What is the Missing Middle Housing Study?

MMH Scan™ + MMH Deep Dive™

The County of Maui is working to make housing more affordable and to increase options to meet current and future housing needs. The Missing Middle Housing Study carries out analysis and provides recommendations to support these goals.

The Missing Middle Housing Study is in two parts. The first part is the **Missing Middle Housing Scan[™]**, which includes analysis of existing conditions to locate areas that are suitable for Missing Middle Housing (MMH) in Central, West and South Maui. It also identifies regulatory and policy barriers to the development of these types. The findings were summarized in the Missing Middle Housing Scan[™] report, published in September 2024.

The second part of this study, the **Missing Middle Housing Deep Dive™**, is currently underway. This part of the study focuses on design and feasibility testing, as well as design, zoning and policy recommendations to help implement Missing Middle Housing types in Maui.

What Can Missing Middle Housing Do?

- **■** Increase Housing Choice
- Advance Housing Attainability
- **Promote Housing Equity**
- **■** Support Economic Stability
- **■** Enhance Livability
- **■** Respond to Climate Change



The Missing Middle Housing "Sweet Spot"

The success of Missing Middle
Housing is measured by
three key factors: Feasibility,
Attainability and Livability.
Missing Middle aims to create
housing that is not only
affordable for middle-income
households, but also practical
to build and attractive to live in.
This study focuses on hitting the
Missing Middle "sweet spot" for
Maui.

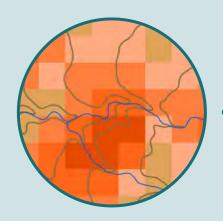
O1.2024
Missing Middle
Housing Study
Initiated

03.2024
Site
Documentation
Trip

09.2024 Missing Middle Housing Scan™ Report Published 10-11.2024 Design and Feasibility Testing 12.2024 Community Workshop 01.2025 Missing Middle Housing Deep Dive™ Report

Analysis Methodology

The Missing Middle Housing Study analyzes existing conditions in Central, West and South Maui including the natural setting, development patterns, connectivity and access to amentities. The analysis aims to identify areas that can support Missing Middle Housing.



Natural Constraints

Central, South and West Maui were analyzed to exclude areas of steep terrain, environmentally protected areas, and areas more susceptibility to climate change. This identifies areas where additional housing is appropriate and aligns with Maui's long-term plans for resiliency.



Built Form and Land Use

The analysis next looks at existing and planned uses that are currently allowed by Maui's zoning and other regulations. This provides an understanding of how MMH can be integrated while fitting into the existing built character.



Connectivity and Access to Amenities

Access to amenities, services and employment is critical for infill development. The next step analyzes the existing circulation and transit network to determine levels of connectivity and access.



Identify Mixed-Use Centers and MMH Priority Areas

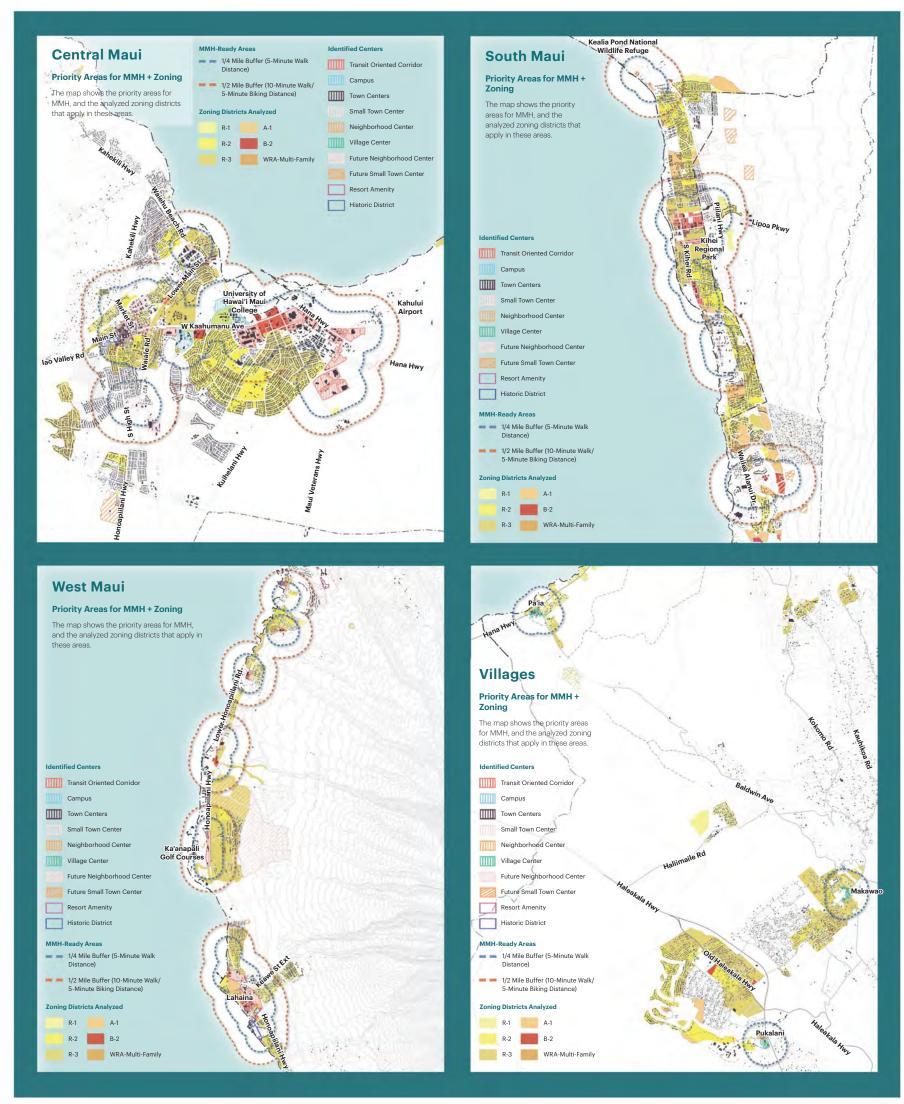
The preceding analysis helps to identify mixed-use and connected centers and corridors, as well as adjacent neighborhoods and larger sites in planned growth areas that can support MMH.

Which Areas are Suitable for Missing Middle Housing?

"MMH-Ready" Areas

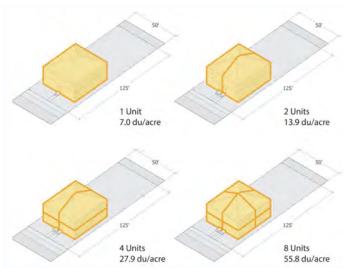
The MMH Scan[™] identifies MMH-ready areas within a **5 to 10 minute walk** (1/4 to 1/2-mile distance) of **existing mixed-use centers** that provide daily needs for residents such as neighborhood retail and services. In these areas, at least

some of the residents' daily trips can be by foot, on bike, or by public transit. Less car dependence means a reduced need for off-street parking, which in turn allows available land to be used for additional housing.



What is Missing Middle Housing?

Missing Middle Housing is a range of **house-scale** building types with **multiple units** in **walkable neighborhoods**.





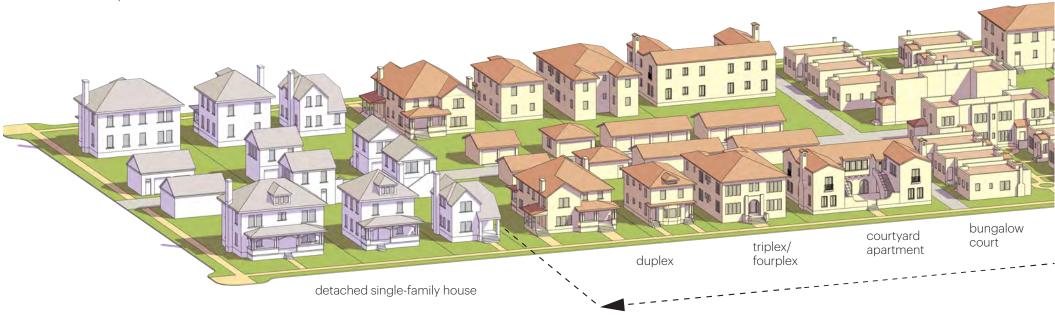
Missing Middle Housing (MMH) types have a typical width, depth, and height that allows them to blend in with typical single-family houses. With smaller-sized units, they provide a range of livable multi-family options, both for sale and rent.







You have to look closely to notice MMH. All of these photos are examples of Missing Middle Housing in Maui. Each of these buildings contains more than one unit in the building.



Characteristics of Missing Middle Housing

House-Scale Buildings

Missing Middle types typically have small-to medium-sized footprints, with a body width, depth, and height similar to a single-family house, even though they have more than one unit. Their compatible form lets them blend easily into residential neighborhoods.

Smaller, Well-Designed Units

Missing Middle units are smaller but with well-designed. efficient interior layouts. Smaller-sized units and simpler construction can reduce development costs and promote attainability without compromising quality.

Affordable by Design

Missing Middle types use simple "Type V" construction which makes it possible for developers to achieve more units without the added challenges and risks of larger, more complicated buildings. This can also increase affordability, especially for households earning 80-140% of the Area Median Income.

Compatible with Single Family Neighborhoods

Missing Middle types blend in well with single-family homes due to their small scale and size, and can increase housing without much change in neighborhood scale and built character. Missing Middle can thus enable a community to support a diverse range of household types and lifestyles choices; as well as housing options as a household's needs change over time.

Promotes Walkability

Missing Middle types work best in walkable neighborhoods where not all daily trips need to be by car, and in turn support walkability. Buyers and renters of these housing types are willing to trade larger living spaces for proximity to services and amenities, and lead more active, healthier lifestyles.

Creates a Strong Sense of Community

Missing Middle Housing types have well-designed shared open spaces that encourage residents to meet and interact. Adding more housing choices and supporting amenities can enable residents to live within walking distance of places to eat, shop and socialize. This creates more diverse, vibrant and safer communities where neighbors know each other.

Supports Local Businesses

Missing Middle adds more housing diversity and encourages an active lifestyle with greater pedestrian access to amenities. By adding a larger and more diverse customer base, Missing Middle helps support existing and new local businesses and quality transit.

Lessen Climate Impact

Missing Middle units have smaller carbon footprints than typical detached homes. They also promote compact, sustainable development and shorter commutes.

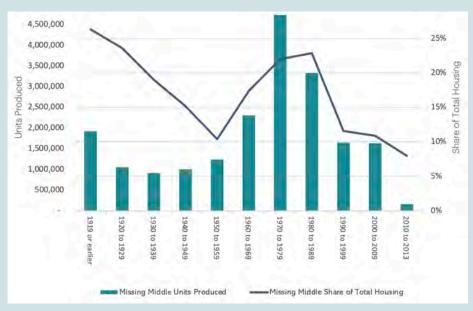
Marketable to Many Groups

Missing Middle helps meet the needs of Millennials, seniors, downsizing "emptynesters" and other groups looking for alternate housing choices.



These Types Are Not New. We Just Stopped Building Them

MMH types have historically provided affordable housing options in towns and cities across the country. They are labeled "missing" because very few of these housing types have been built in the past thirty to fourty years.





We once knew how to deliver these types efficiently. Did you know that in the early 1900s you could buy one of these Missing Middle housing types out of a Sears & Roebuck catalog?

Restrictive zoning codes, inadequate infrastructure, lack of financing options and condominium liability clauses are some of the factors that have made Missing Middle challenging to build.



Where can Missing Middle Housing work?

Integrated Into Neighborhoods of Detached Houses

Small and medium Missing Middle Housing types such as duplexes, triplexes, cottage courts, fourplexes and medium-sized courtyard buildings can blend in well with single-family/ detached houses due to their house-scale size and form.



Transition from a Mixed-Use Corridor to a Residential Neighborhood

Small and medium Missing Middle types can create a transition between mixed-use corridors and centers, and residential neighborhoods of detached houses.



At the "End Grain" of Typical Detached Housing Blocks

Corner and end-of-block parcels are frequently larger than interior parcels in many neighborhoods. Such parcels are great opportunities for small and medium Missing Middle types such as fourplexes and sixplexes.



Transition from Detached Housing to Higher-Intensity Housing

Larger Missing Middle types can be used as the "end grain" of residential neighborhoods, along arterial streets and corridors. Stepping down in height helps transition to the lower-intensity residential areas in the interior of the neighborhood.



Central, West and South Maui

Maui MMH Scan + Deep Dive February 25, 2025



Potential Benefits + Barriers for Missing Middle Housing

Missing Middle Housing can provide a range of benefits for current and future Maui residents.

that's close to where I work and within biking distance of local destinations.

home with space to host. We're not into yard work, and don't need a big

We are retirees.We need a home where we are surrounded by community. We don't drive and prefer to be very close to

We are a couple. We need a small place where we know our neighbors. We want to be able to walk to shops and restaurants.

We are a multigenerational family.

We need room for three generations to live together. Grandma and grandpa need their own space to retreat, but still want to be steps away from their kids and grandkids to be present in the family's daily life.

We are a family with young

kids and a dog. We need space for our kids to live and play, and we'd like a backyard. We'd love if they could walk to school.



Who Can Benefit From Missing Middle?

Missing Middle Housing Missing Middle can increase housing options for different lifestyles and life stages, increase opportunities for home-ownership, and help residents build equity and generational wealth. Some of the groups that can benefit are shown below.



Retirees and Empty-

Nesters. MMH supports downsizing for seniors and is a potential source of supplemental income.



Multi-Generational Living.

MMH types such as cottage courts can accommodate larger families, allowing multigenerational living.



Small Families. Single-person households and small families can benefit from smaller homes with less maintenance



Entry-Level Buyers. MMH units are often smaller and within reach of entry-level buyers.



Working Middle Class. MMH can provide more attainable rental options for a variety of household types and sizes.



Small-Scale Builders. MMH projects are small-scale, don't need specialized construction, and can be built by small-scale builders

Is Housing in Maui attainable?

\$1.050.000 | \$799.000

median price of single-family home | condo

Since 2000, Maui has experienced a 330% increase in housing prices. Median housing costs are 2.5 times+ the national level.

67% of Maui households cannot afford the mortgage on a median-priced single-family home

27% of single-family homes and

50% of condos are bought by out-of state buyers

54% of Maui renters are house-burdened, paying more than 30% of total household income on housing

Potential regulatory barriers for Missing Middle in Maui

Six zoning districts that are prevalent in the MMH-Ready Areas identified for Central, West and South Maui.

Through test fits using typical Missing Middle Housing types on commonly occurring lot sizes in these areas, a set of major and minor barriers were identified, which can be addressed through the MMH Deep Dive recommendations.

Zones analyzed:

R-1, R-2, R-3, A-1, B-2, WRA-B/MF

Major Barriers to MMH

- 1. Maximum Density
- 2. Minimum Setbacks
- 3. Minimum Off-Street **Parking**
- 4. Allowed Uses in **Residential Zones**

Minor Barriers to MMH

- 1. Maximum Height
- 2. Maximum Lot Coverage
- 3. Minimum Lot Size

Barriers to MMH	R-1	R-2	R-3	A-1	B-2	WRA-BMF
Max. Density	×	×	×	N/A	N/A	N/A
Min. Lot Size			×	×		~
Max. Lot Coverage	V.	V :	V.	×	~	~
Min. Setbacks				×		
Min. Off-Street Parking	×	×	×	X	×	×
Floor Area Ratio (FAR)	N/A	N/A	N/A	×	~	~
Allowed Uses	×	×	×	~	~	~
Max. Height	~	~	~	~	×	
Fire Sprinklers Required for 3 or more units	×	×	×	×	×	×
Number of MMH Types Allowed	12	22	32	33	34	31

February 25, 2025

Central, West and South Maui



Feasibility + Attainability for Missing Middle Housing

Typical Missing Middle Housing types were used for design and feasibility testing on both individual lots and on larger sites.

More Attainable by Design

Missing Middle Housing (MMH) types are "middle" in building scale and form, and can provide a "middle level of affordability" because of smaller unit sizes and cost-saving design features. In most housing markets, Missing Middle types can be feasible to build with rents or sale prices that are affordable to a broad spectrum of middle-income households, without subsidy.

By removing regulatory and other barriers, MMH can provide attainable housing options for middle-income and working class families in Maui. Additional incentives, such as fee reductions and bonus programs can further improve financial feasibility.

Steps for Feasibility Testing

Step 1: Prototype Benchmarking

- rental and sales prices by housing sub-market
- 3. Calibrate sale and rental building prototype
- 5. Map the ratio of maximum achievable price to

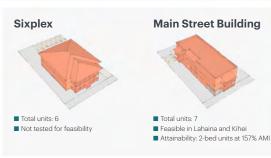
Step 2: Sensitivity Testing

Test Fits: What MMH types can fit in Maui's zoning districts?

MMH Types were tested on a range of lot sizes in different zoning districts, and assessed for feasibility in four housing markets: Lahaina, Kihei, Wailuku-Kahului and Makawao-Pukalani.



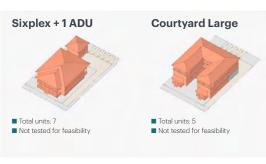






















How Can We Improve Feasibility and **Attainability for Missing Middle?**



Requirements

Reduce Parking On small infill sites, parking competes with leasable area. With less parking, larger units are possible leading to a more feasible project.



Reduce Unit Sizes (Increase Density)

Streamline Permitting



Waivers and **Subsidies**

Increasing density limits on lots while regulating the maximum building footprint allows for smaller units, that can be offered at

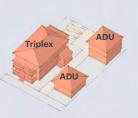
Longer permitting times increase costs, delay revenues, and create additional risk for middle housing projects.

Workforce housing (80-120% of AMI) is hard to build on Maui. Fee waivers or other forms of subsidy can improve feasibility.

Example: Improving Feasibility

Source: Cascadia Partners

To achieve feasibility at a 12% rate of return for this project with a Triplex and 2 ADUs on a medium lot, units would need to rent at levels above market price in most areas. ADU units would be more marketable, but likely feasible only in Kihei.



Changes to increase feasibility:

- Reduce parking to 0.5 spaces/unit
- Reduce unit size, add a unit (total 6)
- Waive impact fees (assumed \$60,000)
- Reduce permitting time by 50% (from 12 to 6 months)

How does this affect feasibility?

2-bed units now feasible in all markets at up to 10% above market rents, ADU/studio units feasible in Lahaina, Kihei, Makawao-Pukalani at up to 20% above market rents.

How does this impact attainability? - Rents for 2-bed units reduce attainability threshold from 189% to 133% of AMI. - Rents for ADU/ studio units reduce attainability threshold from 115 to 106% AMI.

What can Missing Middle look like on Maui?

Missing Middle Housing types tested for Maui were adapted to accommodate **outdoor living** and **natural cross-ventilation**.

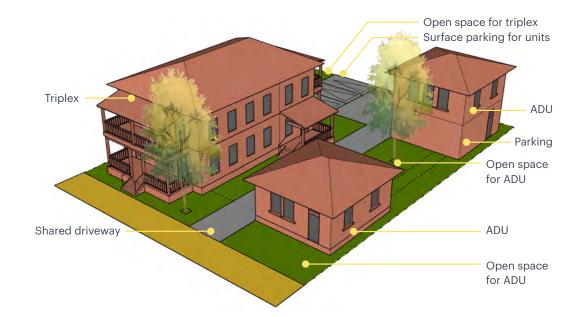


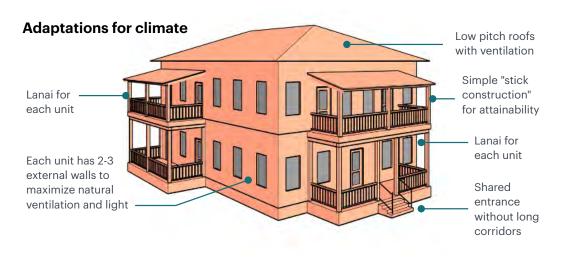
MMH Example: Triplex with two ADUs in a Maui Neighborhood.

Design Features

The Missing Middle types shown in this example include a two-storey **Triplex** and two **ADUs**. The ADU in the rear has tuckunder parking on the ground level with the residential unit on the second floor. The second ADU facing the street is a small singlestory cottage. All of these infill buildings maintain the house-scale environment of the neighborhood. The building placement creates distinct open spaces for every building, in addition to lanais for each unit.

- 1 House-scale multi-family building provides multiple units.
- 2 Shared lanais provide semi-private shaded open spaces for the units.
- 3 Private entrances for all units.
- Shared driveway with pervious surfaces for water infiltration and reducing the heat island effect.
- 5 Semi-private outdoor open space for each unit.







What about infill with Missing Middle on larger lots?

Larger lots provide options for Missing Middle Housing types such as cottage courts and pocket neighborhoods.



MMH Example: Duplex Court with Six Duplexes and a Fourplex

Design Features

The Missing Middle types shown in this example include two-storeyed duplexes arranged around a shared open space or court, with a **fourplex** at the end of the court. These neighborhood-scale Missing Middle types provide multi-family options that look like single-family homes but are smaller and more attainable.

- Neighborhood-scale multi-family living with a variety of unit sizes.
- Building height restricted to two stories, with usable attics in some cases for additional living space.
- Building frontages and entrances are oriented to the shared open space.
- Native vegetation and trees provide greenery and shade.
- Parking is located at the rear.

MMH Types in this example



Duplex

No. of units = 2 Building footprint = 1,272 sq ft Approximate size = 24' x 53'





Fourplex

No. of units = 4Building footprint = 2,568 sq ft Approximate size = 52' x 65'

Average unit size = 770 sq ft

Resident parking is located at the rear of the lot

All units front onto a shared semi-public open space, fostering community

Alley allows for parking access





What could a Missing Middle neighborhood look like?

Larger infill sites can be designed and developed as Missing Middle neighborhoods with a variety of housing types and unit sizes.

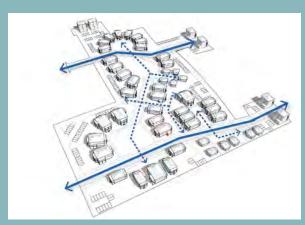


Design Principles for Missing Middle

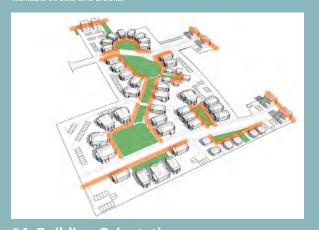




#3. Open Space + Trees



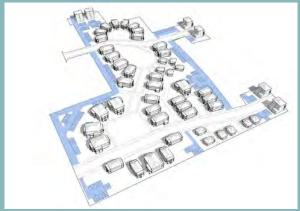
#1. Connectivity



#4. Building Orientation



#2. Diverse Housing Types



#5. Parking Strategy



What could Missing Middle look like in major centers?

Missing Middle Housing can be used along with larger buildings in more urban settings to provide **more housing choices**.







Shared open spaces for Missing Middle

Missing Middle prioritizes **well-designed shared open spaces** for both private enjoyment and community gathering.



MMH Example: Cottages, Duplexes, and Triplexes Around a Neighborhood-Scale Open Space

Design Features

The Missing Middle types shown in this example include two-storeyed **duplexes** and **triplexes**, and single-storeyed **cottages** arranged around a large community open space. This view highlights how different types of open spaces can be layered to create privacy in a multi-family environment.

- 1 Lanais provide semi-private open space for residents.
- 2 Neighborhood-scale open spaces accommodate community gatherings.
- Native vegetation and trees enhance privacy for residential units.
- Existing pine tree is preserved as a local landmark in Makawao.
- 5 Pavilion provides shade and space for activities.

MMH Types in this example



Cottage

No. of units = 1 Building footprint = 660 sf ft Approximate size = 21' x 24' Average unit size = 520 sf ft No. of stories = 1



Duplex

No. of units = 2

Building footprint = 1,272 sq ft

Approximate size = 24' x 53'

Average unit size = 890 sq ft

No. of stories = 2



Triplex

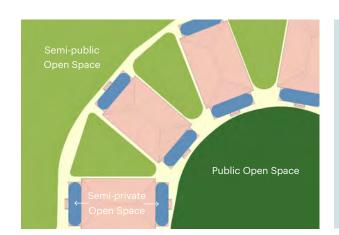
No. of units = 3

Building footprint = 1,829 sq ft

Approximate size = 38' x 53'

Average unit size = 1,000 sf ft

No. of stories = 2



Variety of Open Spaces

The layering of different types of open spaces helps to provide privacy in a multi-family environment. The yard spaces between and behind the duplexes are semi-public open spaces. The lanais are an examples of a semi-private open space that provide a transition from private spaces within the units to semi-public and public open spaces.

Central, West and South Maui Missing Middle Housing Study



Recommendations for Missing Middle Housing

Recommendations related to Zoning, Implementation, and Priority Projects to consider to enable MMH.

Zoning and Entitlements represent significant opportunities for the county to unlock potential MMH development.

The Deep Dive outlines 9 recommended zoning changes that can help to support MMH, a near- and long-term policy roadmap, and recommendations to find synergies between zoning and land use policy and infrastructure.



Recommendations Related to Zoning

These recommendations address the significant barriers identified to enable MMH. Identifying the top priorities can help focus on the updates that will have more impact.



Why is it a barrier?

MMH look like single-family homes, but they

density for these types is much higher than of

#1 Maximum Density + Floor Area Ratio (FAR)

■Select a palette of MMH types in residential districts and allow maximum based on existing lot sizes. Regulate the built environment for each allowed MMH

sultant Allow exemptions from the maximum types in the A-1, B-2, and WRA-B/MF



Why is it a barrier?

The principal use for Residential Districts is

Multi-family zoning allows duplexes, townhouses, and bungalow courts, leaving most of the MMH palette of housing types

and lot area limit the ability to offer more units

All MMH types, excluding the side-by-side duplexes and townhouses, must currently comply with the IBC. The IRC has less stringent standards that result in lower construction

■Establish a palette of building types with special standards for each residential



Why is it a barrier?

velopment difficult on infill lots and adds

vav takes up valuable space on a lot

#3 Minimum Off-Street Parking

■Allow 1 parking space per unit for MMH

types

■Do not require guest parking ■Allow street parking to be counted in meeting parking requirements



#4 Site and Building Setbacks

Setbacks are not calibrated for MMH, taking a large proportion of the lot, making it difficult to accommodate the necessary living space.

Setbacks are not calibrated for MMH, taking a min for MMH.

Allow in Apartment Districts= Front/Side/Rear. 10' min for MMH

Height is an important factor in determining a building's scale. Typical MMH types do not exceed 2.5 stories or 35 feet, intended to keep

What needs to Change?

- ■Allow in the Residential District and WRA-B/MF= Front: 10'min. Side/Rear: 5'
- ■Allow for Community Business District



#5 Minimum Lot Width

What needs to Change? ■Reduced the minimum lot area for MMH types, calibrated to allow palette of MMH

■Create a minimum lot width and lot area standards for MMH types, and apply those in each zoning district

■Develop a site placement and open space standards for MMH.



#6 Lot Coverage

What needs to Change? ■Allow a higher lot coverage of 60% for MMH on A-1 lots to allow more housing.

■Include minimum open space requirement and reduce parking Lot coverage impacts development potential by limiting the building footprint. In the case of residential zones, it's controlled by impervious



#7 Maximum Allowed Heigh

What needs to Change?

■Raise the maximum height to 32′ to allow

■Add built-form standards to accompany the height requirements in B-2 and WRA-B/MF

■Develop a palette of Large MMH types in B-2 and WRA-B/MF, 3.5 to 4 stories in



#8 Building Code

What needs to Change?

■Broaden the scope of the IRC to include the MMH types. Note that this needs to be changed at the State Level.



#9 Special Management Area Requirements

What needs to Change?

■ Prioritize updating the SMA boundaries to reflect the latest findings related to coast protection in the MMH-Ready Area.

■Establish an administrative approval process for MMH projects as long as the project does not have any substantial adverse impacts.

MMH Implementation Recommendations

Near-Term Zoning and Policy Priorities

- Review Legislation
- Zoning Updates
- Establish and MMH Overlay or a Floating Zone to Streamline MMH
- Establish "Comprehensive Zoning" Allow Innovative Technology and
- Lot Consolidation for Pilot Projects ■ Water Consumption

Long-Term Zoning Policy

- Zoning Updates
- Lot Splits and Lot Consolidation
- Development Incentives
- Streamlined Review

Long-Term Implementation

- Impact Fees
- Utility Requirements
- Reduce Soft cost for MMH projects

Long-Term Other

- Pre-approved MMH building plans
- Land banking and Community Land
- Partnership for MMH

Priority Projects for MMH

The purpose of the SMA review is to regulate any use in proximity Coastal Zone to preserve, protect, and restore natural resources. For

Priority Infrastructure Project in MMH-Ready Areas

Infrastructure constraints on Maui are among the most critical challenges to meeting current and future housing needs. They have a direct impact on development costs. According to House Maui, housing projects' cost allocation model must change to facilitate housing production.

Priority Projects

- Removing the price for community infrastructure from individual housing.
- Building public roads, creating potable water sources, and increasing wastewater capacity.
- Focus on near-term efforts of the MMH-Ready Areas

Pilot Project for Missing Middle

In the near term, pilot projects in the identified MMH-Ready area are recommended for Maui to demonstrate the viability of Missing Middle Housing and test implementation recommendations. The following projects could be considered:

- Lot-Scale Infill with MMH
- Large-Site Infill with MMH



Central, West and South Maui Missing Middle Housing Study



DRIP Committee

From: Patricia Céspedes <patricia.cespedes@opticosdesign.com>

Sent: Tuesday, March 18, 2025 1:25 PM **To:** DRIP Committee; Jarret P. Pascual

Cc: Stefan; Kate Blystone

Subject: Re: Additional Communications Relating to Missing Middle Housing DRIP-9(1)

You don't often get email from patricia.cespedes@opticosdesign.com. Learn why this is important

Hi Jarret,

I hope this email finds you well. Please find in the following link the information we prepared for the Maui Scan & Deep Dive Analysis.

Direct download:

https://opticosdesign.egnyte.com/fl/ARn6llS2jn

Password: LR4FJu3Y5xQ6

The folder has the following content:

- Executive Summary in a format 11x17
- Scan Final Report
- Deep Dive Report

Let us know if you have any questions or issues downloading the information.

Patricia Céspedes (she/her), Senior Designer

Opticos Design, Inc. | <u>2100 Milvia Street, Suite 125 | Berkeley, CA 94704 | 510.717.0898 | opticosdesign.com</u> A certified B Corporation | Architects of the Missing Middle Housing movement | missingmiddlehousing.com



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From: "Jarret P. Pascual" < Jarret. Pascual@mauicounty.us>

Date: March 18, 2025 at 1:50:12 PM PDT

To: Kate.Blystone@co.maui.hi.us, "Gregory J. Pfost" < Gregory.J.Pfost@co.maui.hi.us >,

Stefan < stefan.pellegrini@opticosdesign.com >

Cc: joy.paredes@co.maui.hi.us, Ana Lillis < Ana.Lillis@co.maui.hi.us >, "Carla M. Nakata" < Carla.Nakata2@mauicounty.us >, "Keone J. Hurdle" < Keone.Hurdle@mauicounty.us >,

Yvette Bouthillier < Yvette.Bouthillier@mauicounty.us>

Subject: Additional Communications Relating to Missing Middle Housing DRIP-9(1)

I can confirm that DRIP Committee Staff has received the presentation on Missing Middle Housing for tomorrow's 1:30 DRIP meeting, thank you! In addition, were there additional communications that could also be provided to the DRIP Committee for the committee members' reference?

I'm noting an executive summary, final report, and final memorandum prepared by Opticos Design that was prepared for Hawaii Community Foundation and Maui County. Councilmember Paltin would like these to be transmitted to the Committee.

Would you be able to provide a copy of each communication to DRIP.Committee@mauicounty.us? Thank you!

Mahalo,

Jarret Pascual

--



Jarret P. Pascual

Legislative Analyst County of Maui | Office of Council Se

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Office: (808) 270-7141 | Cell: (808) 79