parking reduction overlay to the station areas would support the goals of providing broader access to transit.

Entitlements Process

- The entitlement process in Charleston is extensive and can be lengthy, which creates a barrier to MMH and adds cost that smaller projects can not handle.
- Current stormwater approvals are particularly extensive and discourage some developers from wanting to build in Charleston due to the increased risk and complexity.
- Any development with three or more units must go through technical review committee. This higher level of review may disincentivize MMH type development over single-family projects.

Preliminary Recommendations:

Consider a lower level of stormwater review for middle housing types under a certain amount of units (i.e. 4 or 12). Currently an expedited review process applies to all housing types that include at least 50 percent affordable units. Consider the expedited review process applicable to Middle Housing types that provide market rate housing. While Middle Housing is not providing capital "A" affordability, these housing types can provide more attainable prices to the consumer than typical single-family units.

CLOSER LOOK

Why allow MMH "by-right"?

Each zone district regulates which land uses are allowed. Uses that meet the intent of the zone are allowed "by-right." Development allowed by-right and meeting all zone standards (i.e. height, building footprint, setbacks), is allowed without additional review processes.

Uses allowed with conditions can require extra review processes. Lengthy review processes equates to uncertainty, additional time, and therefore added costs. This cost is either passed onto the consumer or creates

an infeasible development project. Further, additional review processes often rely on subjective standards which can lead to inconsistent development results that may not meet the intent of the zone or serve the community's broader interest. The key to allowing MMH types by-right is to build in standards to the base zoning to ensure the development will fit the zone intent.

Charleston Residential Zones

The map shows the LCRT stations and the residential zoning districts of Charleston.

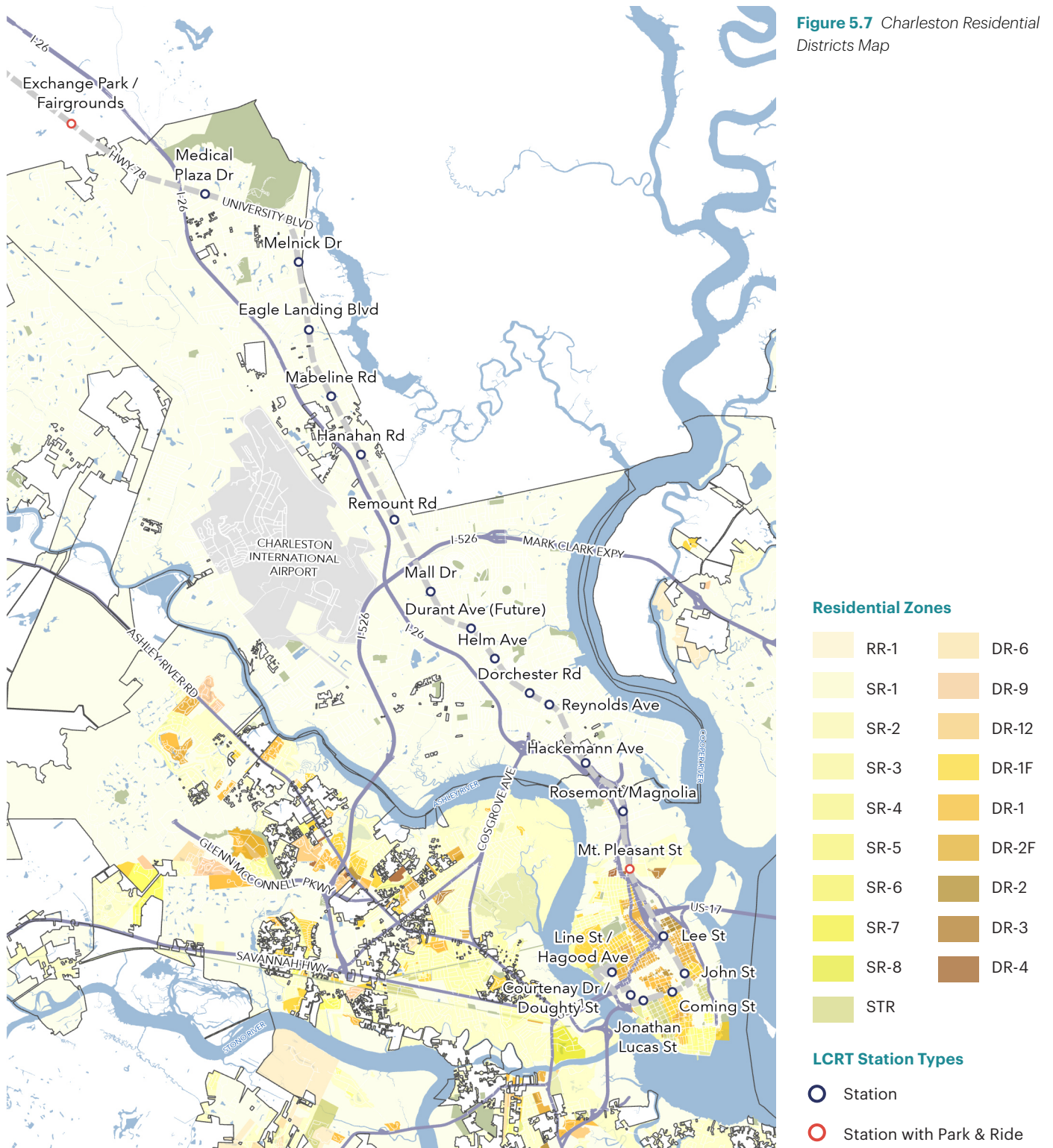


Figure 5.7 Charleston Residential Districts Map

5.5

Zoning & Regulatory Barriers:
North Charleston**The following analysis identifies potential barriers and solutions for MMH within the current City of North Charleston Zoning Ordinance.**

Figure 5.8 The palette of MMH Types ranges from buildings with 2 units to courtyard buildings with up to 20 units and represents a resultant density range of 8 to 64 du/ac.



Figure 5.9 Example of a cottage court encouraged by open space standards that promote a sense of community.

The following analysis focuses on zoning districts applied along the LCRT corridor and intended for multi-family housing. These districts were further identified in conversations with City Staff and stakeholders as most applicable for Middle Housing. The analysis identifies potential barriers to MMH types considering building form and placement, permitted uses, and lot size standards within each districts as well as additional development standards including parking and entitlements. For reference, “multi-family dwellings” are defined in the North Charleston zoning ordinance as “duplexes, triplexes, quadraplexes, stacked apartments and garden and cluster units”.

Zoning Districts

R-1: Single-Family Residential District

The intent of the R-1 district is to support “medium density one-family dwellings” and discourage encroachment of non-residential uses. R-1 does not permit any MMH type by-right but does allow cluster developments, or cottage housing, as a conditional use.

Parking standards for this zone and all residential zones are relatively high, requiring much of the lot area to be set aside for parking. The intent of the zone (medium-density dwellings), the building placement standards (setbacks), and minimum lot size are all supportive of small Middle Housing types. The primary barriers to Middle Housing for the R-1 zones are the allowed uses and parking.

Preliminary recommendation: Allow duplexes in this zone. Consider allowing cottage developments by-right as well. Provide clear standards for cottage development related to building form and open space design to ensure good design. See Chapter 2 for best practices for building form and open space standards.

R-2: Multi-Family Residential District

The intent of the R-2 district is to support “medium-to-high density residential.” R-2 permits single-family and multi-family by-right, including duplexes, triplexes, quadraplexes, stacked apartments and garden and cluster units. Townhouses are only permitted as a conditional use. While MMH is allowed, the minimum lot size requirements, setbacks, and parking standards are not supportive of the compact development patterns necessary for walkable environments that support successful middle housing applications.

Preliminary recommendations: Adjust lot size minimums to align with actual lot sizes within N. Charleston and test setback standards to calibrate for typical lot sizes. Zones should be more clear about what MMH types are allowed and the desired building form (height, width, depth) to ensure that these types are not out of scale with single-family context. Consider if this zone needs to be split into two separate zones to implement the LCRT policy on land use - one zone that allows middle density (small to medium MMH types) and another zone that allows higher intensity

multi-family and some mixed-use (large MMH to podium apartment buildings).

B-2: General Business District

The intent of the B-2 district is to support general business uses and encourage the “mixing and stacking of uses shall be encouraged to foster an urban environment with dense, walkable nodes along the city’s commercial corridors.” This zoning district permits single-family, multi-family, and townhouses. Multi-family is not permitted along the Dorchester Road Corridor I, Dorchester Road Corridor II, University Boulevard and the Ladson Road Overlay Districts (per Section 5-4(a)(2), the latter half of which encompass a portion of the LCRT corridor. Allowed residential uses in this district are regulated by the same dimensional requirements of the R-1 and R-2 districts, creating similar barriers as previously discussed.

Preliminary recommendation: *Consider better aligning the zone intent with the LCRT land use policy as this district applies in many of the station areas across different context. Refine allowed uses and standards to allow for medium and large MMH as well as podium apartment buildings near station areas. Remove any restriction prohibiting multi-family in certain areas, if at a minimum along the corridors where the LCRT is planned.*

Development Standards

Lot Area

■ The minimum lot area for SFR in R-1, R-2, and B-2 is 4,500 SF or 6,000 SF depending if the property has a Traditional Neighborhood Development/ Mixed-Use Future Land Use designation from the Comprehensive Plan. This minimum lot area generally matches existing lot sizes (50’ by 120’); however, may create a barrier to developing smaller single-family housing types such as the Charleston Single-House or a small cottage which fit on a narrower lot and provide lower cost of development.¹

■ The minimum lot area for any multi-family dwelling is 1,500 square feet per unit or 1,200 square feet per unit if common parking is provided. This standard applies to both the R-2 and B-2 district for multi-family housing. For multi-family dwelling units located above commercial uses, the same 1,500 square feet minimum lot area standards apply. The existing minimum lot size standard allows for duplexes, fourplexes, and small multiplexes, but it creates a barrier for more intense MMH types with many units such as large multiplexes and courtyards.

Preliminary recommendation: *Test lot area standards across different middle housing types as well as on actual lot sizes within N. Charleston. There are many infill lots that may not meet minimum lot area requirements, as well as large opportunity sites that need to consider new development patterns consistent with compact transit-oriented development. See Chapter 2 for typical lot sizes needed to accommodate different MMH types.*

Townhouses

■ The townhouse or row-house is defined in the Zoning Ordinance as “a series of attached dwelling units on separate lots which may or may not have a common roof and separated from each other by common vertical walls.” Townhouses are allowed only as a conditional use, which requires townhouses to follow a set of additional standards.

■ Additional standards are applied to prevent townhouse runs that are overwhelming to the existing context. Current standards limit 8 units within a run and require staggered facades every fourth unit. The current standard meets best practices, but additional specificity could be provided for the depth of the modulation.

■ The minimum lot width for a townhouse in any zoning district is 18 feet, or 14 feet if

Notes:

¹A future study is planned to test the impact of allowing smaller housing types on the cost to the consumer.

common parking is provided. The existing lot size standards are consistent with best practices for the townhouse type.

- Additional front yard setbacks are required for interior units. If tuck-under parking is provided, the front yard setback can be reduced. The intent of this standard is to allow for more compact development, but the application does not relate to the base zone standards. This standard could create a varied setback if adjacent to other building types.

Preliminary Recommendation:

Consider testing the townhouse standards in various application to ensure the setbacks and massing standards are calibrated to the context. Consider also requiring frontage types and/or garage standards for townhouses to ensure townhouses are not dominated by a garage opening on the front of the building, thus creating an unsafe pedestrian environment.

Parking

- The existing parking requirements are high and are reflective of a highly auto-dependent lifestyle. Currently, townhouses, Cluster Units, single-family units and multi-family units with two or more bedrooms require a minimum of 2 spaces per unit. Multi-family units that are studios require a minimum of 1 space per unit and multi-family units with one-bedroom require a minimum of 1.25 space per unit.

Preliminary Recommendation:

Decreased parking requirements are advantageous for smaller-sized units for reasons of attainability and feasibility. To address concerns about parking congestion, policies such as local resident parking permits can be explored in some areas. New transit access from the LCRT provides an opportunity to rethink parking requirements more suited to compact and walkable development pattern to support MMH.

Setbacks

- The front (20 feet), rear (20 feet), and side setbacks (10 feet) for multi-family dwellings are higher than best practices for MMH. This may prevent building MMH on narrow lots as setbacks reduce developable land. The B-2 zone district has a reduced front and rear setback of 10 feet; however, residential uses in B-2 follow R-2 standards, which requires deeper setbacks.
- For vertical mixed-use there is a lack of clarity in the standards for setbacks, whether the commercial setback standards of B-2 or the residential setbacks of R-2 apply. The front (10 feet) and rear (10 feet) setbacks of B-2 could be consistent with best practices of MMH however the side setbacks (10 feet) may create a barrier towards small mixed-use development.

Preliminary Recommendation:

MMH types work best with a 10-15 foot front setback, 10-20 foot rear setback, 5-10 foot interior side setback, and 10-12 foot side street setback. This lower range should be considered in more urban settings.

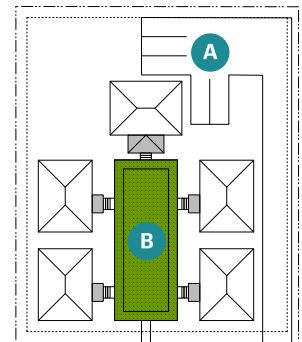
Open Space

- The open space requirement for multi-family is 20 percent of the development site area. Regulating open space by a percentage does not result in predictability of the size, orientation, placement, and therefore quality of the open space. Under the existing code, open space could be too narrow to be usable, or could be placed only at the rear of the lot. For cluster developments and townhouses, the open space requirement is lower at 15 percent. See Chapter 2 for further considerations on open space standards that support MMH.

Preliminary recommendation: Consider providing an open space requirement measured by square footage. For cottage



Figure 5.10 Example of what can happen without height standards and open space standards calibrated to the existing context. These townhouses are "slot homes" that are out of scale with the existing context in terms of building height. They also fail to provide open space between units, making these less attractive to the consumer.



- A** Recommended minimum 20 feet width for shared open space, building entrances from open space
- B** Open space oriented to street, parking at the rear of the lot

Figure 5.11 Open space within a cottage court.



Figure 5.12 The first photo above shows a building frontage dominated by a garage and drives, creating an auto-centric environment. Contrastingly, the photo below includes a frontage type, which creates a more pedestrian-friendly experience.



Figure 5.13 When allowing ADUs, additional standards may be necessary based on community needs. For example, in cities with high tourism rates, short-term rental restrictions or owner occupancy requirements can be added to ensure that ADUs are being used to house local residents, and thus have a greater impact on meeting the housing needs. For reference, see Asheville’s “Homestay” regulations.

developments and courtyard buildings, open space is a critical design component should include standards on orientation of the buildings onto the open space, the size of that space, and placement on the lot.

Building Height

■ The current zoning ordinance has no requirements on building height, which creates unpredictability of what development will be built, with high potential for buildings to be out of scale with the existing context.

Preliminary recommendations: Regulate building height by zone and/or by building type. See Chapter 2 for recommended heights for each MMH type.

Lot Coverage

■ Maximum lot coverage is 70 percent for multi-family development, which can accommodate MMH building types.

Preliminary recommendations: While the existing lot coverage does not limit development, using lot coverage as a percentage could lead to unpredictable building form. As a lot increases in size, the building footprint can also increase in size. This could lead to large footprint houses that are out of scale with the surrounding context. Consider testing the lot coverage standard and/or regulating instead by building footprint.

Accessory Dwelling Units (ADUs)

■ ADUs are not allowed by-right with no current standards. ADUs provide more housing choices in existing neighborhoods and lots without dramatically impacting the character or scale of the neighborhood.

Preliminary Recommendation: Allow up to 1 ADU in all residential districts at least with single-family. Consider allowing with multi-family dwellings. Apply form standards to ensure the ADU is appropriately size, such as limiting 800-1,200 sf per unit and 2 stories in height. Do not require additional parking spaces for ADUs to ensure the cost of providing parking is not a barrier to development. Short-term rental restrictions can be applied if this is a community concern.

Entitlements

While the entitlement process in North Charleston is consistent and expedited, the standards are not prescriptive or objective enough to create predictable results. The lack of structured standards paired with the expedited entitlement process can create built outcomes that are out of scale with the surrounding context and/or create auto-centric site designs that negatively impact the pedestrian experience or trust of the community.

Preliminary Recommendation: Provide building form controls and frontage standards that reflect the community interest, while still being feasible to build. This is especially important for the middle-scale housing development and developments within or adjacent to existing neighborhoods.

North Charleston Residential Zones

The map shows the LCRT stations and the residential zoning districts of North Charleston.

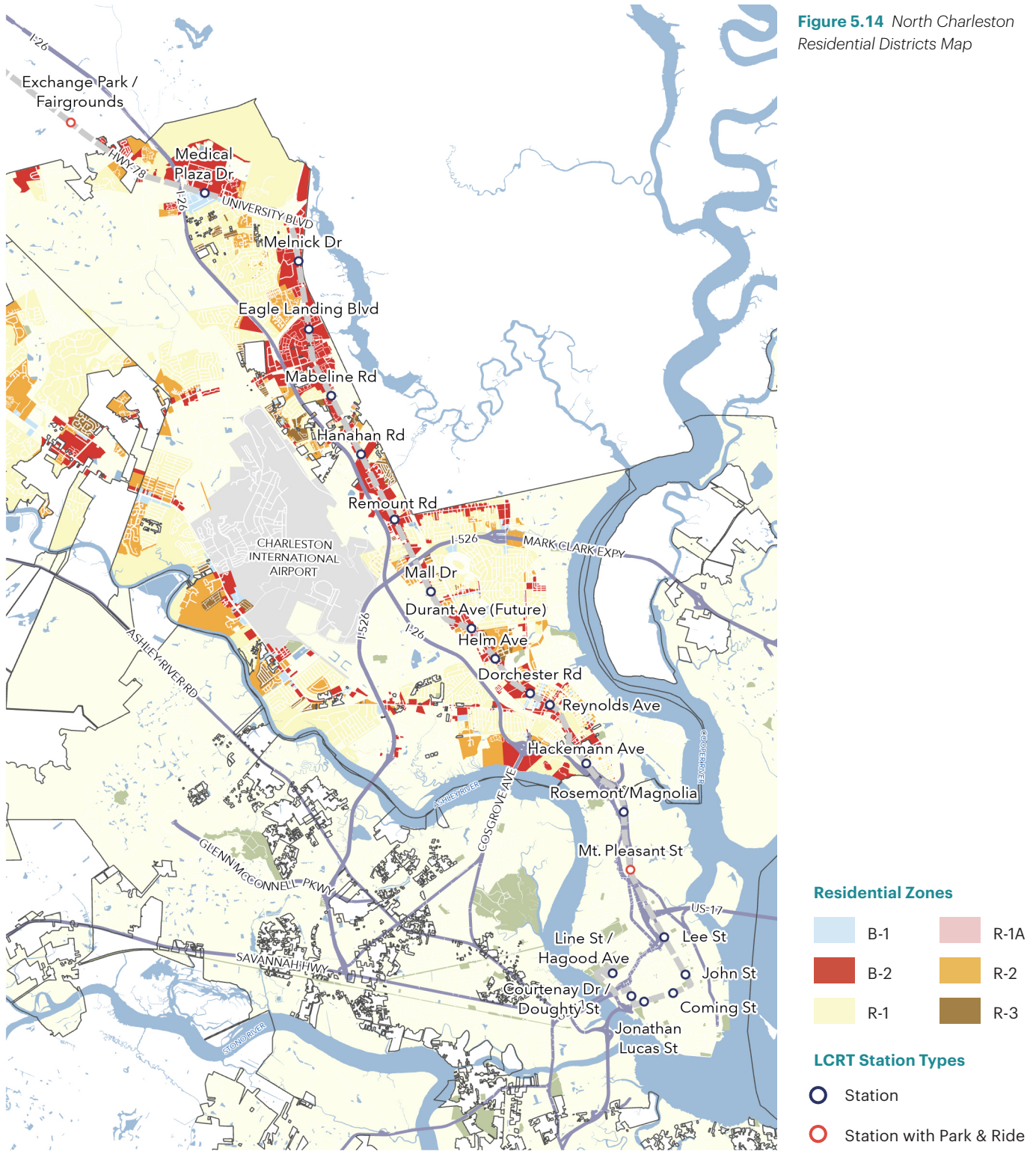


Figure 5.14 North Charleston Residential Districts Map

5.6 Barriers Specific to Allowed Density

This section discusses allowed density as a key limiting factor, with reference to resultant densities from typical MMH building types.

Allowed Density

Most MMH types are not enabled in the zoning districts reviewed because current density limits are too low. However, simply increasing the maximum allowed density could create other issues such as large buildings that are not contextually appropriate for their neighborhood.

Increasing the maximum allowed density needs to be coordinated with carefully identifying the appropriate MMH building types for Charleston and North Charleston's different areas and then incorporating the resultant density range of those types along with standards for maximum building footprint and lot width.

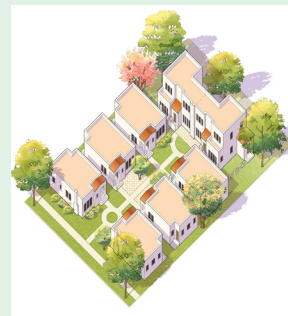
- Key**
- Range of MMH Type
 - Range Enabled by Zoning
 - MMH Type Enabled
 - MMH Type Not Enabled



Duplex Side-by-Side
8-22 du/ac



Duplex Stacked
8-29 du/ac

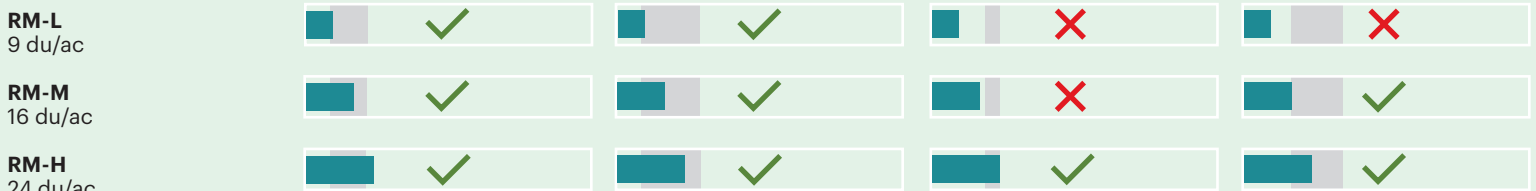


Cottage Court
19-24 du/ac



Fourplex
17-35 du/ac

Charleston Code
Diagnosis Proposed
Density Thresholds:



North Charleston Zoning
and Density Limits:



MMH Types Enabled by Current Density Standards

The chart below shows which and how much of each MMH type is enabled in each district based on the maximum allowed density. When the gray area does not contain any green, that MMH type is not enabled.

Depending on the support for changing existing zoning, the MMH types and their standards could be adopted as new zoning or as an overlay that only applies to identified walkable neighborhoods.

The standards could include density standards or they could be silent on density. In either approach, the characteristics of each MMH type need to be publicly discussed and tested for the specific areas where they want to be used.

Recommendations

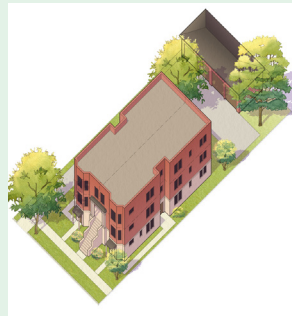
We recommend either of two approaches:

- Increasing the maximum allowed density for MMH types based on the lot size realities of MMH; or
- Regulate MMH using building types with clear footprint and unit limits instead of using density.



Multiplex Small

41-44 du/ac



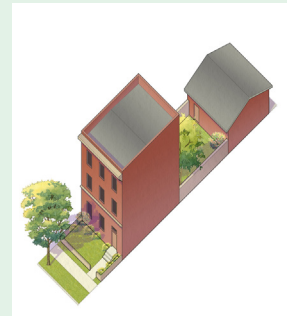
Multiplex Large

44 -48 du/ac



Courtyard Building

28-36 du/ac



Townhouse

8-32 du/ac




Live/Work

8-32 du/ac



5.7

Next Steps Towards Implementation

 CLOSER LOOK

Middle Housing Implementation Success Stories

Middle Housing Plans/Districts/Overlays:

Raleigh, NC; Durham, NC; Cumberland, IN; Minneapolis, MN; Portland, OR; Seattle, WA; Sacramento, CA; San Diego, CA; Santa Rosa, CA; Iowa City, IA; Cincinnati, OH; Kauai, HI

Missing Middle Zoning Toolkits and Objective Design Standards:

Marin County, CA; Puget Sound, WA; Bay Area, CA; [AARP Discovering & Developing Missing Middle Housing](#)

Missing Middle Pre-Approved Plans:

Kalamazoo, MI; Spokane, WA; South Bend, IN

Missing Middle Scans + Deep Dives:

Columbia, SC; Greenville, SC; Greensboro, NC; Athens, GA; Idaho Falls, ID; Asheville, NC; Knoxville, TN; Modesto, CA; Hanover, NH; Louisville, KY

The findings from the MMH Scan™ can spark small-scale changes in the short term and serve as a basis for the next stage of the project, the MMH Deep Dive™ for Charleston and North Charleston.

Starting Small

- This MMH Scan™ (Analysis + Definition of Barriers to MMH) focuses on identifying barriers to MMH. It can be a stand-alone document or the first of a two-part analysis. The **MMH Deep Dive™** (Testing + Solutions for MMH) is a more detailed study involving test fits and cost analysis (see following page). Results intend to provide further insights and specificity about recommended improvements and changes to existing standards.
- Using the materials in this report, City and COG staff can begin to **provide education opportunities**, including walking tours, round tables, developer training, and lot testing exercises for community and local leaders. The goal for these conversations is to dispel misconceptions around MMH, hear and address concerns, assess what MMH types are contextually appropriate, and empower community members to voice their interests in public meetings.
- Both Charleston, North Charleston, and the BCDCOG should **review the displacement mitigation strategies** menu and assess which strategies are both possible and appropriate for their community.
- **Short-term zoning adjustments** open the door to further changes. Creating an ADU ordinance or reducing parking minimums are two small moves that can have significant short-term impact on attainability.

Making Big Moves

- **Align future LCRT reports** with the findings of this study. Incorporate fine grain recommendations of application of MMH types along the corridor. In public engagement and education efforts, use the material in this report to emphasize the reciprocal relationship between increased housing units and the success of the LCRT. Allowing gentle density within neighborhoods near station areas provides necessary ridership to support the LCRT. On the flip side, transit allows less car dependency which can help reduce development costs dedicated to parking and allows for more walkable, compact development.
- **Citywide zoning updates** for residential zones require a longer process with necessary community feedback loops. A medium effort approach to updating zoning would be to update only the residential zones and/or create one or two new zones that support MMH.
- **Entitlements processes** similarly take time to refine. Consider providing an expedited review process for MMH types within proximity of the corridor. The LCRT policy supports zoning and entitlement adjustments that prioritize additional housing units along the corridor as a way to address the immediate and significant housing needs along the corridor in time for completion of the LCRT.

Next Steps for Analysis

How can Missing Middle Housing provide solutions that meet both community needs and development realities?

What is the MMH Deep Dive™?

The next recommended step in the analysis is called the MMH Deep Dive™ which involves testing MMH types on actual lots - both single infill lots and larger opportunity sites - within the study area. The purpose of lot testing is to identify recommended improvements to policy and zoning through detailed testing of the zoning standards. By selecting typical lot sizes for testing, the results generated will be representative of a repeatable condition. Along with testing the physical constraints each test fits is assessed for the cost of development. This cost analysis provides insight into the cost impact of each recommended zoning standard adjustment (i.e. reduced setbacks, more units allowed by-right).

How would test fits be assessed?

Missing Middle Housing test fits and recommendations aim for scenarios that fall within the "sweet spot." There are three criteria for assessing the success of Missing Middle Housing Types. If a scenario does not meet these criteria, then other housing types may need to be tested or additional incentives or subsidies would need to be considered in order to meet the goals of feasibility, attainability, and livability.

■ Feasibility (Objective)

Does it make economic sense for developers and builders to deliver the desired results?

■ Attainability (Objective)

Are the homes that will be delivered the size and type that will enable them to achieve attainably-priced homes as defined by local goals?

■ Livability (Potentially subjective, but can be made objective in standards)

Internal: Does the quality of the homes, outdoor spaces, and sense of place create a desirable place to live? Does it enable choices based on comfort and access rather than solely on what is affordable?

External: Is the project reinforcing a desired character and quality of the built environment? This does not mean that change is not welcome, but refers to a thoughtful, clearly defined urban form, character, and desired degree of change that fits the existing context.

