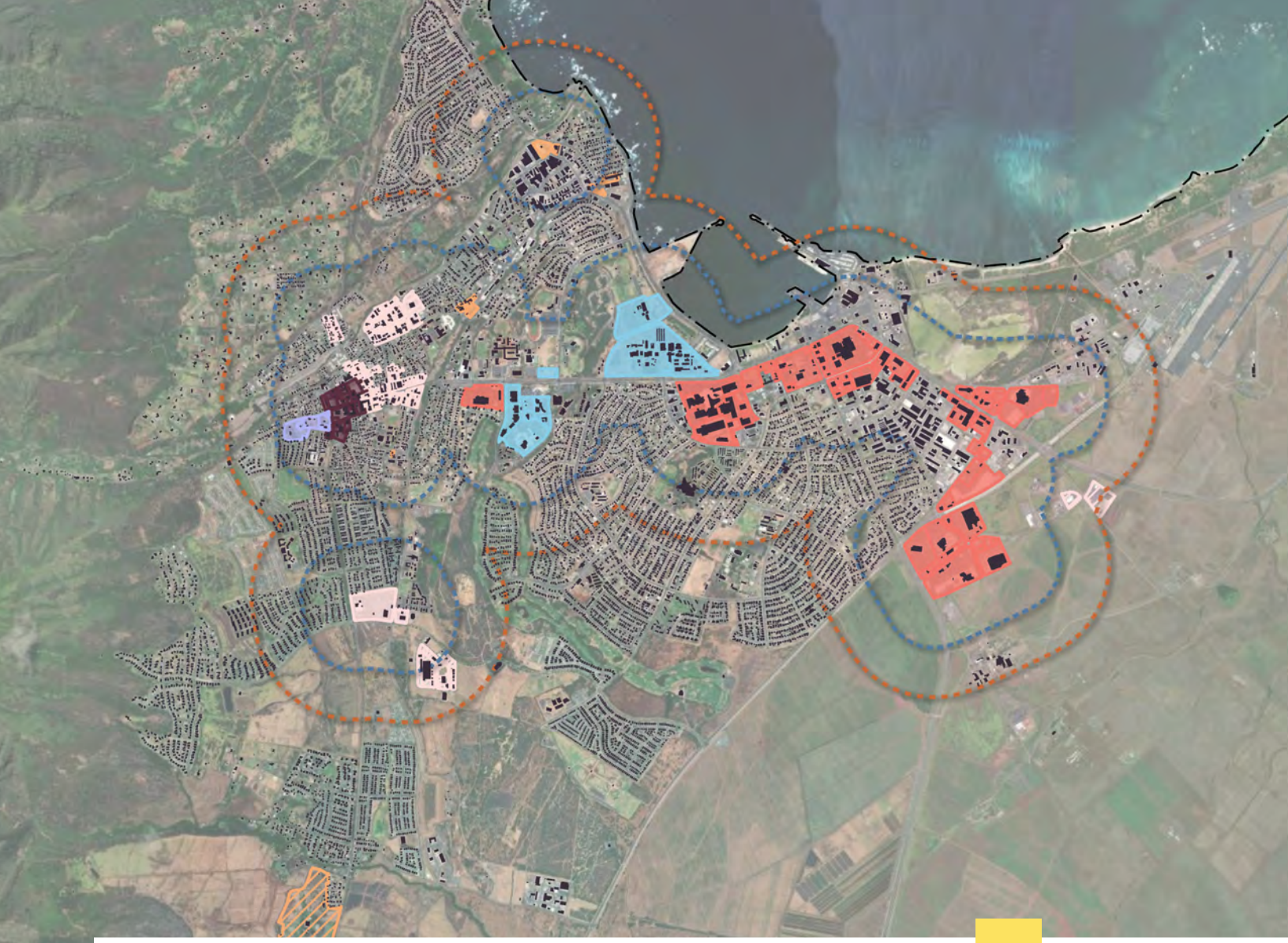


Central, South & West Maui

Missing Middle Housing Scan™ Analysis + Definition of Barriers

Prepared for:
Hawai'i Community Foundation + County of Maui

Final Memorandum
September 2024

HAWAI'I COMMUNITY FOUNDATION

OPTICOS

COUNTY OF MAUI
STATE OF HAWAII

Prepared For:

Hawai'i Community Foundation
444 Hana Hwy Suite 201
Kahului, HI 96732
808.242.6184
www.hawaiicommunityfoundation.org

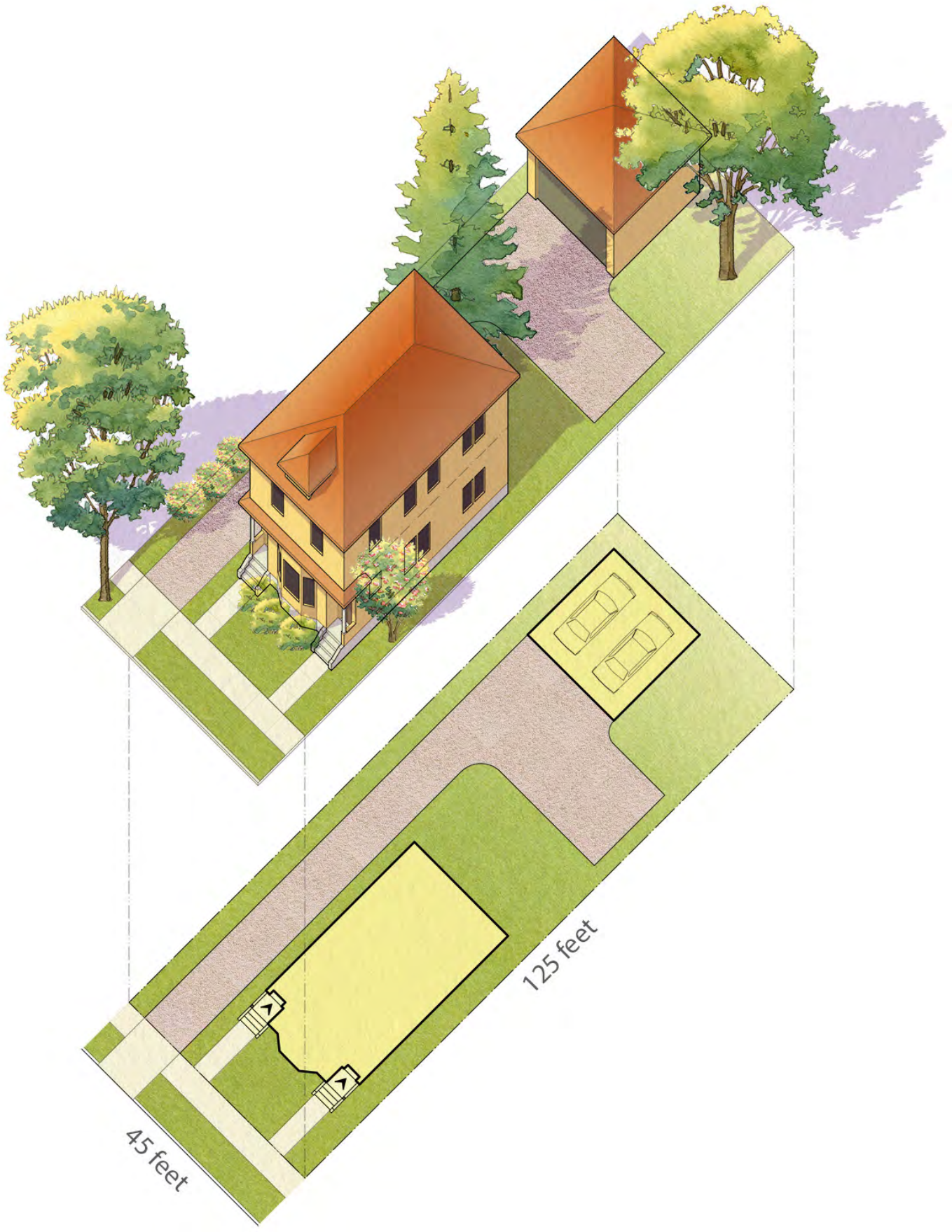
Prepared By:

Opticos Design, Inc.
2100 Milvia Street; Suite 125
Berkeley, California 94704
510.558.6957

Missing Middle Housing term created by Daniel Parolek

For more info visit www.missingmiddlehousing.com

What's Inside?


125 feet
45 feet

CHAPTER 1

Purpose + Objectives

In this chapter

1.1 What This Study Is About

Please note that the Missing Middle Housing Study references data that predates the devastating fires in Lahaina in August 2023 in describing Maui's housing challenges. The loss of housing due to the fires have only exacerbated the crisis.

The findings of the Missing Middle Housing Scan™ (this report) and the recommendations that will be provided in the Missing Middle Housing Deep Dive™ will be relevant in helping Maui increase housing access and affordability in the coming decades.

The County of Maui is working to ensure housing attainability and increase housing choices to meet its current and future needs. The Missing Middle Housing Study will carry out analysis and provide recommendations to support these goals.

Housing in Maui Today

In Maui, as in most places across the nation, housing unaffordability is a growing crisis. Population demographics are changing rapidly as well, requiring a wider variety of housing types to meet Maui's housing needs, beyond the typical single-family home.

In the United States, at least 75 percent of all residential land is zoned for single-unit (also called single-family) development. This land use pattern, among other factors, has contributed to a housing shortage of approximately 4.5 million housing units as of 2022.[1] In Maui, 66 percent[2] of the housing stock is in the form of single-unit dwellings. Even though households in Maui are changing, the housing choices have not increased to meet this need. On the contrary, US census data shows that over the past ten years, the percentage of small multi-unit buildings within Maui's housing stock has decreased as compared to the number of single-unit housing products.

The housing crisis in Maui is further exacerbated by limited land and high costs of development, as well as the growing market for second homes and short-term rentals because of its desirable location, culture and climate. The recent natural disasters and consequent loss of housing have also compounded the crisis.

A Roadmap to Identify Barriers and Increase Housing Choices

The Missing Middle Housing (MMH) Study explores ways to expand housing choice and provide more attainable housing options. It is a focused effort to explore ways to implement Missing Middle Housing across Central, South and West Maui and help the County to respond to the urgent need for attainable housing at all income thresholds. The Study includes extensive analysis to identify where MMH can be accommodated, carry out regulatory and policy analysis for selected zoning districts to identify barriers to MMH, and provide recommendations to facilitate the production of MMH across Central, South and West Maui.

How the MMH Study is Organized

The MMH Study will produce two key reports to summarize its work:

- **The Missing Middle Housing Scan™** report (this document) presents the analysis to identify areas suitable for MMH, and identify barriers.
- **The Missing Middle Housing Deep Dive™** report builds on the MMH Scan analysis, includes design testing on opportunity sites, and provides a set of zoning and policy recommendations.

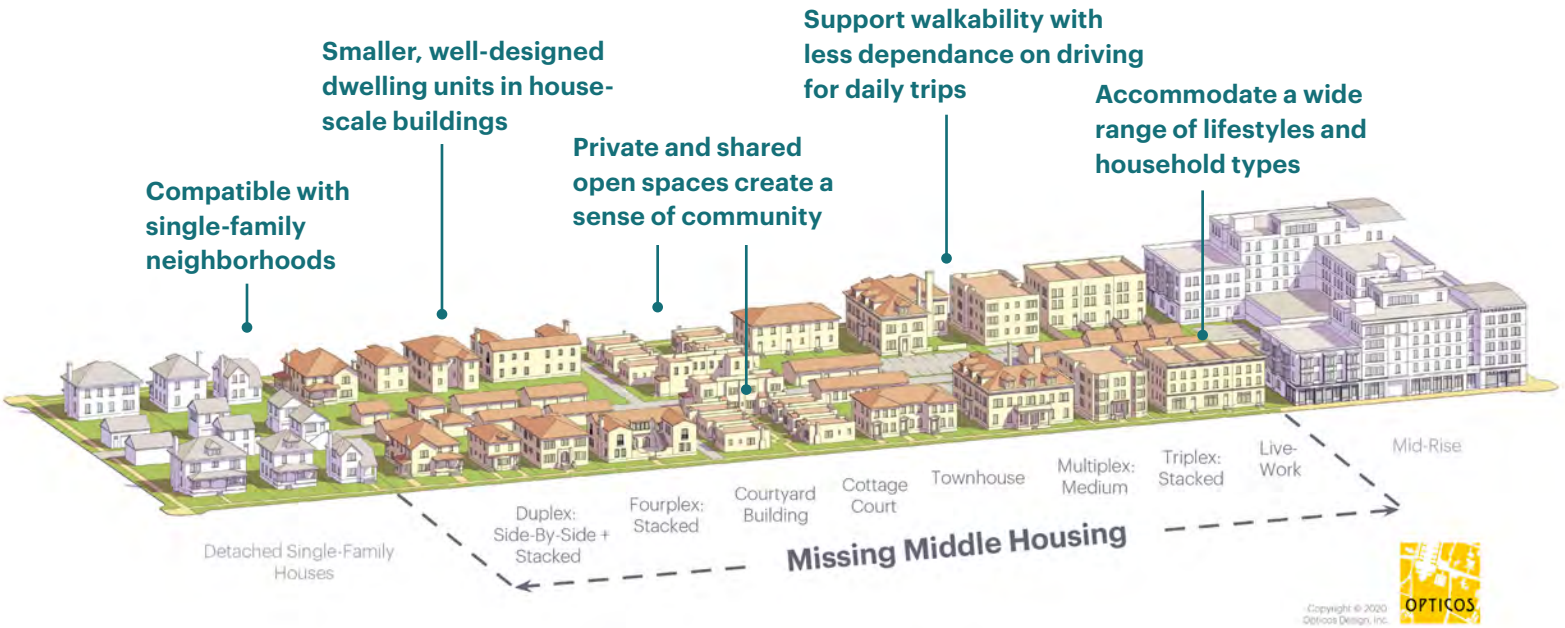
Sources

[1] *Zillow Research paper (https://www.zillow.com/research/affordability-housing-shortage-34153), 2024*

[2] *Hawai'i Housing Factbook, Economic Research Organization, University of Hawai'i (UHERO), 2024*

Missing Middle Housing is a range of house-scale buildings with multiple units, compatible in scale and form with detached single-family homes, that can promote housing diversity and attainability."

Dan Parolek
Founder of the Missing Middle concept
www.missingmiddlehousing.com



The Missing Middle Housing (MMH) Study will provide recommendations to help Maui expand housing choice and affordability.

1.2 An Overview of Maui's Population + Housing

A starting point to understanding Maui's housing needs is to review how its population is projected to change over the coming decades.

Population Projections

Maui's population of about 164,765 (in 2024) is projected to increase to 167,400 by 2043[1]. In recent years, Maui residents have been relocating to other places in large numbers, which is largely attributed to increasing housing costs in Maui.

The population is also aging. The median age increased from 34.1 to 36.2 years between 1990 and 2000. Households are becoming smaller over time and Maui's average household size, currently 2.92[2], is projected to be 2.66 in 2030.

Maui County has approximately 72,000 housing units, primarily in the form of single-family units, both attached and detached. The majority of the multi-family residential stock, approximately 15 percent, is in the form of buildings with over 20 units, in other words larger apartment or condominium buildings. Smaller multi-unit buildings such as Missing Middle types (two to 19 units) comprise 18 percent of the multi-family housing stock[2].

Of Maui's land zoned for residential use, only 18.3 percent allows multi-family residential and over 81 percent is zoned for single-family[3]. This has played a role in limited multi-family housing options. Vacancy rates are high, and over the past five years, Maui County has lost 175 units.

Figure 2.1 *Existing housing and population characteristics in Maui County*

Maui's Population Characteristics[1]	
Total Population	164,765
Average Household Size	2.92[2]
Population Under 18 Years	21.4%
Population Over 65 Years	19.3%
Homeowners	65.3%
Renters	34.7%
Median Household Income	$95,379
College Education Rate	30.1%
Unemployment Rate	5.4%
Median Value (Condo)	$799,000
Median Value (SF Home)	$1,050,000
Median Monthly Rent	$1,805

[1] Hawai'i Housing Factbook,Economic Research Organization, University of Hawai'i (UHERO), 2024

[2] US Census, 2024

[3] Department of Land and Natural Resources (DLNR)

Maui's Housing Characteristics[1]	
Total Housing Units	71,801
Vacant Housing Units	17,073 units
Single-Unit, Detached	42,596 (59.3%)
Single-Unit, Attached	4,979 (6.9%)
Duplexes	1,784 (2.5%)
3 - 4 Units	2,985 (4.2%)
5 - 9 Units	4,971 (6.9%)
10 - 19 units	3,622 (5.0%)
20+ Units	10,603 (14.8%)
Mobile Homes	240 (0.3%)
Residential Land zoned for Single-Family[3]	81.7%
Residential Land zoned for Multi-Family[3]	18.3%

Population Characteristics

Population and Household Characteristics

Source: Hawai'i Housing Factbook, UHERO, 2024

164,765
Maui's population in 2024

19.3%
population is over 65 years old

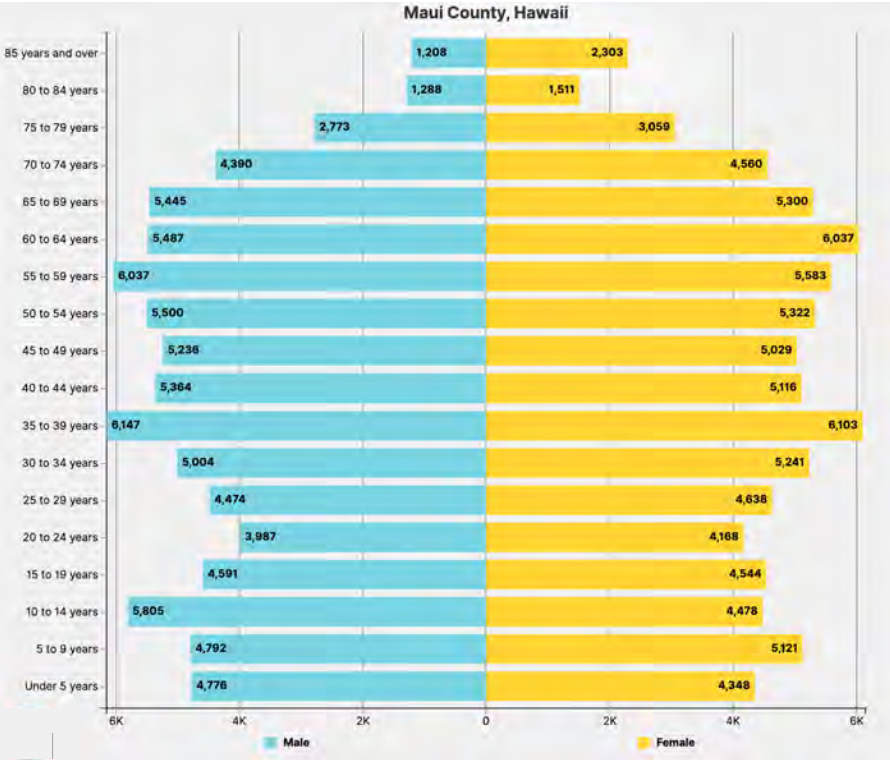
2.92
average persons per household

35%
of residents are renters

Renters are more susceptible to displacement than homeowners when housing prices escalate.

53%
of renters are house-burdened. **28%** are severely house-burdened*

* Households that need to spend more than 30% of their total household income on housing are said to be "house-burdened". If spending more than 50%, they are considered to be "severely house-burdened".



Population by Age and Gender

Source: American Community Survey, 2022

Housing Affordability

One of the biggest challenges is housing affordability. Nationally, Hawai'i has the highest cost of housing; and in 2023, the median housing cost was 2.7 times[4] the national level. Since the mid-90s, median single-family home prices and condo prices have tripled.

From 2020-2025, Hawai'i needed to supply 50,156 units to address the affordability issue. Maui County is required to produce 10,404 units at various HUD income classifications[5], with more rental than ownership units. A majority of these units will be single-family.

Key Housing Issues

The Hawai'i Housing Planning Study, conducted in 2019, listed several key housing issues. One of these include inadequate supply of housing for persons with special needs. Affordability and access to special services at or near their homes are two key housing-related issues among this population.

Homelessness is also a key housing issue. According to the Hawai'i Housing Factbook, published by Economic Research Organization of the University of Hawai'i, the state has the fourth highest rate of homelessness in the nation. In 2022, for every 10,000 residents, 41 are experiencing homelessness, twice the national average.

Another key housing issue is the visitor industry's impact on the residential housing market. According to an article, "Short-Term Vacation Rentals and Housing Costs in Hawai'i", published by the Economic Research Organization of the University of Hawai'i, 14 percent of all housing units in Maui County are listed on Airbnb. This figure is extremely high when compared with other cities. For example, 1.4 percent of San Francisco's housing stock is listed on Airbnb.

Short-term rentals significantly influence the housing market in Maui because they comprise a large percentage of the housing stock, reducing the housing stock available for residents. Limited supply increases the price of both rental and for-sale housing.

Housing Production

It is also essential to understand the barriers to housing production. Two significant barriers to housing production are regulatory barriers and infrastructure. Hawai'i has the most restrictive land use regulations in the nation. Land use limitations, lengthy project approval and entitlement processes, and complicated affordable housing requirements make housing production difficult. The median time to process a new housing permit for multi-family development in Maui, for example, is over 416 days (compared to 206 for a single-family development)[6].

Infrastructure capacity is also a major barrier to housing production. Many new growth areas in Maui lack existing infrastructure, or surplus capacity when infrastructure is existing. The high costs of providing or upgrading infrastructure adds to development costs, making many projects infeasible. For this reason, infill housing can be a practical solution to providing more housing without extensive infrastructure investment. These can include areas with adequate or surplus infrastructure capacity, or areas with at least basic infrastructure systems in place, that can be upgraded at lower cost than building new systems. Missing Middle Housing types can be added to existing areas in an incremental way, and could be part of an infill strategy.

Source

[4] *The Hawai'i Housing Factbook, 2024*

[5] *Hawai'i Housing Planning Study, 2019 by SMS Research & Marketing Services*

[6] *The Hawai'i Housing Factbook, 2023*

Housing + Market Conditions

82%
of residential land is zoned for single-family housing

14%
of Maui County's housing stock is short-term rental
(~10,000 units in 2024)

24%
of Maui County's housing stock is vacant
(~17,000 units in 2024)

10,404
housing units needed in Maui
(between 2020-2025)

Housing Market Conditions

Source: The Hawai'i Housing Factbook, 2024

$95,379	**median household income**
$1,050,000	**median price of single-family home**
$799,000	**median price condominium**
$1,805	**median gross monthly rent**

Figure 2.2 *Short-Term Vacation Rentals and Housing Cost in Hawai'i by County*
Source: University of Hawai'i Economic Research Organization (https://uhero.hawaii.edu/short-term-vacation-rentals-and-housing-costs-in-hawai%CA%BBi/)

1.3 Why Should Maui Consider Missing Middle Housing?

Changing demographics and household needs should be reflected in the housing choices available to residents.

While no two households are alike, considering the unique needs of Maui households from all walks of life will enable us to plan housing for everyone. Housing needs vary not just by household size and composition but also among the same household over time. The snapshots below illustrate a few of the unique housing needs of different household types and lifestyle preferences.

Demographic trends for Maui indicate a downward trend in average household size and an increasing number of elderly residents who need attainable age-friendly housing options as they downsize. MMH can allow the market to respond to this growing need. Adding a wider variety of housing types will promote housing access and attainability.

MMH has the potential to empower local homeowners, builders, and civic leaders to reinvest in their communities to provide much-needed housing. The many benefits of MMH are discussed in the following pages.

What Can Missing Middle Housing Do?

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

There are three criteria for assessing the success of Missing Middle Housing: Feasibility, Attainability and Livability. Hitting the Missing Middle "sweet spot" is the focus of this study for Maui.

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.

MMH Can Increase Housing Choice

> **To solve the national housing crisis, we need to rethink and evolve, reinvent and renew."**
>
> **"What's Next: Real Estate in the New Economy"**
> Urban Land Institute, 2011

What we now refer to as "multi-family" was once a much more nuanced type of development than what the market has produced over the past 50 years.

MMH types are seen in most pre-World War II neighborhoods across the country. These small-scale multi-family types have traditionally provided communities with housing choices that fall in-between the single-family home and larger apartment buildings. In this way, MMH increases housing choice by **providing a multi-family option that is similar in scale to a single-family home but with smaller, more affordable units**. It can help meet the housing needs of a changing population, in both new and established housing markets.

Increasing housing choice has many advantages. If neighborhoods have a variety of housing types, including housing units of different sizes and bedroom counts, it helps in creating more resiliency in the face of housing market fluctuations. It gives residents options to downsize or move without needing to leave the neighborhood or area and possibly disrupting their lifestyles by needing to, say, find a new job or school.

The choice to downsize or move need not apply only in cases of market fluctuations - greater housing choice can enable the same household to stay rooted in the community but be able to change their accommodation as their needs change. For example, a household may evolve over 50 years from a single person to a couple to a family to an empty nester. The ability to navigate these life stages while having the choice to remain in the same neighborhood or area can have huge social and community benefits.

A population that is diverse in age, income level, household size and composition is widely considered to make a community more vibrant, cohesive, and desirable. For these reasons, policy makers and institutions such as the American Association of Retired Persons (AARP) and National Association of Home Builders (NAHB) are advocating for more housing choice, and are supportive of Missing Middle Housing.

Housing Trends in Maui Indicate a Growing Imbalance Between Supply and Demand

Data source: Hawai'i Housing Planning Study, 2019 by SMS Research & Marketing Services.

23% **of Maui households were considered "crowded" and/or "doubled-up" in 2019 and this trend has been risingh= since 2003.**

9.5% **increase in the housing stock between 2010-2017 has been inadequate in addressing the gap between housing supply and demand.**

57% **of total Maui households in 2019 who said they wanted to move to a new home, said they could not do so because of high housing costs.**

Which Household Types Can Benefit from MMH?

Retirees and Empty-Nesters

MMH supports downsizing and living with less driving, less housework and potentially supplementary income.

Multi-Generational Families

MMH types such as a Cottage Court can accommodate larger families, allowing multi-generational living.

Small Families

Single-person households and small families can benefit from smaller housing options, particularly ownership models, to build equity.

Entry-Level Buyers

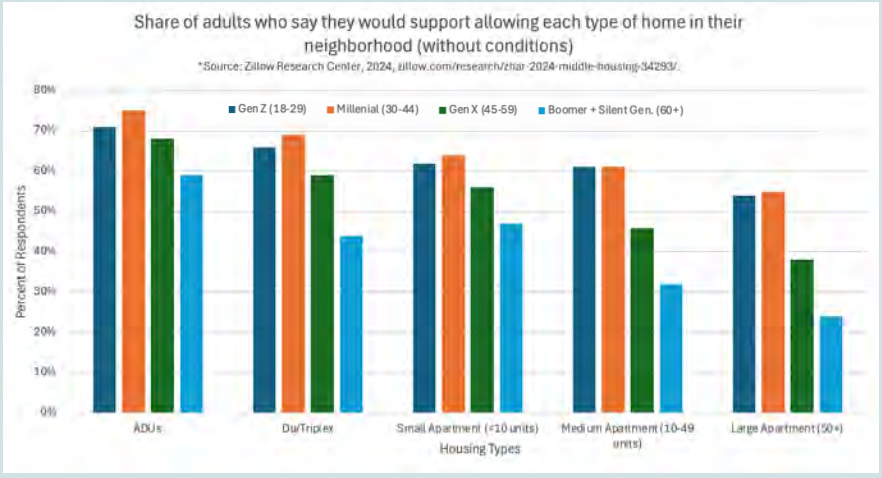
MMH offers smaller, more attainable units, offering homeownership opportunities for entry-level buyers.

Working Middle Class

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

Small-Scale Builders

MMH projects are smaller in scale, do not need specialized construction, and can be built by small-scale builders .



Across the US, Support for Missing Middle is Growing

Source: Zillow research, 2024 (https://www.zillow.com/research/zhar-2024-middle-housing-34293/)

A 2024 report from Zillow highlights survey findings from 26 Metro areas indicating growing support for Missing Middle Housing options. 78% of homeowners and 91% of renters voiced support for these options.

MMH Can Advance Housing Attainability

MMH is an effort to increase housing choices at all income levels.

MMH represents the "middle" building in scale and form, but it also relates to a "middle" level of affordability. These types have historically delivered attainable choices to middle-income families.

MMH increases housing attainability by delivering **smaller units that can typically be produced and sold at a lower price point** than comparable single-family homes. Key attributes of MMH that lead to attainability include:

- **Smaller spaces and shared cost.** Missing Middle types deliver multiple units on the same size lot as a single-family home, allowing distribution of the land cost and making each unit inherently more affordable. Because the units tend to be smaller than conventional single-family homes, they can be less expensive to build in most housing markets.
- **Cross-subsidized affordable units.** MMH projects can also be designed creatively as mixed-income projects to deliver neighborhood-scale affordable-housing options. MMH has the potential to greatly expand the availability of housing that's attainable for households with a variety of incomes.
- **Income, Equity, and Empowerment.** Historically, MMH types provided lower-income households an opportunity to attain higher-quality living and to improve their economic situation. Since federal home loans can be used for buildings with up to four units, a homeowner can qualify to purchase a MMH building that would contain their own unit, plus up to three additional units. This can provide rental income to help subsidize development costs. Alternatively, smaller condominium residences enable a household to buy a starter unit, build equity, and then buy a larger home when needed.

To address Maui's housing crisis, both market-rate and subsidised housing needs to be built. Housing built with subsidies is typically provided to groups at low, very low and extremely low income thresholds as described by the state. Providing subsidised affordable housing is critical, however, the amount of local, state, and federal funding available to finance subsidized housing is often inadequate.

MMH typically refers to market-rate (non-subsidized) housing with units that are more attainable due to their smaller sizes. MMH can be part of the solution to address the housing crisis by providing more middle-income housing. Research indicates that building more middle-priced housing increases long-term regional affordability[7]. As new market-rate housing is built, it causes higher-income households to move into the newer units, vacating older housing stock that can now be accessed by lower-income households, in a process called "filtering."

Several studies indicate that increasing housing supply tends to reduce housing prices, particularly over the long run. The City of Portland, for example, found that allowing smaller units citywide could reduce average housing costs by 56 percent over a 20-year period[8]. A 2019 working paper on housing[9] found that for every 10 percent increase in New York City's housing stock, rents decreased by one percent within a 500-foot vicinity.

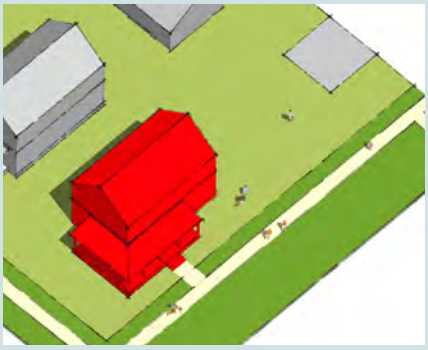
References

[7] *"The Effect of Market-Rate Development on Neighborhood Rents", 2021, Study from UCLA Lewis Center for Regional Policy Studies*

[8] *"State of Housing in Portland" report, 2021, by the Portland Housing Bureau*

[9] *"Do New Housing Units in Your Backyard Raise Your Rents?", 2019, by Xiadi Li*

How Can MMH Develop Incrementally To Meet the Changing Needs of a Household?



Stage 1: Single-Family Home. This example begins with a single-family house on a typical lot. The household consists of parents with young children. The home has two to three bedrooms, providing enough room to raise a family.

Stage 2: Wing Unit Addition. As time goes by, the family feels the need to have the grandparents live nearby. They add a wing to the back of the house, containing a bedroom, bathroom, and living/dining room. This second unit allows the grandparents to live independently but be close enough to help out with childcare, and for the parents to help out their parents as needed.

Stage 3: Carriage House Addition (ADU). Later on, the family decides to add a carriage house adjacent to the alley. Initially, it is rented out to pay down the construction cost and to provide additional income to support the kids' college education. This unit could also provide a place in the future for their children needing a place to live while pursuing a new job and building savings; or for a relative in need of housing.

Figure 2.4 *A MMH project under construction in Papillion, NE. The simple forms, smaller size, and compatibility with Type V construction help make MMH projects affordable to build compared to typical single-family homes, and such projects can be undertaken by the average residential homebuilder.*

> **"Missing Middle types continue to play a role in providing homes to the "middle-income" market segment that typically straddles 60% to 110% average median household income."**
>
> **Dan Parolek**
> Principal, Opticos Design

MMH Can Promote Housing Equity

14%
of housing in Maui is short-term rental.

MMH offers an incremental approach to infill development and it is a great way to gradually transform a neighborhood physically, socially and economically, while promoting housing equity.

In the United States, past discriminatory practices of racially restrictive covenants and government-sponsored redlining have created barriers to homeownership and intergenerational wealth-building for many families of color. Present-day single-family zoning in high opportunity neighborhoods continues to reinforce the wealth gap and socio-economic disparities.

The prohibition of MMH types and thereby lower-cost multi-family unit types, denies many low and moderate-income families the opportunity to live in neighborhoods with the best parks, schools, and other desirable amenities. Allowing MMH in Maui's residential neighborhoods will help create more equitable and inclusive communities by addressing the remnant forces of government policies of exclusion and racial segregation.

In addition, MMH supports a community-driven incremental transformation through attainable housing that is gradually added to the existing housing stock. In this way, MMH advances housing equity by reducing racial and socioeconomic disparities reinforced by single-unit zoning while acknowledging the need for improvements to the existing infrastructure.

"So much of the real estate industry is extractive, where far-away investors mine the value from properties that line our streets. MMH can create a more generative real estate model, where local people can invest in their own neighborhoods and in that process, create new life and value that benefits their community."

Incremental Development Alliance

Is Housing in Maui equitable?

$1,050,000 | $799,000

median price of single-family home | condo

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**

Source: The Hawai'i Housing Factbook, 2024

MMH Can Support Economic Stability

MMH can provide pathways for local homeowners and builders to invest in their neighborhoods and build generational wealth through small-scale, incremental housing and mixed-use projects. Development corporations and local banks can create additional financing tools to support incremental MMH developments. MMH types support economic growth in several ways:

- **Lower cost of entry for local developers.** Small-scale, lower-cost MMH projects allow local investors and builders a more equal footing to compete with larger, more established developers for MMH projects. This also has the benefit of strengthening the skills of the local construction labor market.
- **Passive income opportunities.** Local homeowners can augment their income through MMH conversions and additions to existing homes.
- **Support and help incubate small businesses.** Many MMH types such as Live Work and Main Street Buildings offer smaller ground floor commercial spaces, that would otherwise not be available or affordable for starter businesses and local entrepreneurs.
- **Provide economic diversity to neighborhoods.** MMH supports local retail in two ways: by adding more households of varying income levels that have a broader set of retail needs; and by fostering a pedestrian-oriented environment that increases foot traffic to support neighborhood-serving retail and services.

MISSING **MIDDLE** HOUSING

Subsidized housing

At one end of the spectrum of strategies is to create more housing subsidized with public funds, typically with income restrictions. While this is critical and must continue, this strategy alone will not be able to address the housing shortfall.

Market-rate units that are lower-cost without subsidy

A strategy to make housing more affordable is to increase the supply of market-rate housing. If these units can be smaller and less costly to deliver, they can provide housing options at all levels of attainability.

Market-rate housing

Typical market-rate multi-family options being produced in today's housing market is in the form of large buildings. High construction and land costs set price points that are not attainable to the vast majority of income groups.

MMH Can Enhance Livability

MMH types thrive in, and in turn support environments that promote walkability with active, pedestrian-friendly streets and public spaces. They help build community by integrating well-designed open spaces as well as design elements such as porches and stoops that encourage everyday interaction. MMH types enhance livability in several ways:

- **Pedestrian-friendly, active living and healthy communities.** MMH supports walkability and an active lifestyle with reduced dependance on the car. Active streets and pedestrian activity promote healthier, safer communities.
- **Everyday casual interactions.** MMH types regulate building frontages, street-facing entrances, active frontages, and shared open space that promote everyday interaction, casual conversations and build a sense of community.
- **Allowing aging-in-place.** The diversity of housing types and sizes offered by MMH support aging-in-place, senior housing and co-living configurations. Long-term residents build stronger, more integrated neighborhoods.
- **Supporting different lifestyles.** MMH supports new living arrangements such as co-housing and multi-generational living. Multigenerational living and o'hana units are seen in Maui both due to the cultural importance given to families and also because of the need for extended family living together due to the shortage of affordable housing.
- **Quality living experience.** MMH emphasizes smaller but well-designed interiors with natural light, dedicated entrances, and other features that provide an experience similar to a single-family home but with less maintenance. MMH also prioritizes outdoor space on the lot, often in shared configurations.

Figure 2.5 *MMH types prioritize co-living and shared open spaces that encourages community interaction.*
Source: Affordable & Workforce Housing Plan, 2024

THE MULTI-GENERATIONAL HOME

All too often, buildings are treated as static objects, but what if homes were permitted to accommodate the full life cycle of the people living there? The idea of a multi-generational house is one in which several different homes can exist within the same building footprint.

The main unit could be larger, to accommodate a family with children. An additional attached smaller unit could be used by grandparents who want to live independently but close to family. A third unit could be added to house a relative, an older child, or a renter.

Designing or planning for a house in this way can allow for incremental development and rental income opportunities, which can make it easier to finance and more affordable to build over time. This example describes just one possibility of many, to illustrate a broader housing concept to meet the changing needs of households over time.

MMH Can Respond to Climate Change

One of the key principles of MMH is to align environmentally-friendly growth with attainable housing production. Since, by design and product type, MMH types tend to be smaller in footprint, they result in less carbon emissions per household, when compared to larger homes.

Research has established that residential energy use accounts for roughly 20 percent of greenhouse gas (GHG) emissions in the United States, and that in addition to decarbonizing our energy consumption and increasing the energy efficiency of our homes, fundamental changes are needed to the built form of our communities to meet global and state GHG reduction goals. These include incentivizing smaller homes that have less energy demands per capita compared to their larger single-family counterparts.

MMH types are smaller by design and require less energy to heat and cool, making them more energy efficient.

Missing Middle Housing has the potential to reduce further sprawling development patterns and support low-carbon modes of transport, while also blending into the fabric of existing neighborhoods. MMH can, through gentle infill, increase the number of households in an area, increasing the feasibility and efficiency of public transportation, pedestrian and bike infrastructure, and community amenities.

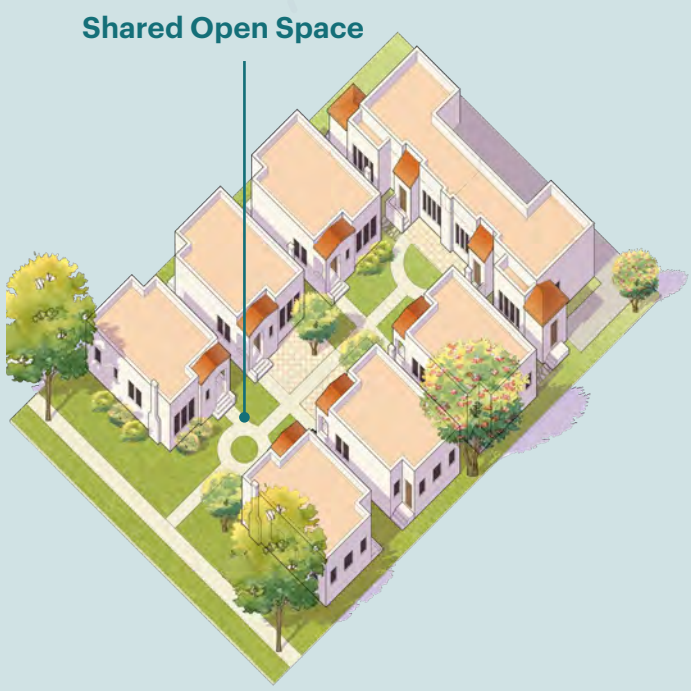
As communities adopt MMH housing ordinances, they have an opportunity to rethink and re-establish their environmental goals to consider how future growth can align with climate change issues, environmental hazards and mitigation strategies, such as stormwater and water management. New zoning enabling MMH can include environmental incentives to promote reduced driveway and off-street parking requirements, and the preservation of existing greenery and tree canopy.

THE COTTAGE COURT

Smaller footprint buildings are more "green" in terms of per capita consumption while still providing high-quality living for residents, and supporting walkable communities and active, healthy lifestyles.

For example, the Cottage Court MMH type is composed of buildings with very small footprints —sometimes as small as 500-600 square feet. These cottages are typically 1-1½ stories, detached, and oriented around a shared court oriented perpendicular to the street.

The courtyard itself is usually landscaped, taking the place of rear yards, and offering the opportunity for informal interactions among residents and the opportunity to enjoy the green space. The courtyard also addresses the street and encourages interaction with neighbors.




CLL-2585
90
89

CHAPTER

2

About Missing Middle Housing

In this chapter

2.1 Missing Middle Housing: An 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.

What is Missing Middle Housing?

Missing Middle Housing (MMH) is defined as 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 and size as a typical single-unit house.

MMH is not a new concept. Most cities built before the 1950s have these types, providing housing options for middle-income households near jobs and other major destinations. Maui too has MMH types. 19 percent of Maui's housing stock consists of small-scale multi-family units (between two to 19 units) and within this, diverse examples of MMH can be seen, many adaptated to local climate and cultural preferences.

Responding to the Demand for Walkable Urban Living

The mismatch between current US housing stock and shifting demographics, combined with the growing demand for walkable urban living, has been poignantly defined by recent research and many publications. The solution to meet evolving housing needs is not as simple as adding more multi-family housing stock using the same housing

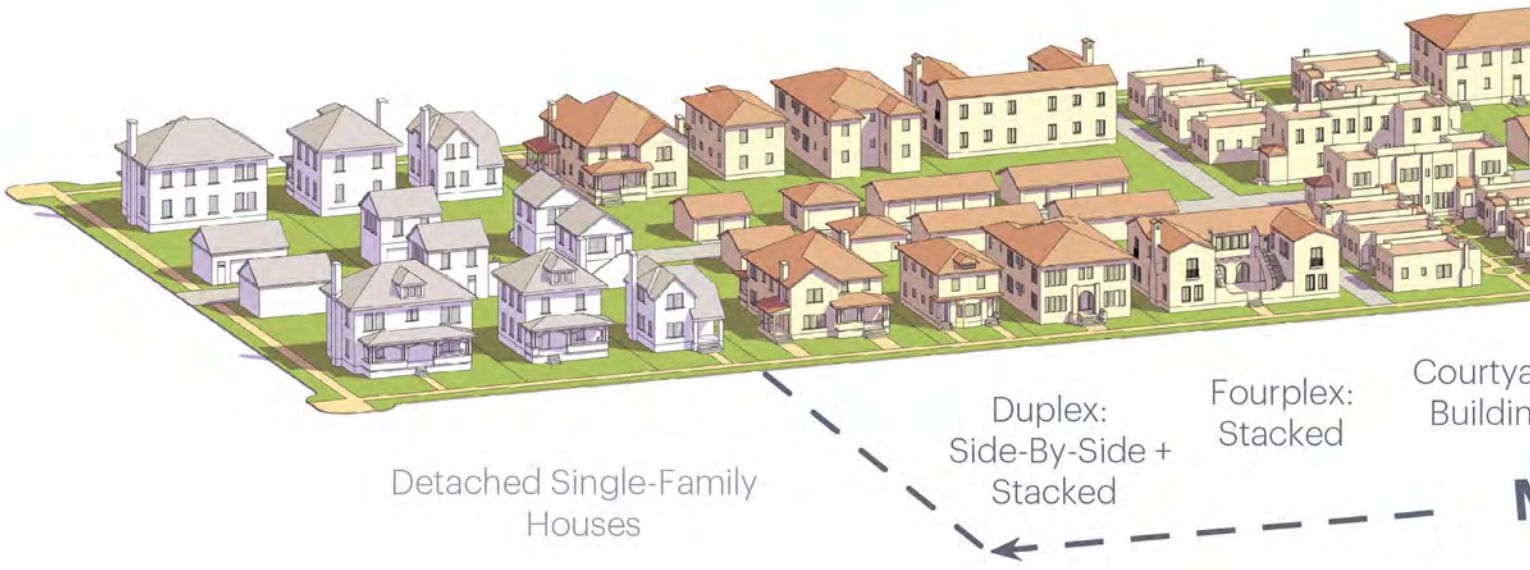


Figure 2.1

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 and mixed-use buildings.

Missing Middle Housing and Community Benefits

When implemented correctly, MMH can be an important place-making tool with a wide variety of community benefits. Some of these are described below:

■ Provides housing options

MMH provides a middle-scale housing option with smaller-sized units that help keep development costs down, offering housing options to buyers and renters whose needs are currently not being met.

■ Fosters sense of community

MMH integrates private and shared open spaces, promoting interaction between tenants and fostering a sense of community. These types also support co-living, multi-generational living, etc.

■ Supports walkability

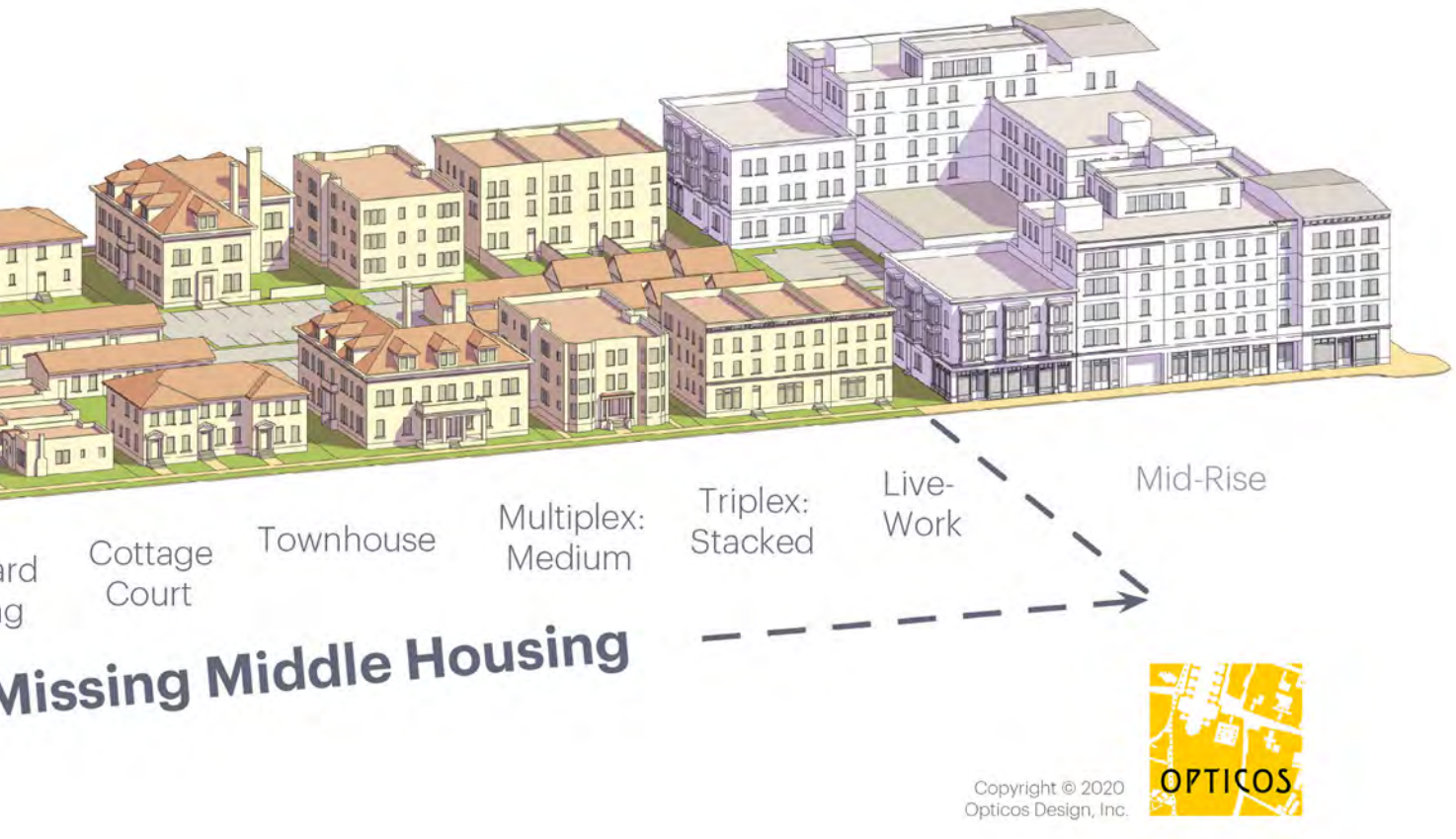
MMH types work best in walkable environments where driving is a choice but not a necessity. They promote an active lifestyle by creating a pedestrian-safe neighborhood.

■ 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.

■ Helps to build equity

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 and lower housing costs for existing homeowners, and provide a low-cost to entry option for local builders.



typologies that have been built over the past few decades. Instead, it is necessary to shift the way that we design, locate, regulate, and develop homes. MMH types can help meet the growing demand for more housing choices and living within easy reach of amenities, services and transit in "complete neighborhoods". MMH also responds to shifting household demographics nationwide and can help meet the growing need for more attainable housing types for both rental and ownership models.

By encouraging MMH in suitable locations, Maui can expand housing choice and affordability to meet the current and future needs of its residents, as well as help address growing housing inequity in the region. As discussed in Chapter One, MMH has many benefits. It expands housing choices for many groups and lifestyle choices, and can promote homeownership and build generational wealth. It enables aging-in-place and downsizing. It is also a means to strengthen the local economy as well as respond to climate change, by promoting compact, infill development with reduced dependence on the car.

Priority Areas for MMH

MMH is most effective when located in well-connected, walkable environments with convenient access to jobs, shopping, schools, and other such daily needs. MMH helps to meet the needs of many buyers and renters who are willing to trade larger houses for more compact units and lesser yard space, to live in proximity to amenities and services that can be accessed by foot or bike and not dependent on owning or driving a car. For this reason, different types of MMH work best in areas that are well-connected and have a mix of uses.

Incremental Change with MMH

One of the unique attributes of MMH is that it supports incremental transformation through attainable housing that is gradually added to the existing stock. This avoids sudden or drastic changes to a neighborhood, that can lead to opposition from residents.

CLOSER LOOK

"House-Scale" and "Block-Scale"

Building types fall into one of two categories: house-scale and block-scale.

House-scale buildings are the size of a house, typically ranging in footprint from as small as 25 feet up to 80 feet overall, including wings.

Block-scale buildings are individually as large as most or all of a block or, when arranged together along a street, appear as long as most or all of a block.

House-scale townhouses are arranged as a "run" of 2-4 units, up to 2 stories tall. This building type is appropriate in lower-intensity neighborhoods because it maintains the scale of a large single-unit house.

Block-scale townhouses consist of 4-8 units, up to 3 stories tall. This building type is appropriate in moderate to high-intensity neighborhoods since it is larger in scale than a single-unit house.

How and where can MMH work?

There are various ways in which Missing Middle types can be integrated into neighborhoods. The graphics below highlight some of these approaches. Note that MMH can and should be integrated into larger planned communities as well, to deliver housing choices for current and future residents.

Note: Yellow colored buildings are MMH types in these examples.

Distributed throughout a block with single-family homes

Smaller Missing Middle types such as duplexes, triplexes and fourplexes can be easily integrated into a single-family neighborhood. Since these types are "house-scale", they blend in well with the existing fabric.

On the end-grain of a single-family block

Corner parcels are frequently larger than interior parcels in many single-family neighborhoods. These corner or end-of-block parcels are great opportunities for slightly larger MMH types such as sixplexes.

Transition from single-family to higher-intensity housing

Larger Missing Middle types, typically those with eight units and above, can serve as a transition between large apartment or other higher-intensity housing and single-family neighborhoods. They create an effective buffer between the "block-scale" larger buildings and smaller "house-scale" residential buildings.

Transition from single-family to a mixed-use corridor

Missing Middle types can create great transitions in scale and massing between single-family neighborhoods and busier mixed-use corridors.

Figure 2.2 *Application of Missing Middle Housing in different built environments.*

Typical Attributes of Missing Middle Types

Missing Middle Housing includes a wide variety of housing types. But all these types share some common attributes, discussed below.

Multi-Family Without Being Perceived as "Dense Housing"

Missing Middle building types typically range in density from eight to about 40 dwelling units per acre, depending on the building type and lot size. It is important to keep in mind that density numbers are often not a very accurate metric, since this is a calculation that depends on lot size and number of units, as shown by the examples in Figure 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 actual or resultant densities may be quite high).

A combination of these MMH types provides a neighborhood with a minimum average of 16 dwelling units per acre. This is generally the threshold at which an area has enough households to be transit-supportive, and at which neighborhood-serving retail and other services become financially viable.

"House-Scale" Multi-Family

A common characteristic of MMH types is their small-to-medium-sized building footprints. The largest of the MMH types have a typical main body width of about 50 to 60 feet and can be up to 80 feet overall when secondary "wings" are

8 units
19 du/ acre
Building Size
105' x 50'
2 Stories

4 units
16 du/ acre
Building Size
100' x 40'
2 Stories

Figure 2.3 *Density comparisons for different MMH types. A similar building size can vary in terms of density, because of additional units being provided within the same building envelope.*

included. These sizes are comparable to a large estate home. MMH types can maintain their small-scale look and feel because the units within are small in size but with well-designed, efficient layouts wasting little space on circulation. Typical MMH types have two to six units, with a maximum of 12 units per building. Larger Missing Middle types have a maximum of 19 units; but even at this scale, these types appear "house-scale".

Also like a typical single-family home, MMH types are typically two to two-and-a-half stories in height. A third or fourth story is allowed for larger MMH types with careful consideration of form and scale impacts on the surrounding built environment. These form and scale characteristic make MMH types ideal for urban infill, even in older neighborhoods that were originally developed as single-family neighborhoods.

Smaller, Well-Designed Units

The starting point for MMH is smaller-sized units (500 to 1,000 square feet per unit). While smaller, a feature of MMH types is that the internal spaces are well designed to be comfortable and usable. A benefit of smaller unit sizes is that this 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.

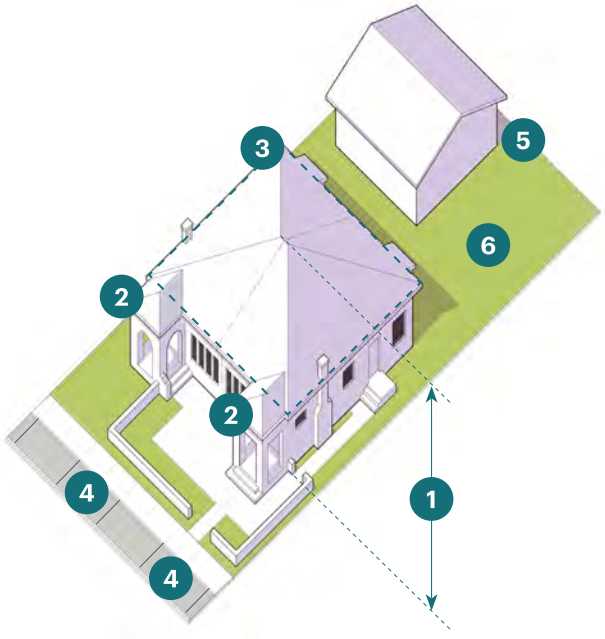
Shared Open Space

MMH types do not require private open space. Instead, a shared open space is provided in the form of a rear yard, a wide side yard, or a courtyard. This plays a key role in bringing neighbors together to interact and build a sense of community.

Site layout is important for MMH types; including the placement of the building itself, the location of the shared open space, and also the design and placement of parking access. It is preferred to locate parking in the rear of the lot, to allow the front facade of the buildings to be more pedestrian-oriented with entrances and livable space rather than garages. If alleys are present, they should be used for garage or parking access. In front-loaded lots, driveways are typically only single-wide, to avoid building frontages dominated by parking.

Figure 2.4 *Important features to regulate the scale and form of MMH types*

1. Max. Height
2. Number of Units
3. Footprint/ Main Body Dimensions
4. On-Street Parking
5. Driveway Location (if any)
6. On-Site Open Space



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 dwelling units per acre density threshold mentioned earlier as a benchmark that makes transit and neighborhood-serving amenities viable.

As a starting point, MMH types provide one off-street parking space per unit. To enable these lower off-street parking requirements, on-street parking should be made available adjacent to the units to accommodate additional parking needs. Housing design that forces too much on-site parking also compromises the occupant's experience of entering the building or "coming home" and fostering a pedestrian-friendly context, which can greatly impact marketability of these types.

Simple Construction

Because of their simple building forms, smaller size, and "Type V" (wood frame) 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.

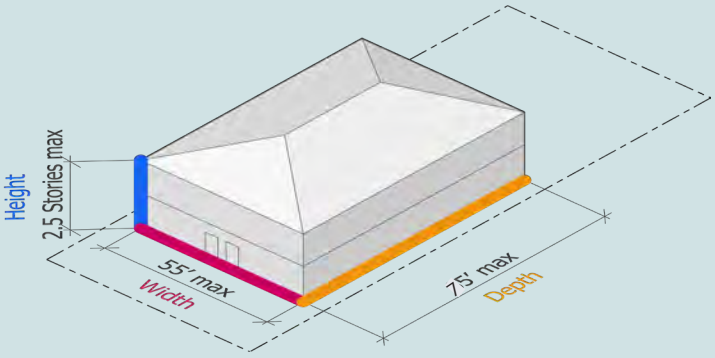
Figure 2.5 *The simple forms, smaller size, and compatibility with Type V construction help maximize affordability and investment returns, and are consistent with the construction strategies familiar to most residential homebuilders, as shown in this under-construction MMH project in Papillion, Nebraska.*

Comparing Typical and Large MMH Types

"Large" Missing Middle Housing refers to multi-unit buildings taller and deeper than typical MMH types, that still fit on the size of lots you would find in a single-unit neighborhood. These types, when used strategically, can still be compatible with house-scale neighborhoods while likely achieving higher financial feasibility than typical MMH types.

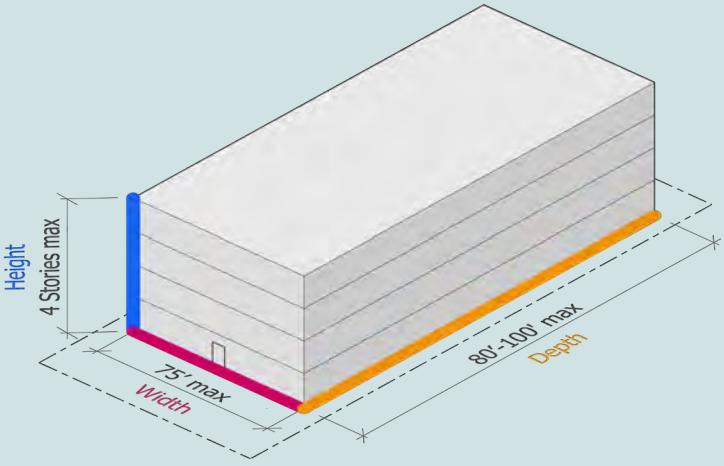
The following best practices should be considered:

- Large MMH types work well in transition areas between residential neighborhoods and more intense corridors or centers.
- These types require more lot coverage and/or deeper building footprints than for typical MMH.
- Rear setbacks and stepping down of height is required for Large MMH help in stepping down in scale and form to adjacent single-family houses.



Duplex (side-by-side, 2 units), Iowa City, IA

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



Large multiplex (7-18 units), Athens, GA

Large Missing Middle Housing
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.

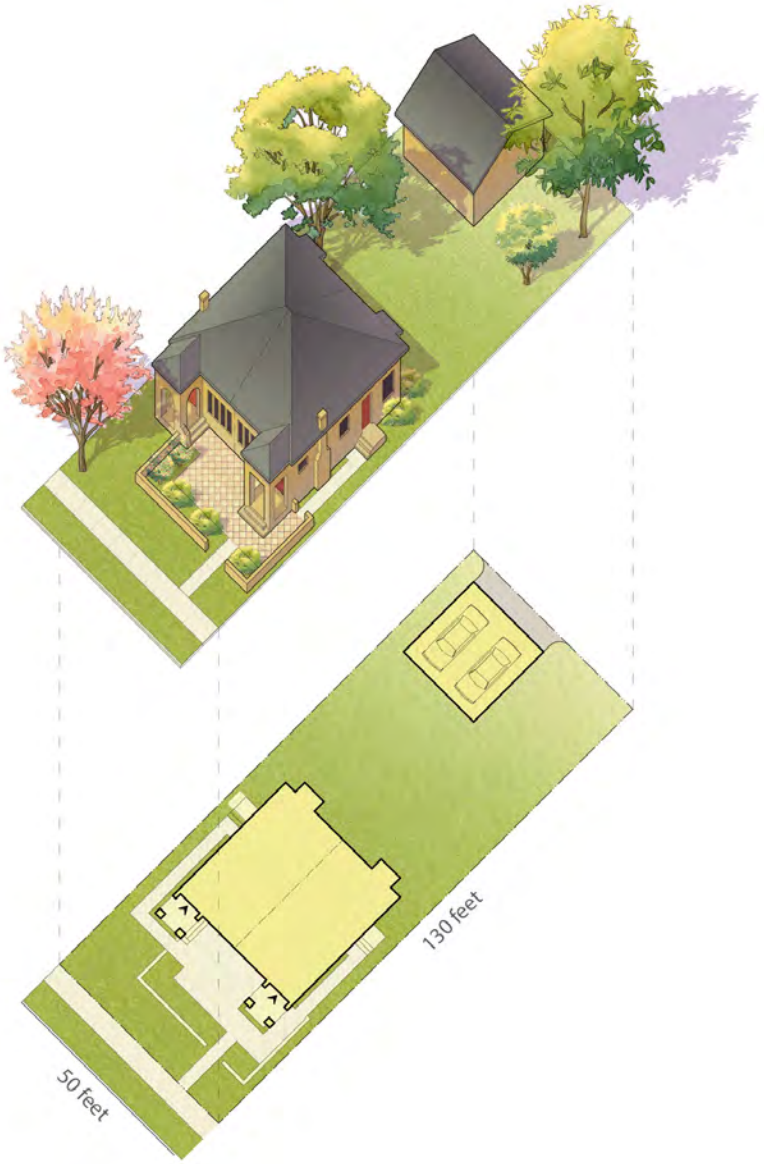
Duplex Side-by-Side

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.



Duplex Side-by-Side			
Number of Units		**Vehicular Access**	
		Front	**Rear**
2	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

Examples from Maui

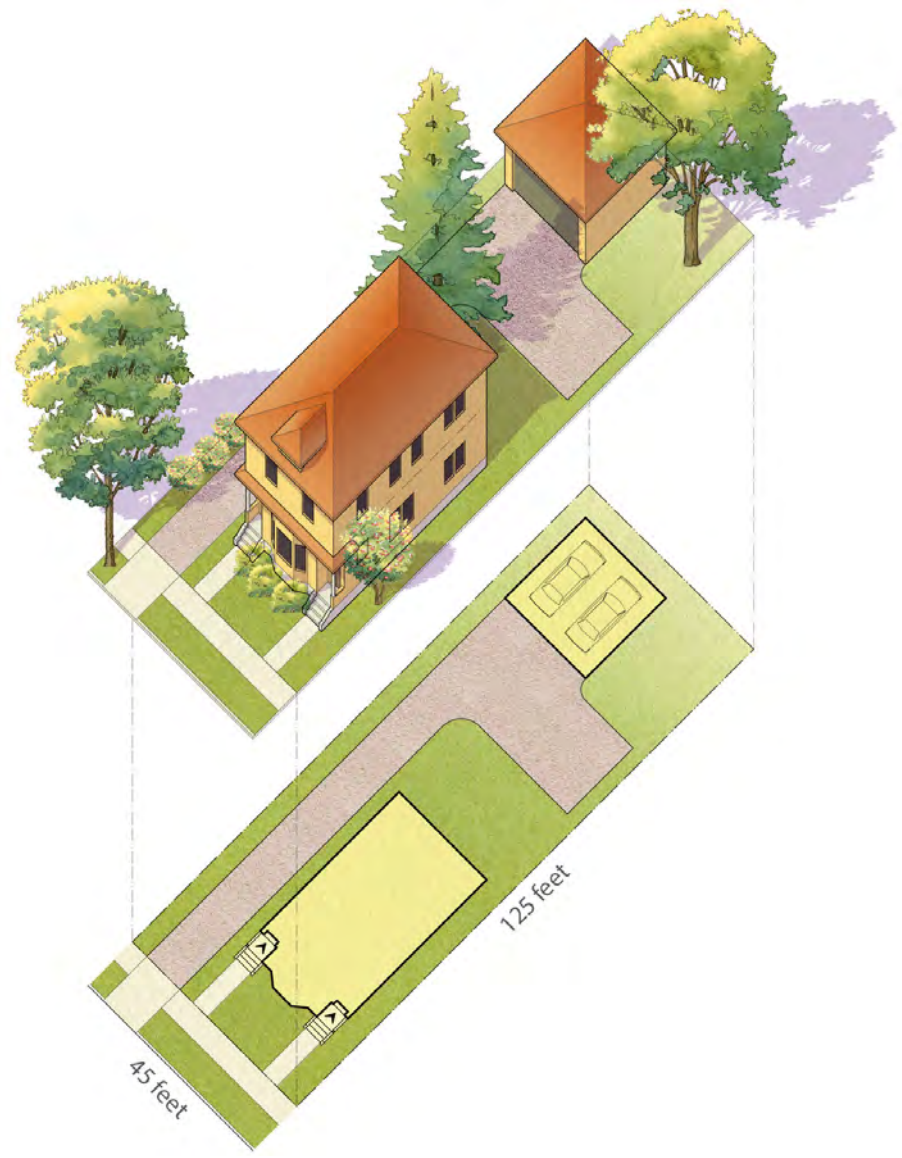
Piilaniwahine Loop, Kīhei

1. **Height:** 2 stories
2. **Number of units:** 2
3. **Built form:** Setbacks provided between the buildings for landscape and privacy.
4. **Open space:** Lanai frontage provides entry transition, sitting space, and an opportunity to enjoy outdoor climate and/or greet neighbors.
5. **Parking:** Garage set back from the front facade provides space to park an additional vehicle in the driveway.

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**
2	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

Examples from Maui

W Vineyard St, Wailuku

1. **Height:** 2 stories
2. **Number of units:** 2
3. **Built form:** Deep eaves (roof overhangs) shade walls to reduce excessive heating from sun exposure.
4. **Open space:** Exterior stairs for circulation provide additional open space.
5. **Parking:** Off-street parking spaces are located in the side setbacks between buildings.

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**
5-10	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

Examples from Maui

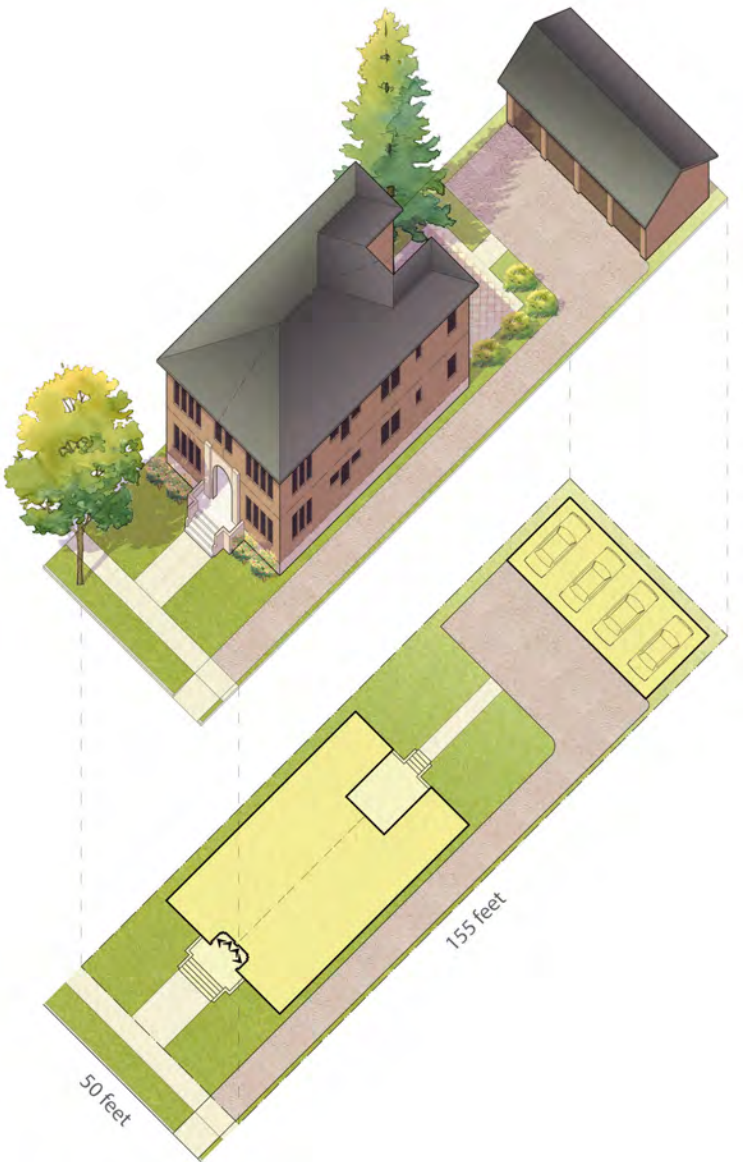
Nona Lani Cottages, S Kīhei Rd, Kīhei

1. **Height:** 1 story
2. **Number of units:** 1 (9 cottages in the development)
3. **Built form:** Small-footprint buildings are less expensive to build that large single-family houses, and can provide attainable housing options.
4. **Open space:** Private open space and frontage provided for each cottage.
5. **Parking:** Shared clustered parking, with no driveway in front of each dwelling, enables more open space.

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 characterists 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**
4	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

Examples from Maui

Uwapo Rd, Kihei

1. **Height:** 2 stories
2. **Number of units:** 4
3. **Built form:** Deep eaves (roof overhangs) shade walls to reduce excessive heating from sun exposure.
4. **Open space:** Exterior balcony/lanai for each unit provides private open space. In addition, the shared stairs act as informal open spaces.
5. **Parking:** Shared clustered parking rather than individual parking spaces in front of each unit.

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

Examples from Maui

Hune One Ln, Kihei

1. **Height:** 2 stories
2. **Number of units:** 5
3. **Built form:** Individual entries for all units provide a sense of privacy and eliminates the need for conditioned interior common circulation spaces.
4. **Open space:** Exterior balcony/lanai for each unit provides private open space.
5. **Parking:** Perpendicular parking along driveways make efficient use of space. Tree islands provide shade.

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**
6-18	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

Examples from Maui

Kapi Ln, Wailuku

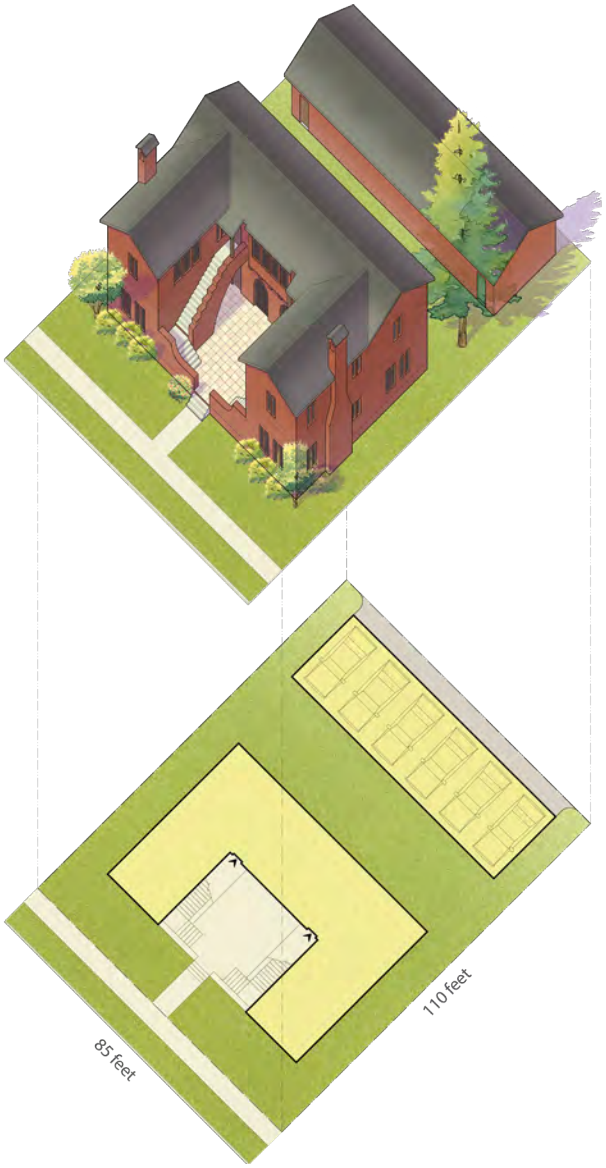
1. **Height:** 2 stories
2. **Number of units:** 8
3. **Built form:** Integrated fire riser room enables servicing of fire sprinklers for the whole building. Collected mailboxes provide more efficient delivery of mail.
4. **Open space:** Exterior circulation offers natural ventilation. Accessible route from sidewalk to entrance.
5. **Parking:** Shared clustered parking for the multifamily development avoids individul driveways.

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**
6-20	Lot Width (ft)	95' - 150'	85' - 140'
	Lot Depth (ft)	110' - 175'	110' - 175'
	Resultant Density (du/acre)		
	Without ADU	25 - 33	28 - 36
	With ADU	n/a	n/a

Examples from Maui

N Market St, Wailuku

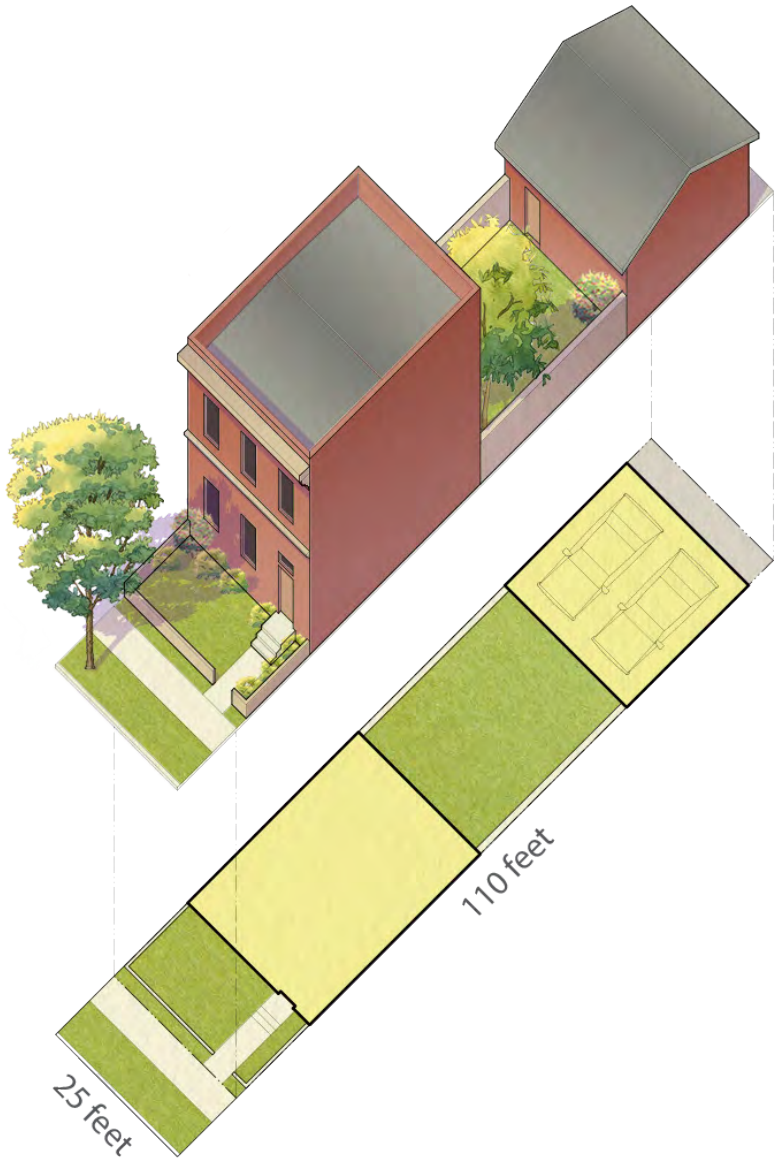
1. **Height:** 2 stories
2. **Number of units:** 14 suites (commercial or residential)
3. **Built form:** Courtyard space with integrated seating encourages socialization among residents while providing ventilation to each unit.
4. **Open space:** Exterior balconies shade walls to limit solar heating. Exterior circulation provides ventilation.
5. **Parking:** No on-site parking. Shared parking provided nearby.

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.



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

Examples from Maui

Kamauhalii Way, Wailuku

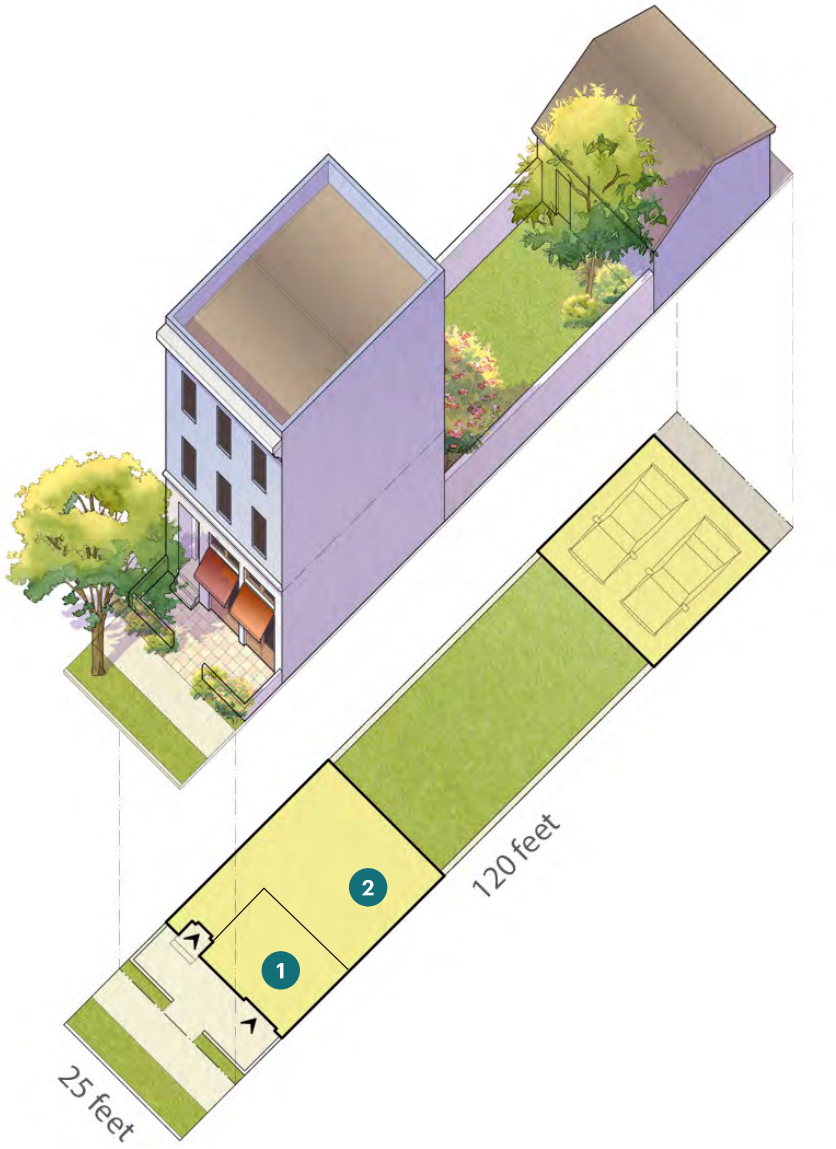
1. **Height:** 2 stories
2. **Number of units:** 4
3. **Built form:** Deep eaves (roof overhangs) shade walls to limit excessive heating from sun exposure.
4. **Open space:** Exterior balconies/lanais provide entry transition, outdoor sitting space, and an opportunity to meet neighbors.
5. **Parking:** Shared covered parking for the multifamily development.

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

Examples from Maui

E Lipoa St #4-109, Kihei

1. **Height:** 2 stories
2. **Number of units:** 12
3. **Built form:** Shopfront frontage with ample glazing advertises business to potential customers walking by.
4. **Open space:** Overhangs shade pedestrian walkways and shopfront frontages to create a pleasant shared open space.
5. **Parking:** Garages and shared parking for the multifamily development at the rear of the buildings.

The Palette of Missing Middle Housing Types

Duplex Side-by-Side
2 units

Duplex Stacked
2 units

Cottage Court[1]
5-10 units

Fourplex[2]
4 units

Recommended Characteristics of Missing Middle Housing Types								
Vehicular Access	**Front**	**Rear**	**Front**	**Rear**	**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 (sf)	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 [3]								
Without ADU	8 - 17	8 - 22	8 - 22	8 - 29	18 - 22[3]	19 - 24[3]	15 - 32	17 - 35
With ADU	12 - 26	12 - 33	12 - 33	12 - 44	n/a	n/a	18 - 40	21 - 44

Assumptions: 15' front setback, 5' side setback, 12' driveway width

[1] Variation: Pocket Neighborhood. The lot for this variation is the size of most of a block or up to an entire block, and the shared court is much larger, or there are several shared courts. The individual cottages are expanded to include a mix of duplex and fourplex buildings.

[2] A triplex has the same built form characteristics as a fourplex but contains only three units.

Figure 2.6 *Example of current MMH development in Maui*

Palette of Missing Middle Housing Types

The palette of MMH types above identifies the typical lot dimensions for each type. The minimum is what each type needs to provide a high quality living environment for residents, and the maximum is the size beyond which lots become too large to deliver the type of compact development that supports walkable environments. These dimensions need to be adjusted to each community and existing lot patterns.

The resultant density is the number that results from designing units that reasonably fit in each MMH building type. This is different from density regulations that predetermine how many units are allowed without regard for what can actually fit well. In addition, the results vary depending on front or rear vehicular access to parking.

The density ranges for each type correspond to the lower number of units for each with its smaller lot dimensions, and the higher number of units with its larger lot dimensions.

Multiplex Small
5-10 units

Multiplex Large
6-18 units

Courtyard Building
6-20 units

Townhouse
1 unit

Live/Work
1 unit

Front	Rear	Front	Rear	Front	Rear	Front	Rear	Front	Rear
2.5		2.5 ([3])		2.5 ([3])		2.5 ([3])		2.5 ([3])	
55' - 80'	50' - 70'	70' - 120'	60' - 110'	95' - 150'	85' - 140'	n/a	16' - 45'	n/a	16' - 45'
100' - 150'	100' - 150'	100' - 150'	100' - 150'	110' - 175'	110' - 175'	n/a	85' - 120'	n/a	85' - 120'
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
36 - 40[3]	41 - 44[3]	37 - 44[3]	44 - 48[3]	25 - 33[3]	28 - 36[3]	n/a	8 - 32	n/a	8 - 32
n/a	n/a	n/a	n/a	n/a	n/a	n/a	16 - 64	n/a	16 - 64

[3]In 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.

[4]In order to calculate the resultant density for types that have a range of dwelling units, we paired the minimum number of dwelling units with the smallest lot area and the maximum number of dwelling units with the largest lot area.

Although lot area can be used as a regulating factor, it should not be the primary factor. Instead, lot width and the resulting building width should be the primary regulating factors, as these provide for more targeted regulations that have a greater impact on the quality of the public realm and help to deliver more predictable building forms.

These dimensions are the results of years of on-the-ground research and design work for private and public sector clients by Opticos Design.

These are meant as a starting point, and should be calibrated for specific on-the-ground conditions and the desired development intensity and built form for the community.

2.2 Frontage Types for Missing Middle Housing

A defining characteristic of MMH types is the way these buildings are designed with "active frontages" to promote everyday interaction.

Figure 2.7 *Example of projecting porch MMH frontage in Maui. Two-story units in the building are accessed by a single, shared entry that leads to a hall or small lobby area.*

What is a Frontage?

A "frontage" is defined as the component of a building that provides an important transition and interface between the public realm (street and sidewalk) and the private realm (building facade).

The ultimate intent of regulating frontages is to ensure, after a building is located appropriately on its lot, that its interface with the public realm and the transition between the two are detailed appropriately.

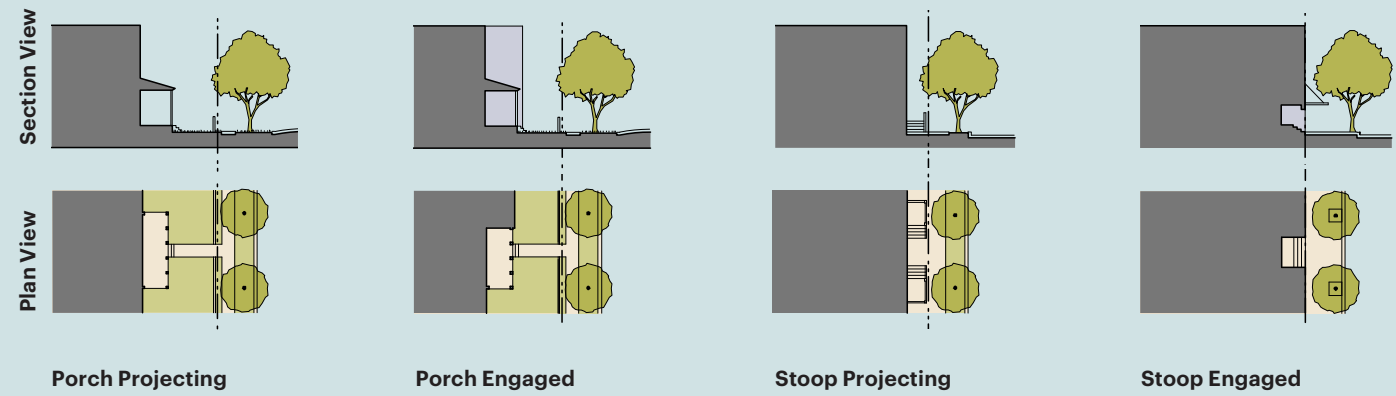
The names of the frontage types depicted below indicate their particular configuration or function and are based on examples found in cities across the country. Some types may be more or less common in Maui. An on-the-ground survey can establish which types are most representative of the character of buildings in Maui.

Why Frontages Are Important for Missing Middle Housing

Missing Middle Housing (MMH) types are house-scale and generally look like they could be a large single-unit home. Frontage types that are consistent with those used on single-unit homes, such as porches and stoops, help Missing Middle types contribute to the residential look and

CLOSER LOOK **Spectrum of Frontage Types**

Common MMH Frontages



Neighborhood Environment

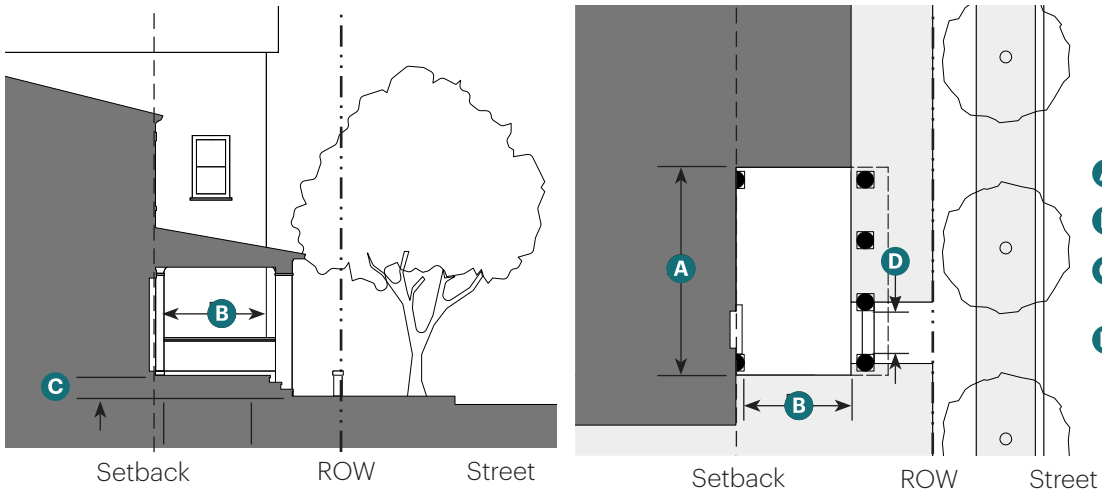


Figure 2.8 *Example of basic regulations for an engaged porch*

Key

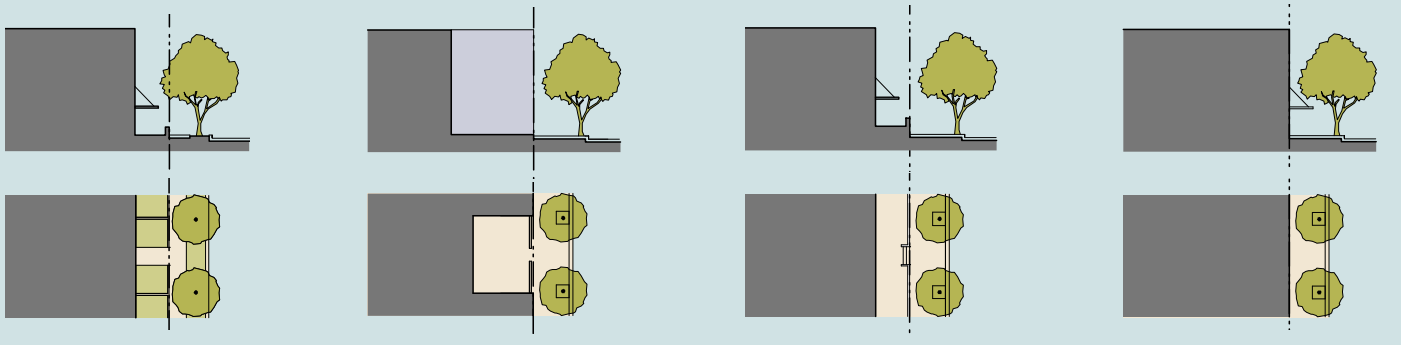
- **A** Width
- **B** Minimum Depth
- **C** Finish Level Above Sidewalk (if applicable)
- **D** Pedestrian Access

feel of neighborhoods where they are located. A strong sense of community is an important benefit that MMH types provide to residents and neighbors, and frontage types play a role in supporting this by providing a strong connection to the pedestrian-oriented streetscape.

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

Important Features to Regulate

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 is extremely important in order to ensure that they are actually usable, look like they're from the area, and that they improve the public/private interface by providing residents with a place to sit outside where they can also greet their neighbors.



Dooryard **Forecourt** **Terrace** **Shopfront**

Downtown Environment

2.3 Lot Width for Missing Middle Housing

Importance of Lot Width

Zoning standards often regulate development by lot area to reinforce maximum allowed density, which prohibits some housing choices that are physically compatible with single-unit houses.

Lot width can be a more effective regulation. This is primarily because a project that complies with minimum lot area standards can still yield a building that is too large for its context. This often happens with lower-intensity housing such as a duplex that is allowed to fill up the building envelope and complies with density limits but is larger than the houses around it.

In contrast, regulating by lot width allows for MMH types while providing standards for maximum building footprint that are coordinated with a variety of lot widths that fit well in lower intensity neighborhoods.

Typical Lot Widths of MMH Types

The graphic on the facing page shows the ideal lot width for each MMH type. Recommended lot widths assume vehicles access off-street parking from the front of each lot, which is a typical condition in Maui.

The Palette of Missing Middle Housing Types with Minimum Lot Widths

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

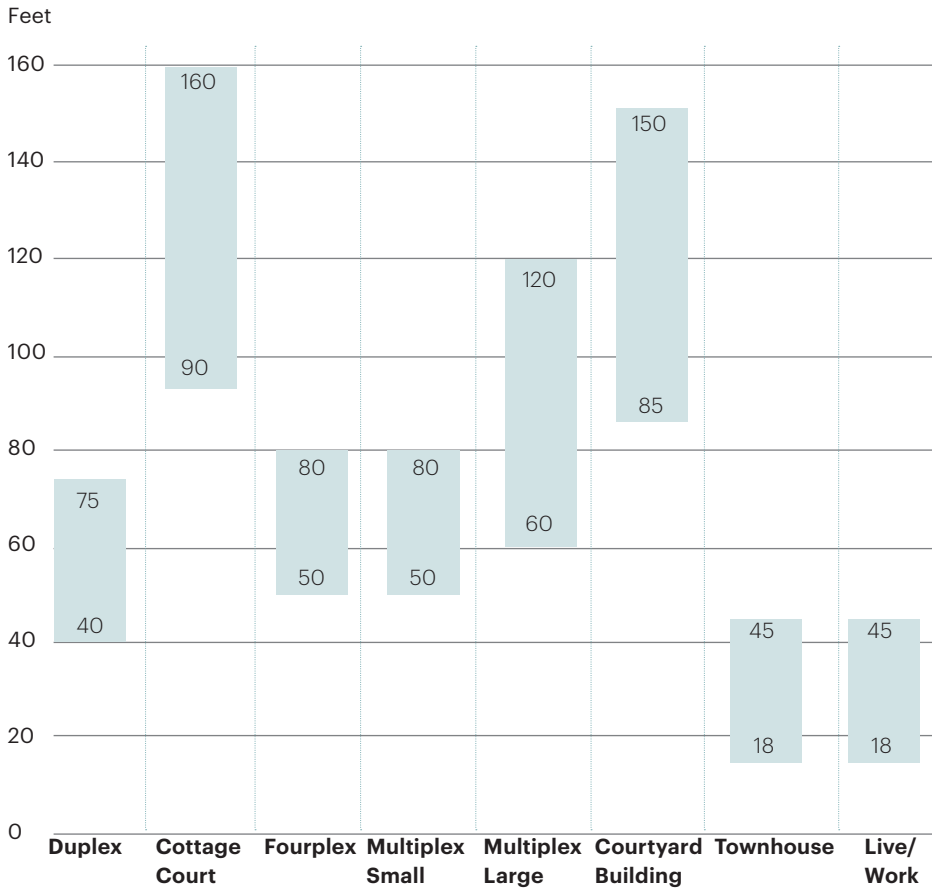
Duplex Side-by-Side
40'-75'

Duplex Stacked
35'-75'

Cottage Court
90'-160'

Triplex/Fourplex
50'-80'

Lot Width Ranges for Typical MMH Types



Note

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
50'-80'

Multiplex Large
60'-120'

Courtyard Building
85'-150'

Townhouse
18'-45'

Live/ Work
18'-45'

2.4 Parking and Open Space for Missing Middle Housing

CLOSER LOOK

Cost of Parking (2020 figures)

Surface Parking
$1,500 to $5,000

Covered Surface Parking
$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 here are US national averages. Note that costs in Maui are likely to be higher.

Source: RS Means, www.rsmeans.com

Parking Design and Location

The number of required off-street parking spaces can greatly impact the feasibility of MMH, and is one of the most common barriers. 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 can no longer accommodate the fourplex 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. Maui's extremely high land costs only further exacerbate this issue.

Recommended Parking for Missing Middle Types

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 provide no more than 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. Maui regularly experiences significant flooding events, so reducing impermeable surfaces would contribute 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.

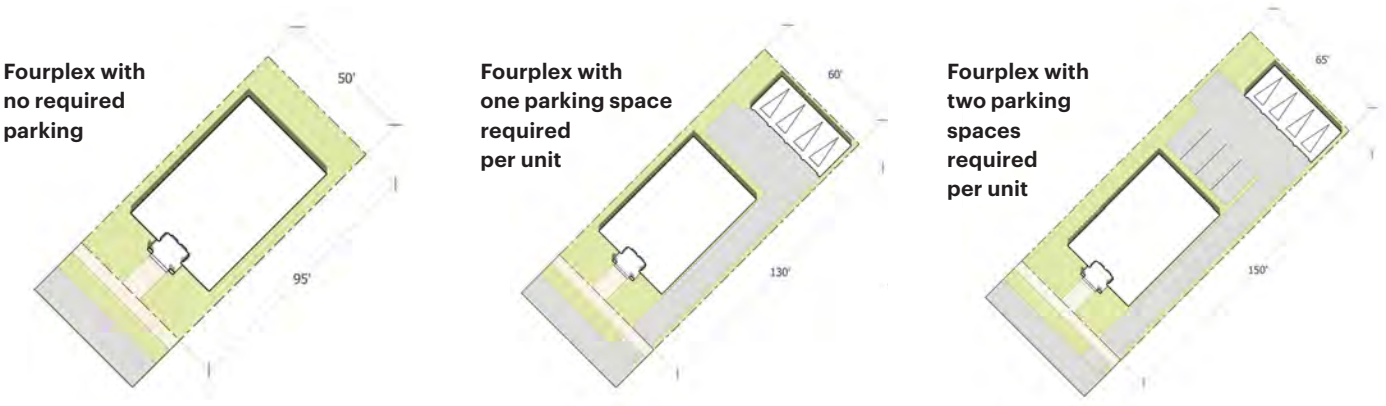


Figure 2.9 *Parking Requirements + Feasibility*

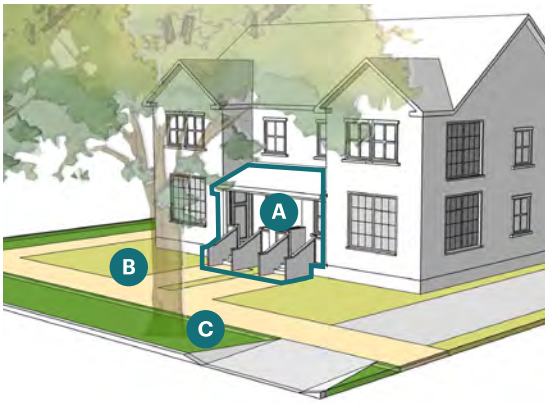
Benefits of Open Space

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, and provide greenery and trees. In addition, well-designed open space activates the adjacent street and public realm and helps connect neighborhoods.

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 as feasible, 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), to place it in a central location, and orient surrounding building facades and entrances to frame it. Frontages such as dooryards, stoops and porches 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.



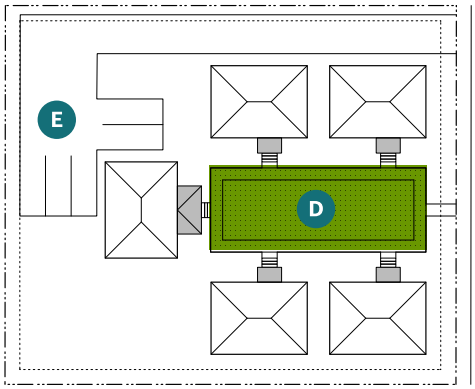


Figure 2.10 *Best practices for open space design for MMH*

A Building frontage and entrance face street

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

CHAPTER

3

Missing Middle Housing in Maui

In this chapter

3.1 What does Missing Middle Housing look like in Maui?

Maui has existing examples of Missing Middle Housing in several parts of the county. Often, these exhibit design adaptations for local climate and cultural preferences.

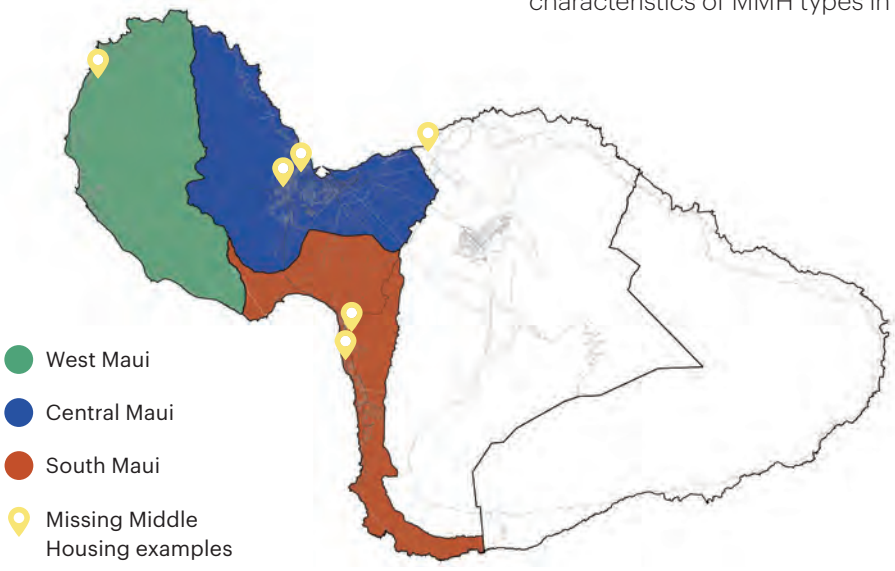
Local Examples

Like most cities and towns built before the 1940's, Maui includes many examples of Missing Middle Housing (MMH) types. Before the widespread use of automobiles, housing needed to be located close to areas where jobs were concentrated, since long commutes were inconvenient or infeasible. In Maui, MMH was built near commercial and industrial areas, adjacent to major circulation corridors, so that employees could have access to housing near their place of work. Figures 3.1 and 3.2 show the general location of MMH types in Maui and some examples. Newer examples of multi-family and medium-density housing are seen as well; however, these may not meet all the criteria for MMH as explained in Chapter Two, Section 2.2.

How To Identify MMH

Taking an inventory of existing MMH types is the first step towards creating recommendations and building type standards. Many MMH types may be non-conforming with existing zoning, or may have been converted into other uses, such as a single-unit home or offices, so it's important to do on-the-ground research to avoid overlooking existing examples. Counting the number of mailboxes, utility meters, and window type/composition on the facade can indicate a MMH type.

Existing MMH can provide guidance for calibrating zoning standards. Measuring lot dimensions, building footprints, frontage details, parking configurations, building height, unit layout, etc. can help to calibrate standards to the unique characteristics of MMH types in Maui.



Live Work, South Maui


Large Multiplex , South Maui


Courtyard Building, Central Maui


Cottage Court, West Maui


Side-by-Side Duplex , Pā'ia

> **Maui needs to move towards greater flexibility in regulations for affordable and workforce housing."**
>
> **Affordable Housing Policy Plan Final Report, 2018**


Large Multiplex, Central Maui

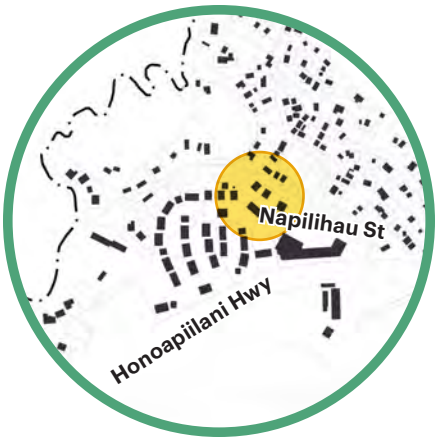
Where Does MMH Exist in Maui?

The analysis identified existing MMH examples in West, Central, and South Maui.

Fourplex
21 Kiohuohu Lane, Lahaina, HI 96761
8 units
Resultant gross density: 19.5 du/ac

West Maui

There are examples of small multiplexes and cluster housing in the northern part of West Maui. In the southern part, one can find ADU conversions, duplexes and triplexes within single-family neighborhoods. Napilihau Village is a good example of a multiplex development (each with six to 12 units) located near public transit and amenities.



Townhouse
11 Kamauhalii Way, Wailuku, HI 96793
4 units
Resultant gross density: 9.38 du/ac

Central Maui

There are examples of large multiplexes, sixplexes and townhouses in the developments along Kehalani Mauka Parkway. In the Dream City neighborhood and on the main streets in Wailuku, there are examples of duplexes, multiplexes and ADUs. Iliahi at Kehalani is an example of attached townhouses near amenities and within ten minutes of transit.

Multiplex Small
32 Hune One Lane, Kihei, HI 96753
7 units
Resultant gross density: 15.3 du/ac

South Maui

This area has the highest diversity of examples including a large MMH development with multiplexes. In existing single-family neighborhoods, there are some conversions to duplexes and addition of ADUs. Kai Ani Village has live-work units integrated with small multiplexes (five to seven units) near public transit and amenities.

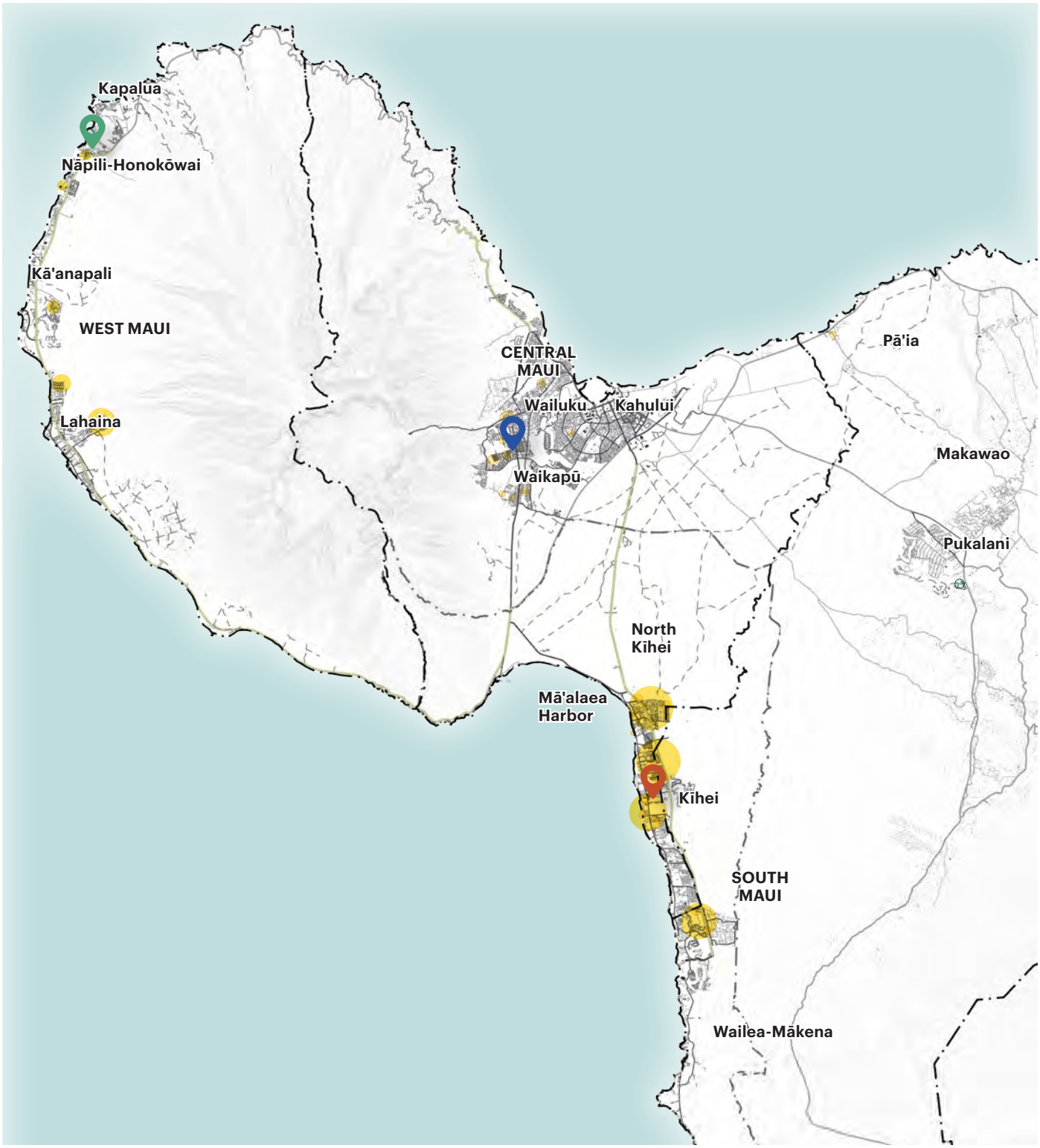


Figure 3.1 *Existing Missing Middle Housing examples in Maui*

Areas with local examples of MMH

West Maui MMH example

Central Maui MMH example

South Maui MMH example

3.2 Analyzing Areas for Missing Middle Housing in Maui

This study will aim to advance Maui's housing goals by analyzing existing conditions to understand where different types of Missing Middle Housing can be accommodated.

Missing Middle Housing Environments for Maui

Missing Middle Housing (MMH) should relate to the different types of contexts that exist in Maui. Accordingly, there may be three types of MMH applications, described below. Each type of resultant MMH environment will have a palette of MMH housing types that will be developed to provide housing choices and support a mixed-use environment, while being compatible with the existing built context.

- **Small-Scale MMH for Incremental Infill.** Lot-by-lot, incremental infill can be prioritized in residential neighborhoods adjacent to mixed-use centers that have good access to amenities, infrastructure, and transit. MMH types are similar in scale and form to single-family homes, and can be integrated into residential neighborhoods without a drastic change in built character.

- **Medium-Scale MMH in Centers and Along Corridors.** Larger MMH types can be used on underutilized or vacant sites along existing corridors in Maui that have excellent access to amenities, infrastructure, and transit. This can be an infill strategy to transform underperforming shopping malls and similar commercial areas to a mixed-use development.

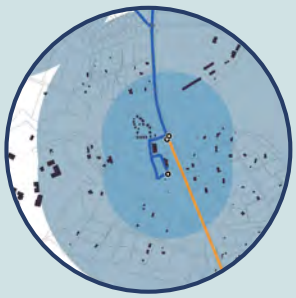
- **MMH on Large Infill Sites and in Planned Growth Areas.** In Maui's planned growth areas, there are several examples of large project sites in various stages of development and entitlement. Such large sites can support a mix of typical and larger MMH types, incorporating, or located adjacent to existing rural mixed-use centers.

I. Natural Constraints

Central, South and West Maui were analyzed in terms of existing natural features such as terrain, environmentally protected areas, and susceptibility to climate change. The intent is to identify areas where MMH development is appropriate and in alignment with Maui's long-term plans for resiliency.

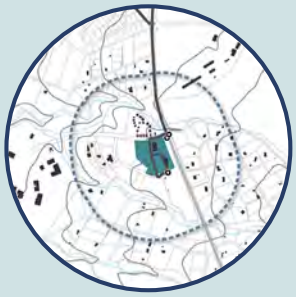
II. Built Form + Land Use

The analysis next looks at existing patterns of built form and uses, land uses currently allowed by Maui's zoning and other regulations, as well as future planned uses. This provides an understanding of how MMH can be integrated to add housing while enhancing the built character.



III. Connectivity + Access to Amenities

To promote infill development, access to amenities, services and employment is critical. The next step analyzes the existing circulation and transit network to determine levels of connectivity and access, and where additional housing can be supported.



Identify Mixed-Use Centers + Priority Areas for MMH

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

I. Natural Constraints

What Are the Natural Constraints in Maui?

The first step in the analysis identifies areas where development should be avoided, in order to maintain existing natural resources to avoid impacts from climate change, and to avoid increasing site preparation and development costs.

- Development patterns in Maui reflect its original system of land allocation. Available land was divided into large sections called moku, comprised of many ahupua'a which are wedge-shaped sections that follow natural geographical boundaries such as streams and the island's topography. The system was based on the ecological relationship between mauka and makai resources and stretched from mountain peaks to the ocean shore, providing similar access to natural resources for different ahupua'a populations.
- According to the University of Hawai'i Coastal Geography Department, sea levels may rise up to a meter by 2100. This will impact areas in Mā'alaea, North Kīhei, Lahaina, Kā'anapali, Kahului and Kaunakakai, increasing vulnerability to natural hazards such as flooding and coastal erosion. The high-risk areas are the flooding zones of A, AE, AH and AO.
- The County of Maui's Planning Department has policies in place to protect areas of Maui with significant natural and environmental resources. Avoiding development in such areas can protect ecosystems, agricultural land, and provide recreation opportunities for a more resilient future.

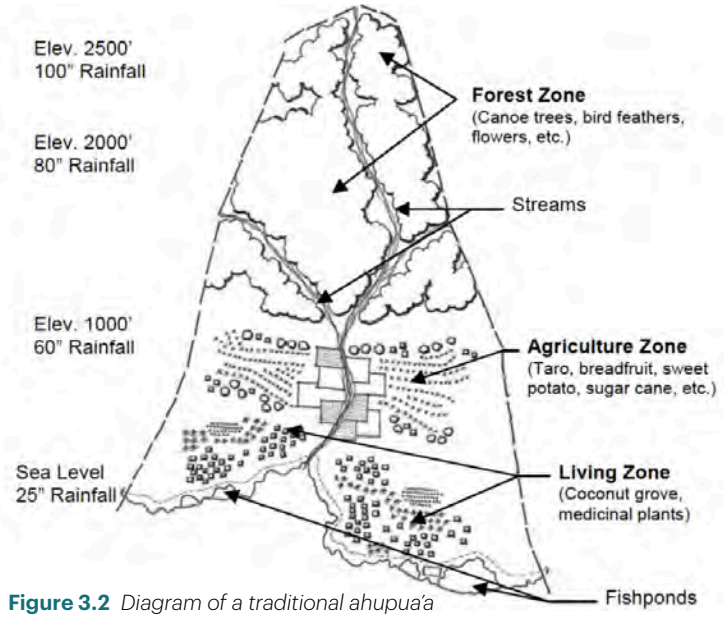
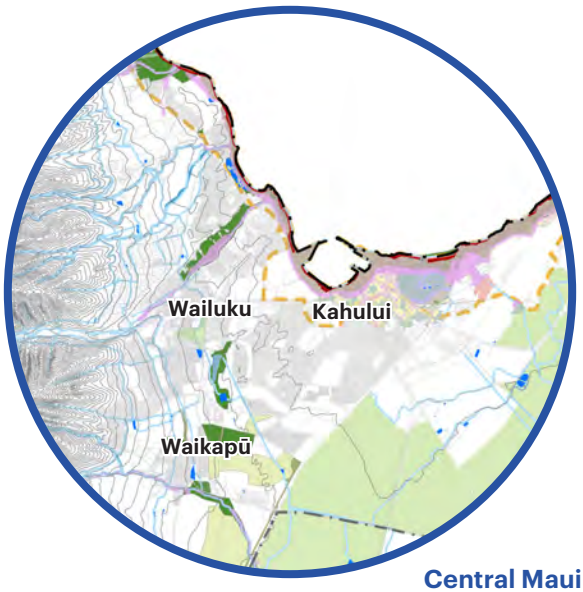
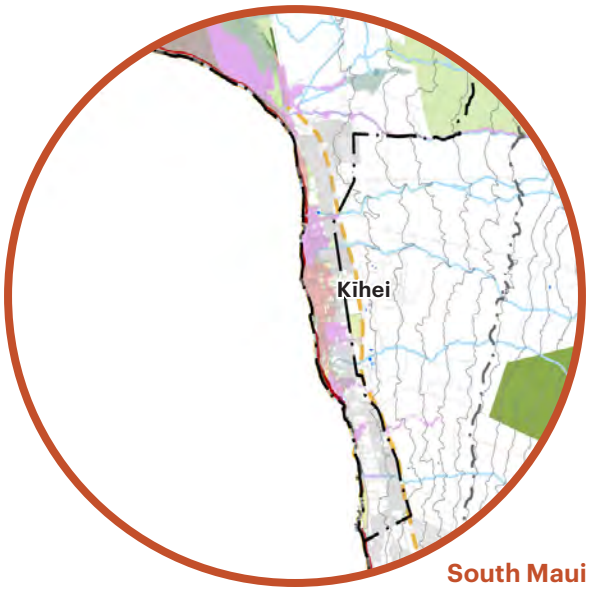


Figure 3.2 *Diagram of a traditional ahupua'a*

West Maui



Central Maui



South Maui

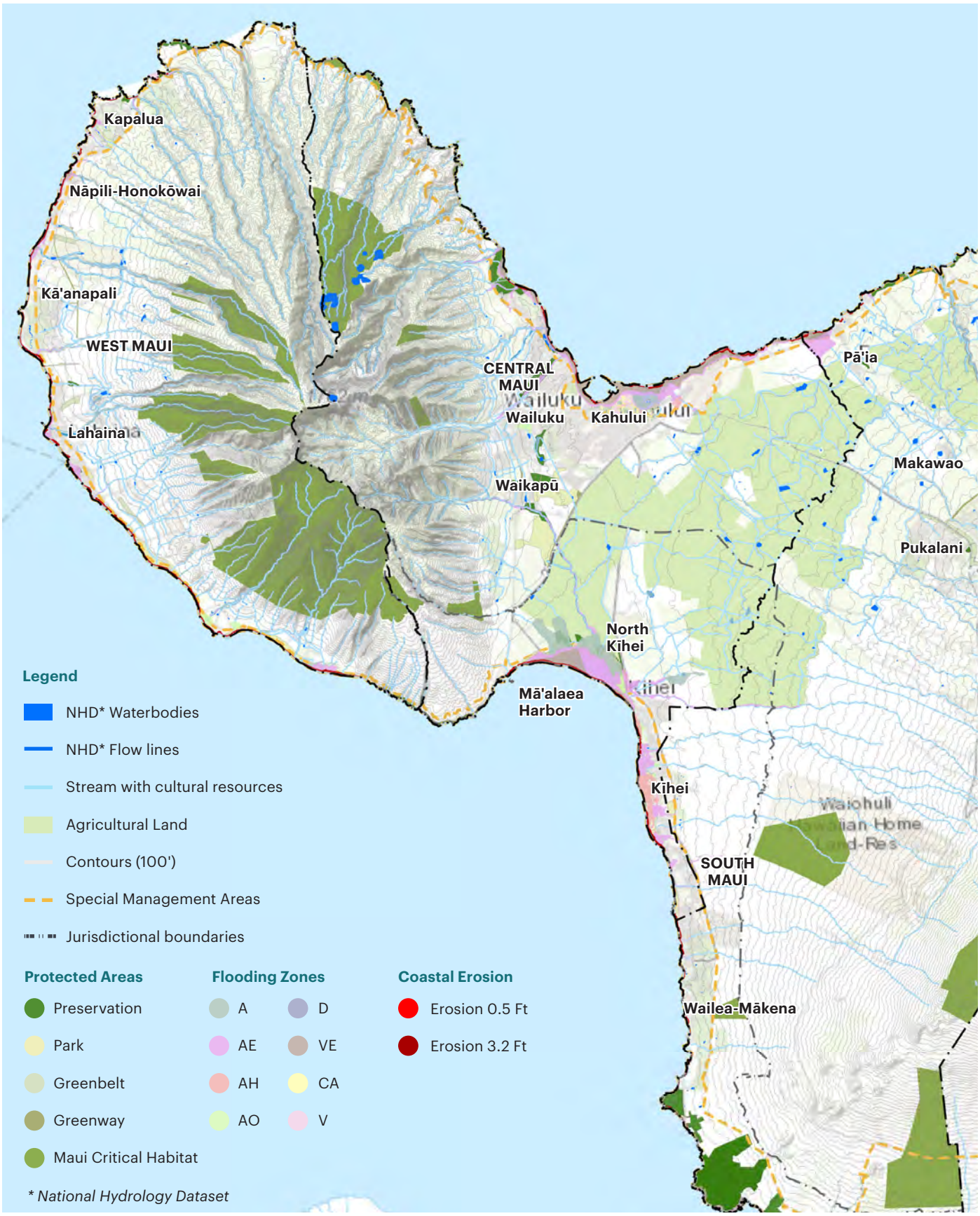


Figure 3.3 *Natural constraints analysis for West, Central and South Maui*

II. Built Form + Land Use

What Are Allowed and Planned Uses in Maui?

The next step in the analysis examines what is currently allowed by zoning regulations, future planned uses, as well as existing built form patterns.

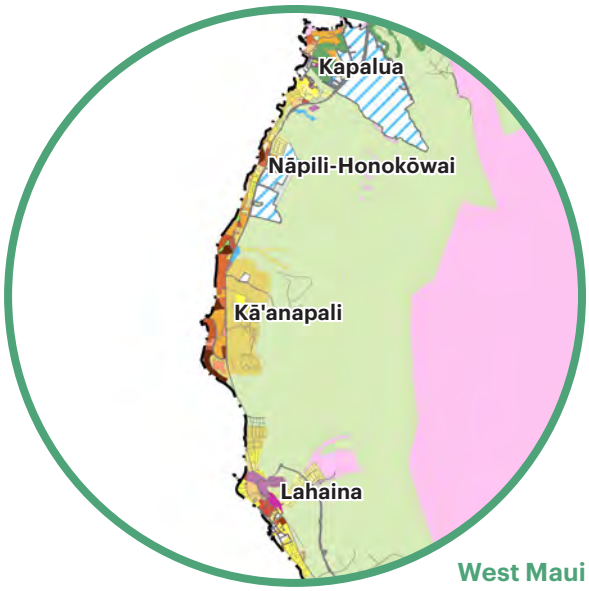
Zoning + Land Use

The maps on this and the facing page show current zoning for Central, West and South Maui, overlaid with the 2018 Real Property Tax parcel layer, which contains the standards for the built form. Maui's Housing Needs Assessment projects a population growth of 35 percent, resulting in a need for 10,404 housing units by 2025.

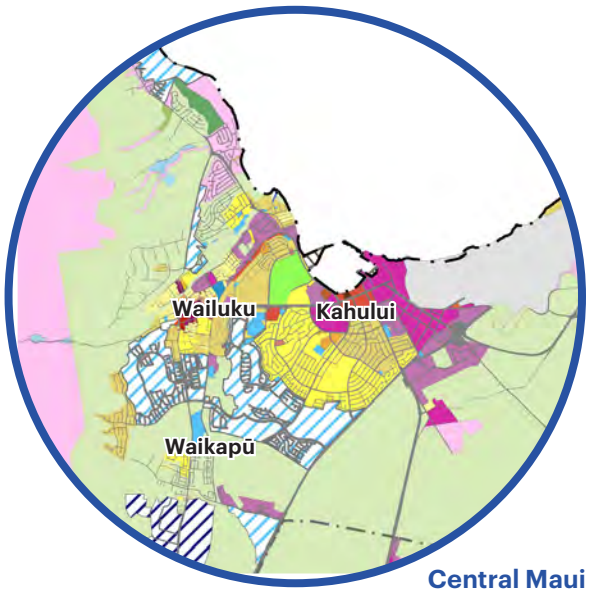
- The most predominant zoning district allowing residential use is the Residential (R-3) at 0.8 percent of the land area. The principal allowed use is single-family dwellings.
- In the residential zoning districts, a proposed density ordinance amends the increase of the allowable density in residential districts to encourage new housing in proximity to jobs and services, by allowing different types of housing, including multi-family, 'ohana units, and co-housing. In addition, duplexes and ADUs are permitted.

The County has two relevant overlay zoning districts:

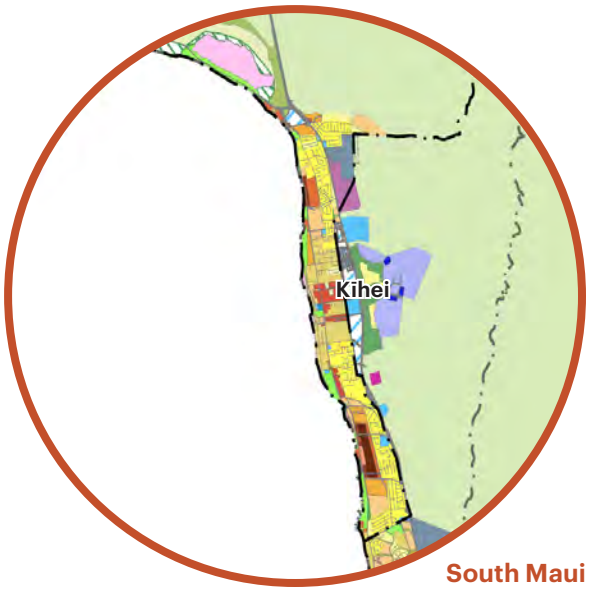
- Wetland Overlay district is intended to conserve and protect natural environments.
- Planned Development Districts provide a flexible approach to planning while adding to the infrastructure network.



West Maui



Central Maui



South Maui

18.3%

of residential land zoned for multi-family in Maui.

Hawai'i Housing Factbook
Source: uhero.hawaii.edu/wp-content/uploads/2023/06/TheHawaiiHousingFactbook.pdf

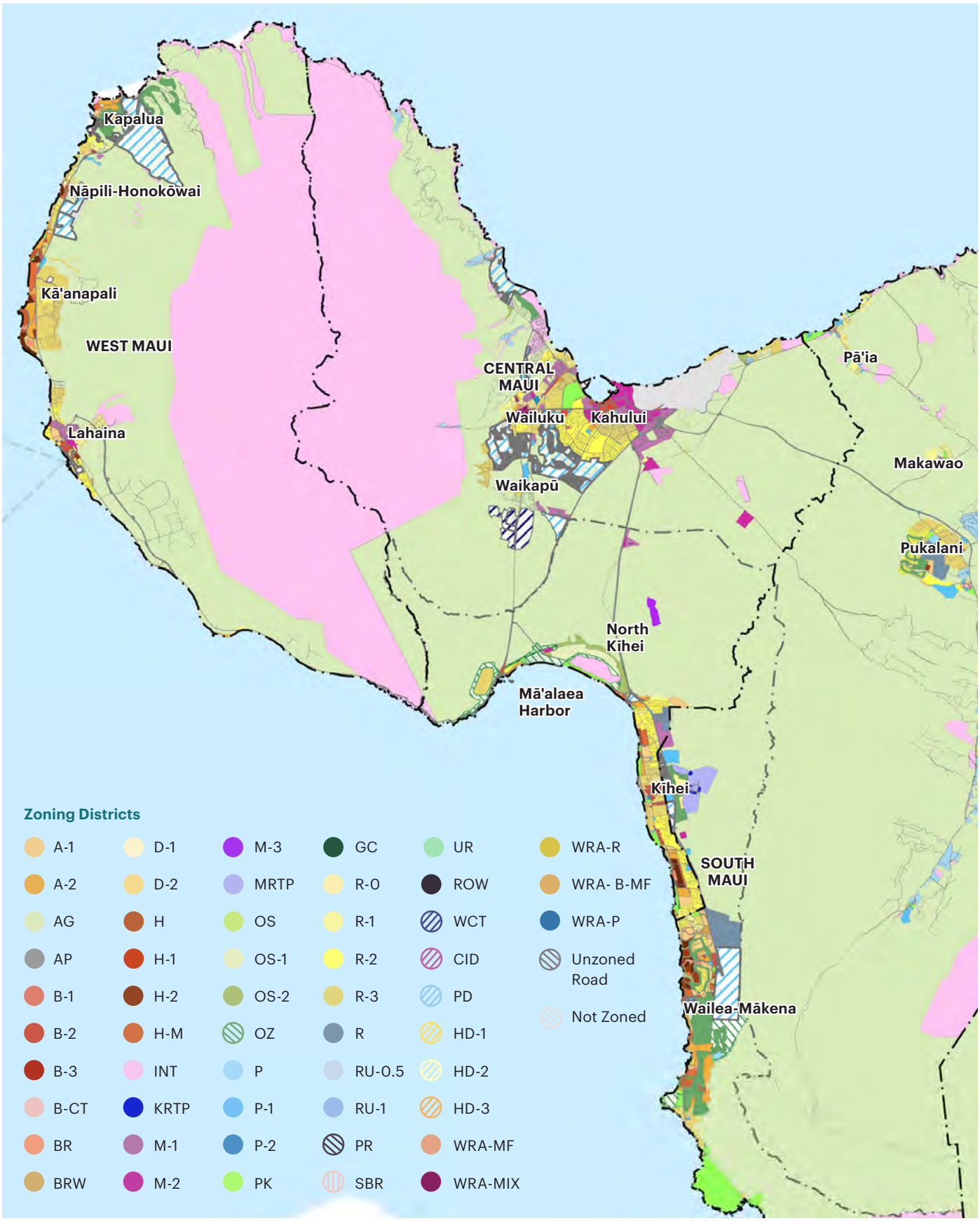


Figure 3.4 *Current zoning in West, Central and South Maui*

Future Land Uses

The Maui County General Plan sets the long-term vision for the physical, economic, environmental, and cultural development of Maui. The 2030 General Plan directs growth to existing urbanized areas such as Wailuku-Kahului, Kihei, and West Maui with the intent to promote compact development, and to protect the existing character of small towns, rural areas, agricultural lands, and open spaces. The primary goal of the General Plan is to accommodate community needs with efficient public services and infrastructure, meet the expected growth in the twenty-year planning period, while protecting natural and cultural resources.

The next tier in the policy hierarchy is the Countywide Policy Plan (adopted in 2010), a component of the General Plan that provides the policy framework for the development of the Maui Island Plan and the nine Community Plans. The Maui Island Plan (adopted in 2012) identifies where growth should occur and the infrastructure required to accommodate it, through the designation of rural, small town and urban growth boundaries. It comprises of goals, policies, programs and actions based on an assessment of current and future needs and available resources. It is the principal tool for Maui County to use when evaluating public and private projects on the island and their impacts on land use, the economy, environment, infrastructure, and cultural resources.

The nine Community Plans provide recommendations for land use, development density, urban form, transportation, community facilities, infrastructure, and other facets of development that are specific to the region of the plan. The current Community Plans in the project area include:

- West Maui Community Plan (adopted in December 2022)
- South Maui Community Plan (under revision)
- Wailuku-Kahului Community Plan (adopted in 2002). Central Maui Community Plan (ongoing in 2024).

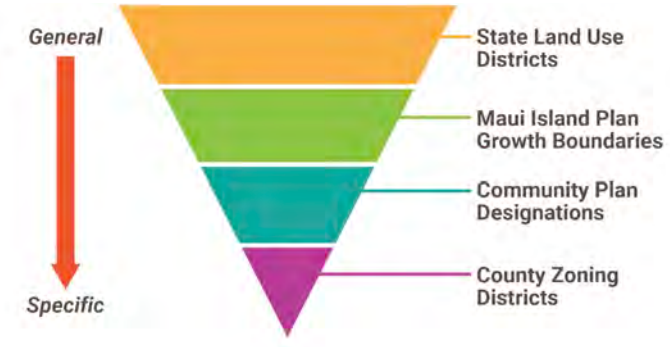
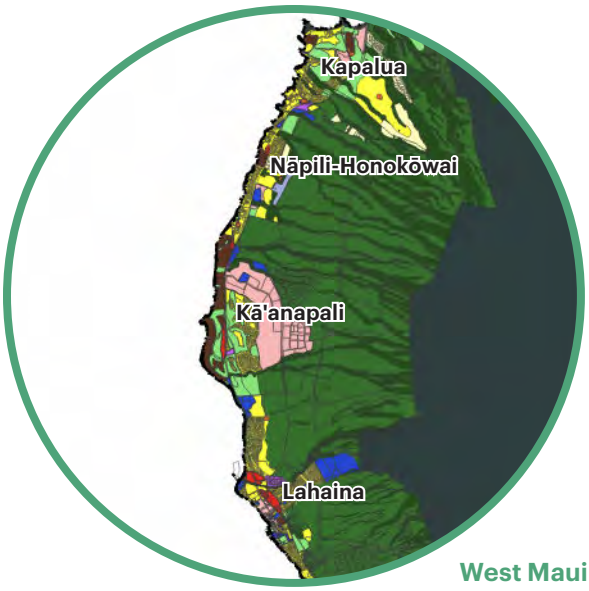
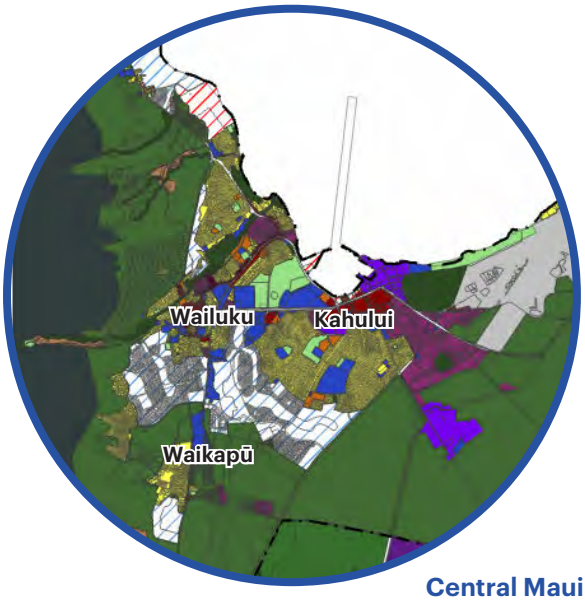


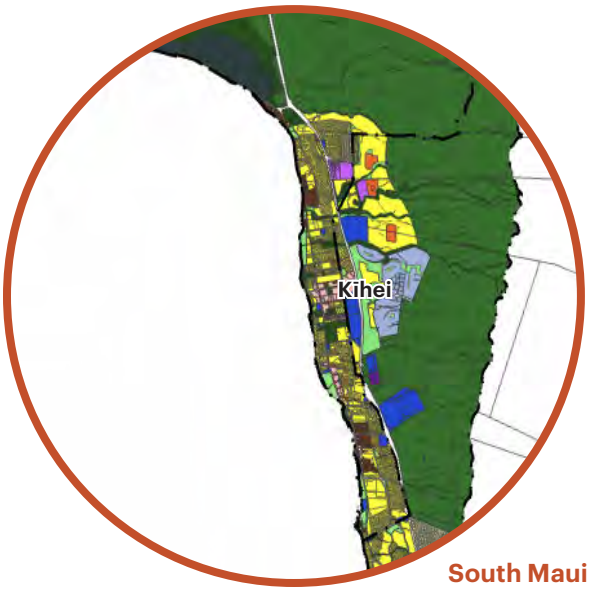
Figure 3.5 *Hierarchy of land use layers under the Maui General Plan*



West Maui



Central Maui



South Maui

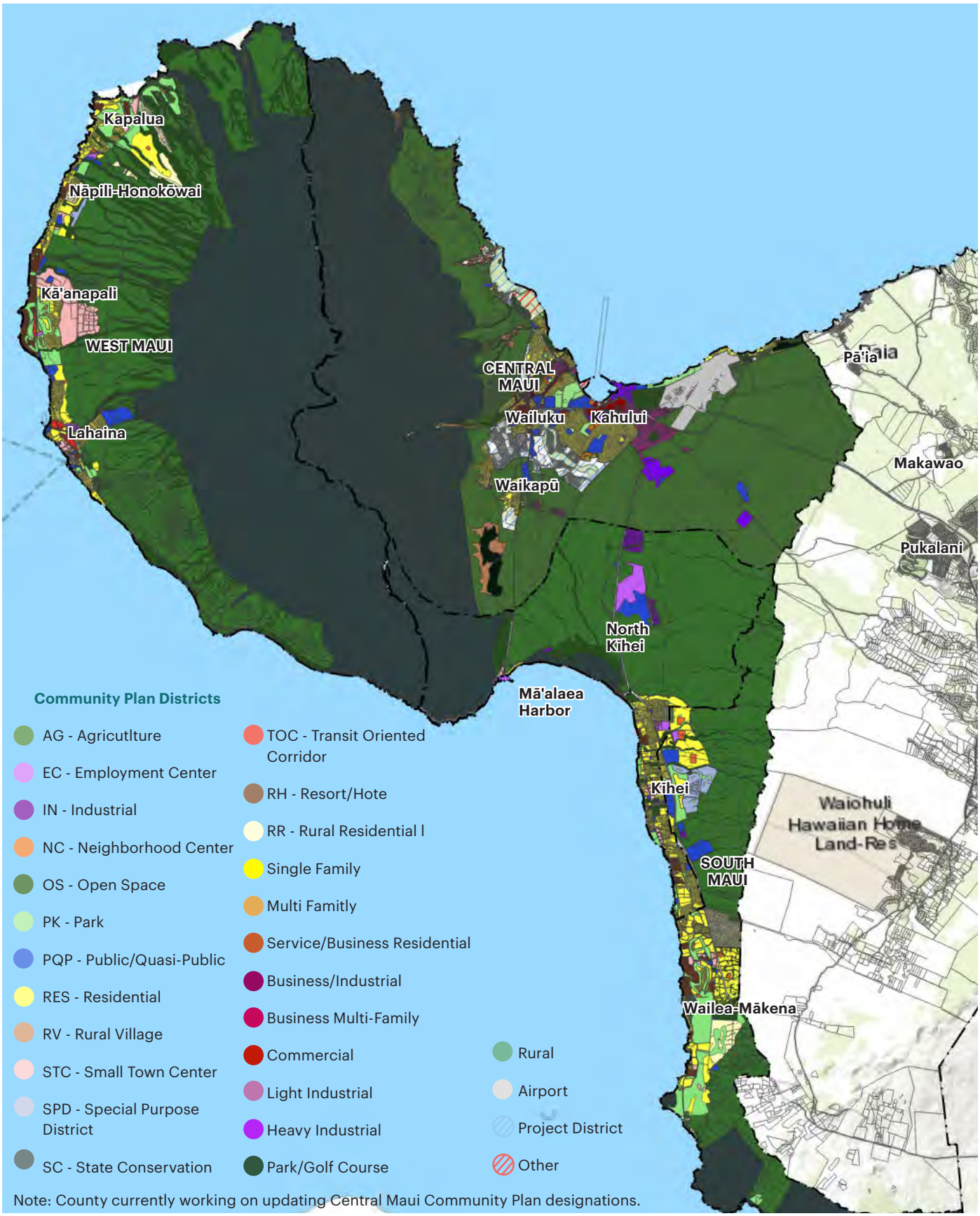


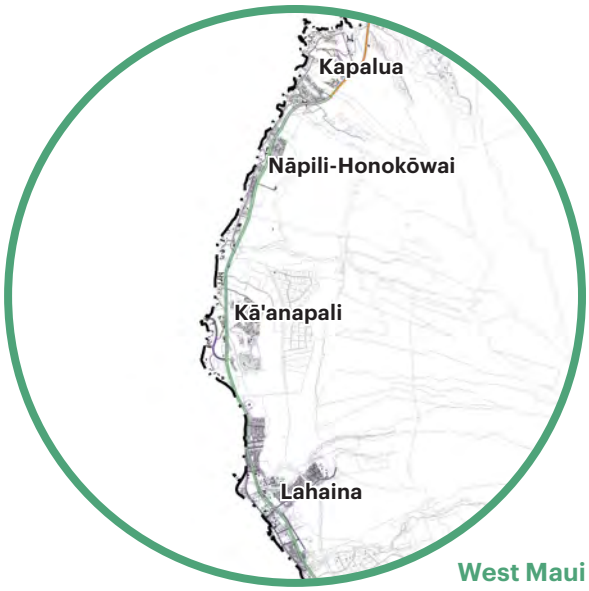
Figure 3.6 *Future planned land uses in West, Central and South Maui*

Existing Development Patterns

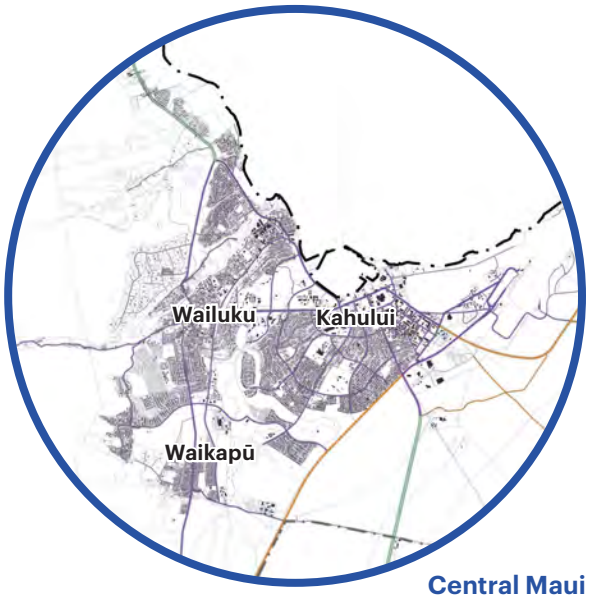
The maps on this page illustrate existing patterns of streets, blocks, and built form.

Overall, built-up areas in Maui are clustered around circulation corridors that also respond to the topography. Built form patterns vary from small-scale, detached homes in residential neighborhoods to taller buildings within urban cores. Maui is well known for its tourism industry, and in areas of tourist interest, large hotels and resort communities can be seen.

- **West Maui.** Apart from the area around Lahaina, the development pattern in West Maui consists of isolated resort areas catering to the tourism industry, particularly along the Honoapiilani Highway with less connectivity than other parts of the island. Closer to the coast there are higher-intensity block-scale resort buildings and some multifamily structures. Eastwards on the mauka side, the built form is house-scaled, both attached and detached types.
- **Central Maui.** Wailuku and Kahului are the most urban areas within Maui, with a high concentration of civic buildings and employment nodes that have block-scale, higher-intensity built form as well as large public spaces. Kahului is where the first plan developed for Maui, the "Dream City Plan" (1947), laid down a grid of long blocks of approximately 870 feet for the residential neighborhoods. In these areas, house-scaled built form is seen, primarily single-family homes.
- **South Maui.** Mā'alaea, Kīhei and Wailea are defined by the natural constraints, with a linear strip of development along the coast. The built form is diverse, with more intense, taller structures near the shoreline, primarily hotels and condominiums. Single-family neighborhoods are seen further inland, with well-used main streets and neighborhood centers, and a variety of open spaces.



West Maui



Central Maui

South Maui

> **Maui Island will be environmentally, economically, and culturally sustainable with clean, safe, and livable communities and small towns that will protect and perpetuate a pono lifestyle in the future. "**
>
> **Maui Island Plan Vision, General Plan 2030**

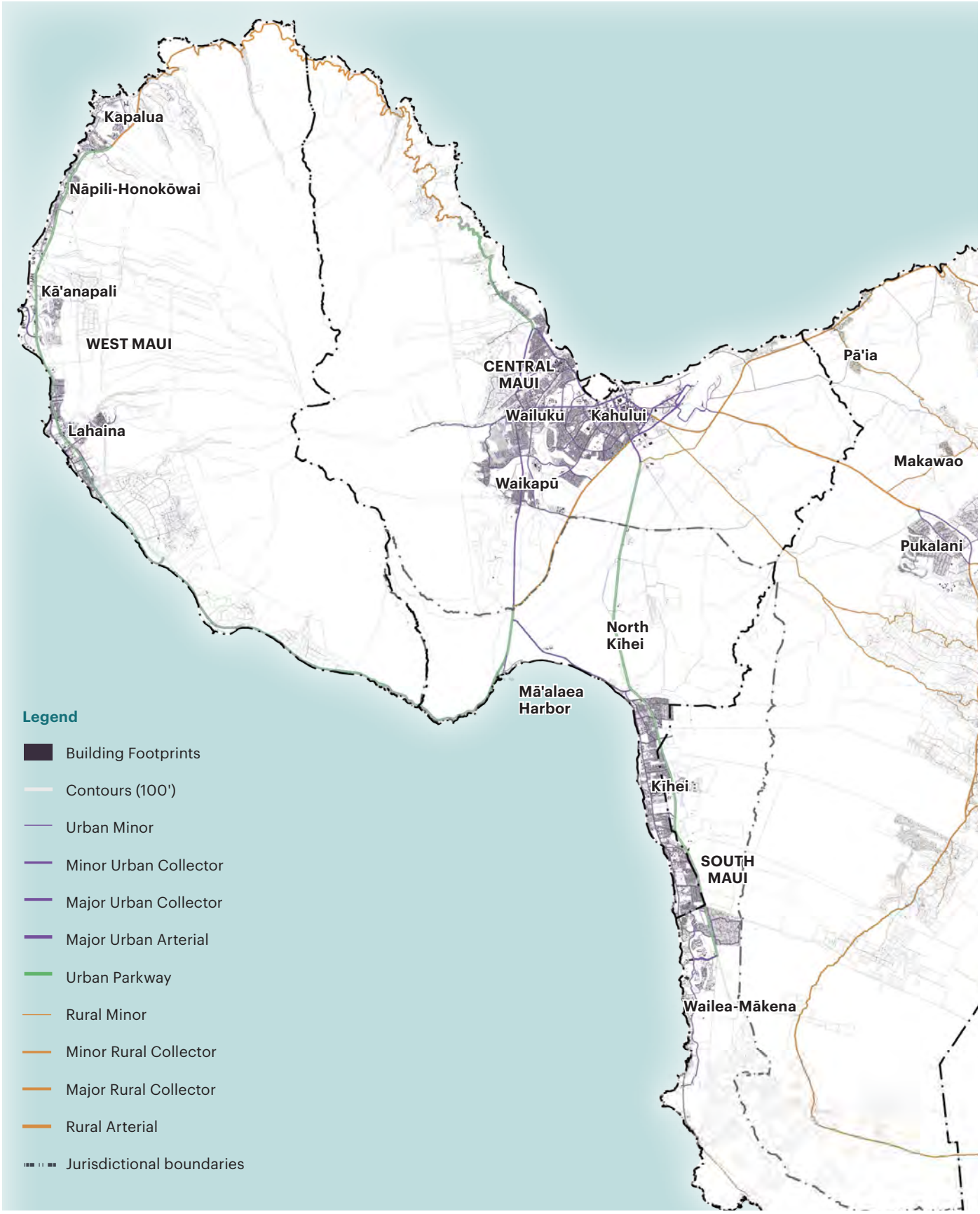


Figure 3.7 *Built form analysis for West, Central and South Maui*

III. Connectivity + Access to Amenities

What Are Existing Connectivity Networks in Maui?

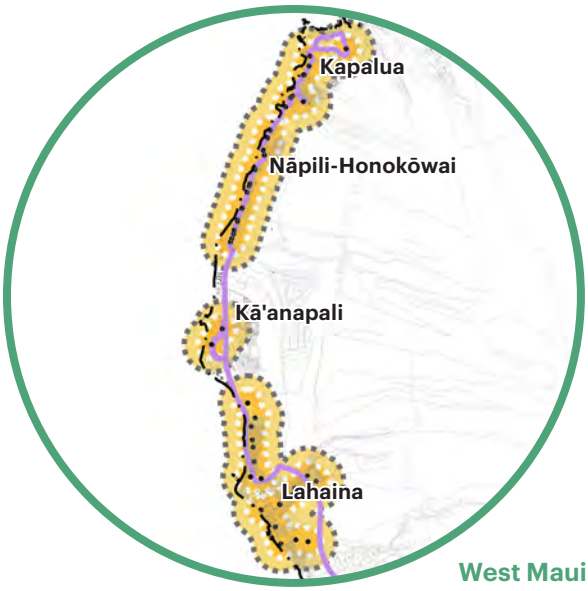
In the next step of analysis, existing levels of connectivity and access to employment, amenities and services are assessed. The maps on this page show the existing circulation and transit network in Maui, with 1/2-mile and 1/4-mile pedestrian "walksheds" around transit stops.

Development patterns in Maui are generally oriented around transportation corridors. Corridor plans for Ka'ahumanu Avenue and Kanaloa Avenue and the West Maui Community Corridor are intended to guide future improvements, planning for nodes around transit that serve the community better.

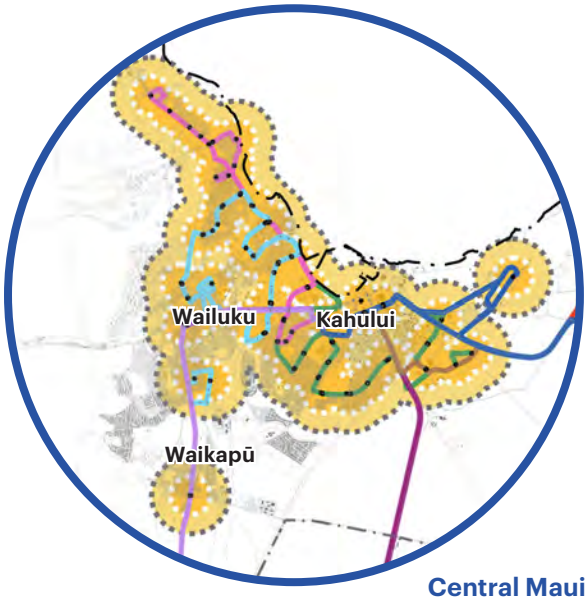
The Maui Bus Public Transit System consists of twelve routes providing service between Central, South, West, and Upcountry communities. This is an important amenity and will play a key role in supporting an infill strategy with MMH that will rely on reliable transit service to jobs and centers.

The Maui General Plan, the Community Plans, and related policies such as the Affordable Housing Policy Plan recognize the need for infill, with more diverse housing in established urban areas, close to employment hubs, infrastructure, and amenities, rather than greenfield developments.

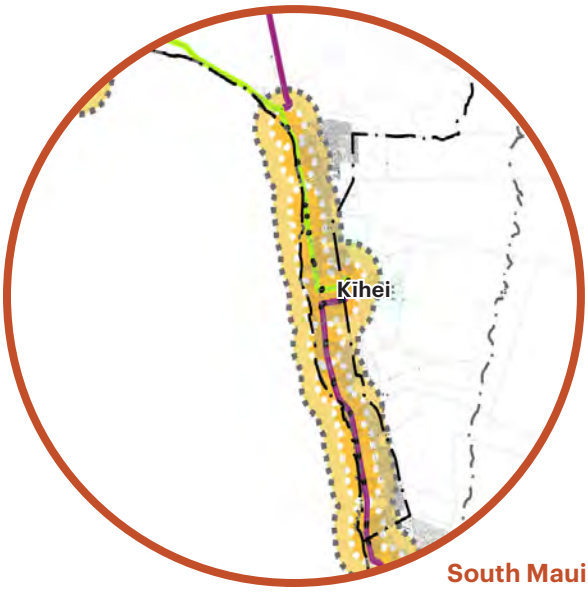
Figure 3.8 *"Framework for a Resilient Future" with Transit-Oriented Communities. Source: www.westmauicommunitycorridor.org*



West Maui



Central Maui



South Maui

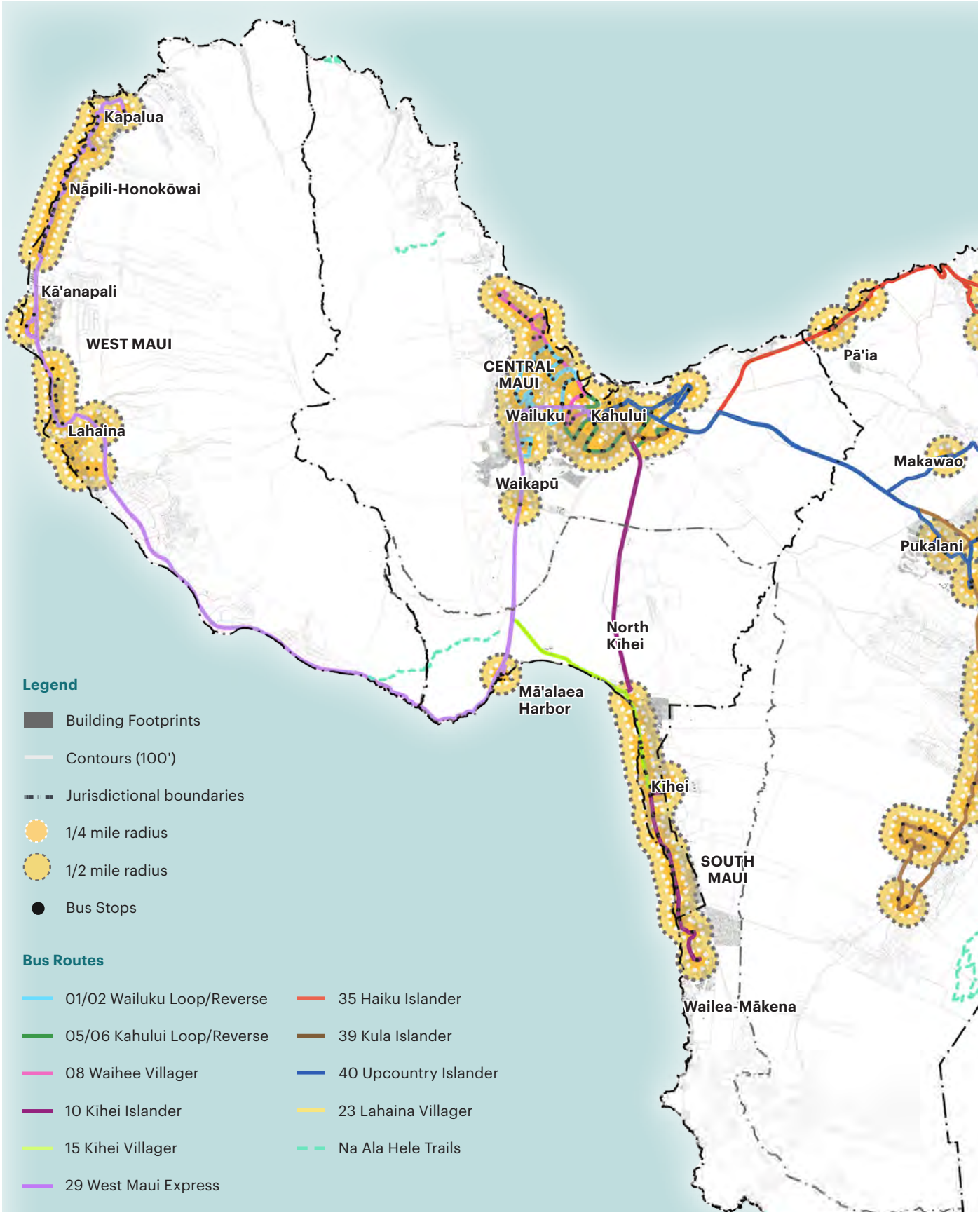


Figure 3.9 *Connectivity analysis for West, Central and South Maui*

3.3 Existing Centers in Maui

MMH works best in, and in turn, supports areas with high levels of connectivity and access to mixed-use centers that provide a range of amenities and services to support a diverse, walkable environment.

Connected, Mixed-Use Centers

To understand where MMH can be accommodated, the analysis identifies connected, mixed-use "centers" in Central, West and South Maui. These centers provide a range of amenities and uses to meet residents' daily needs, such as schools, recreation, shopping, services, transit, food, and employment. Because of this, the centers themselves as well as the surrounding neighborhoods could support more housing such as MMH.

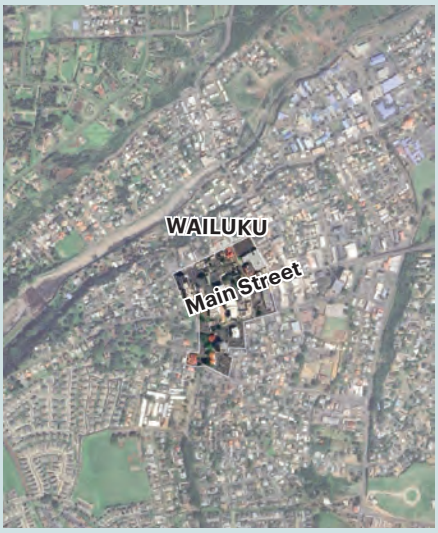
A center can vary in size and scale, from just a few parcels, as in a Neighborhood Center, to multimodal corridors, or larger Town Centers or Campuses that service a much larger geography. Centers are typically mixed-use in character, though

Transit-Oriented Corridor

Maui's Community Plan designations are intended to create transit-oriented areas along corridors that are (or planned to be) characterized by a mix of higher-density commercial, employment, light industrial and residential uses. Mixed-use development fosters pedestrian-friendly activity centers and multimodal corridors and vibrant street life.

Campus

These are college/university campuses, hospital complexes, and other destinations where large numbers of people spend the day traversing on foot, making these areas "internally walkable". Usually connected by main corridors, campuses are easy to access, and support pedestrian-friendly services and interior recreational open space.



Town Centers

Town centers are compact, walkable areas with a mix of moderately intense uses developed around an identifiable core, often a historic town. These centers meet the full range of needs associated with urban living and often have a mix of commercial, office, governmental, and multi-family uses in close proximity.

not all centers have commercial uses. For instance, university and medical campuses tend to accommodate a high concentration of people on a day-to-day basis, making them good locations for adding housing. A 1/4 and 1/2 mile radius around a center relates to a five to ten-minute walking distance. Areas within this "walkshed" are especially good locations for MMH, since at least some of the daily trips can be accomplished without needing to drive. Lower parking needs make it feasible to provide more housing units on existing lots in such areas.

Centers in Maui

Six types of centers were identified in West, Central and South Maui. Their attributes are described below.

- **Transit-Oriented Corridor**
- **Campus**
- **Town Center**
- **Small Town Center**
- **Neighborhood Center**
- **Village Center**

Small Town Center

As part of the Community Plan, these centers are intended to preserve the character of Maui's smaller towns and communities for the development of new low-to-medium-density commercial centers with a mix of uses that provide daily services. These centers can support a larger mixed-use environment when located at the intersection of multiple neighborhoods.

Neighborhood Center

Neighborhood centers are intended to support residential areas within and near pedestrian-oriented commercial nodes. Uses within this designation are primarily neighborhood-serving, with traditional shops serving the daily needs of residents.

Village Center

Maui has small villages that exist at the edges of urban areas. The Village Center is oriented around a main street that provides for daily needs. It is intended to preserve the character of Maui's villages and rural communities.

3.4 "MMH-Ready" Areas Near Centers

The types of centers identified in the previous section can help determine "MMH-ready" areas around them, where additional housing can be provided using the palette of MMH types.

MMH-Ready Areas

The neighborhoods surrounding the identified centers provide the best opportunities for MMH, since these areas have high levels of connectivity and access. These MMH-ready areas should be prioritized since at least some of the residents' daily needs can be met using public transit, on bike or on foot. Less car dependance and consequently reduced parking needs mean that the available land can be used for additional housing.

To determine the extents of the MMH-ready or MMH priority areas, a radius of 1/4 to 1/2 mile is used, that corresponds to a five to 10-minute walking distance for most people. The size of the center and the range of amenities and services it provides helps to determines the size of this walkshed. Below are two examples of centers, with different walksheds, for MMH-ready areas.

Example of a Village Center: Makawao

The map above shows a typical Village Center at Makawao. The Village Center has a main street with community-serving retail and amenities. The "MMH-ready" area in this case corresponds to a walkshed of ¼ mile, or a five-minute walk distance.

Example of a Town Center: Wailuku

The map above shows Wailuku, a Town Center. The center is larger, including several streets and providing a wider range of services, amenities, and greater connectivity. In this case, the "MMH-ready" walkshed is ½ mile, a ten-minute walk distance.

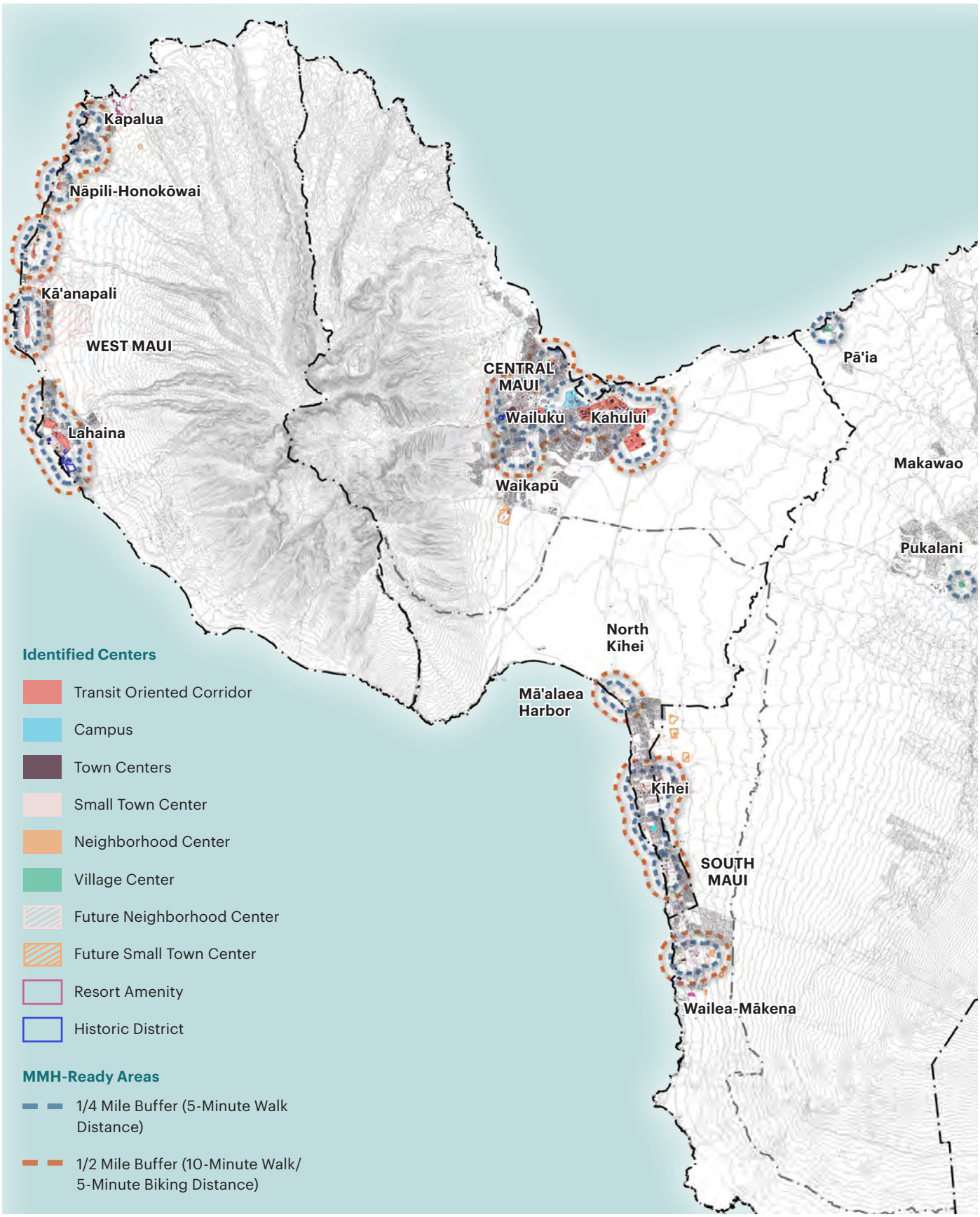


Figure 3.10 *MMH Priority Areas Map for West, Central and South Maui*

CLOSER LOOK

Walkability and Missing Middle

For built environments that can support MMH, "walkable" is used to describe a place where a person can walk or bike to fulfill some or all daily needs. While residents and visitors may own and use cars, they are not dependent on driving for all daily trips.

Walkable in this context 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.

Built Form Patterns for MMH Environments

The built environment consists of streets and blocks, and the development pattern plays a role in determining the types of uses that can be supported, and in the process the built character of the place. In determining priority areas for MMH, development patterns are an important consideration. Connected street networks and access to a variety of uses – in other words walkable, mixed-use environments – are very important for MMH. The higher the walkability of a project context, the smaller the units can be, and the less off-street parking is needed, which can improve the attractiveness of Missing Middle types for developers. Buyers and renters of MMH housing types are looking for the benefits of such walkable, mixed-use environments and are willing to make trade-offs on other housing features, such as unit size or a large backyard.

Mixed-use environments also typically have more robust utility infrastructure, and augmenting this to support additional housing if generally easier and more economical than developing new infrastructure systems further away from urban areas.

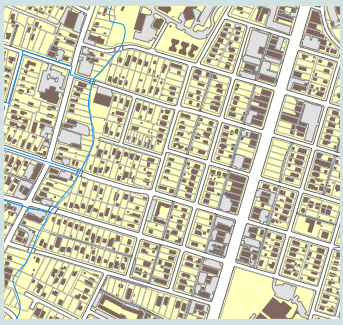
MMH types can be built in an auto-oriented context, but unless the built environment is at least somewhat walkable, they will not not deliver compact, sustainable patterns of development, and will not achieve the same returns or rents for developers.

MMH can and should form part of new development in planned growth areas, where there are opportunities to design compact, connected environments and plan for infrastructure, employment and other amenities.

For most cities, including those in Maui, the most walkable neighborhoods are the ones located near established historic centers and the city's urban core. Such neighborhoods typically already have MMH and can support additional MMH including larger MMH types.

Traditional neighborhoods, developed prior to the 1950s, also have connected

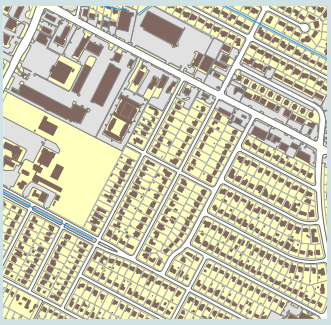
How Does Urban Form Determine Connectivity and Access?



Ideal for MMH

Walkable

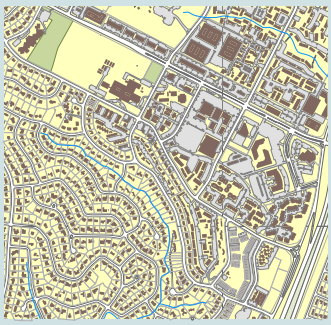
Small blocks, a well-connected street network, and nearby services, shops, restaurants, etc. support a high degree of walkability for this neighborhood. MMH is typically existing in such neighborhoods.



Appropriate for MMH

"MMH-Ready"

A well-connected street network with a mix of block lengths provides a walkable foundation that will support MMH types and enable pedestrian-scale redevelopment of adjacent commercial parcels.



Challenging for MMH

Automobile-Oriented

Minimally-connected streets with frequent cul-de-sacs and commercial areas accessible primarily via high-speed roadways do not provide the ideal environment for MMH.

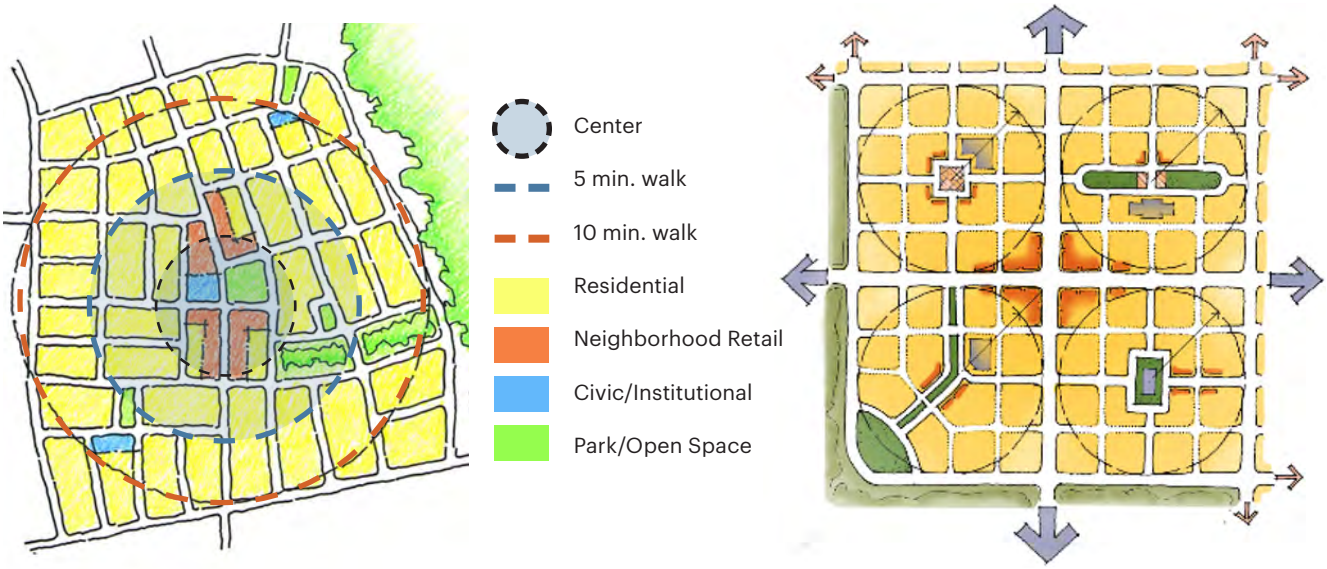


Figure 3.11 *The diagrams above illustrate built form patterns that support MMH at different scales. The graphic on the left shows how a connected and walkable development pattern in close proximity to neighborhood retail, open space, and civic buildings can support MMH. The circles represent the mixed-use center and 1/4-mile and 1/2-mile distances (5-minute and 10-minute walking distance). The graphic on the right illustrates how multiple walkable neighborhoods can form a compact, mixed-use development pattern with a larger center at the intersection of two major roadways.*

built patterns and are generally walkable and pedestrian-scaled. They may already have some MMH types and even if not, they can support most MMH types.

Newer neighborhoods characterized by auto-oriented development patterns can be more challenging for MMH. However, even in auto-oriented contexts, there may be neighborhoods where improvements to street connectivity and adding neighborhood-serving retail and amenities can play a big role in transforming such areas to more walkable patterns.

Built Environment Characteristics That Support MMH

- **Smaller block sizes** that allow for better street network connectivity and 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 and adequate sidewalks** to provide an alternative to driving for longer-distance destinations. Safe, convenient, and well-connected bicycle facilities provide transportation options for destinations that are too far away for walking.
- **Access 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 of the daily needs should be accessible within a ten-minute walk. or 1/2 mile from housing.
- **Appropriate zoning** that allows for a variety of housing types and encourages compact, mixed-use development.
- **Small to medium lot sizes** that promote house-scale development and diverse housing types, and disincentivize large tracts of identical housing types, where the repetition of building forms leads to a diminished public realm.

Examples of MMH-Ready Neighborhoods

- Wahikuli (near Wayside Park), West Maui
- Dream City (Kahului near Maui High), Central Maui
- Kilohana (near Kilohana Park), South Maui

West Maui

Priority Areas for MMH

The map shows the priority areas for MMH, including the mixed-use centers and the surrounding neighborhoods within a ½-mile and and ¼-mile radius, that correspond to a 5-minute and 10-minute walk distance.

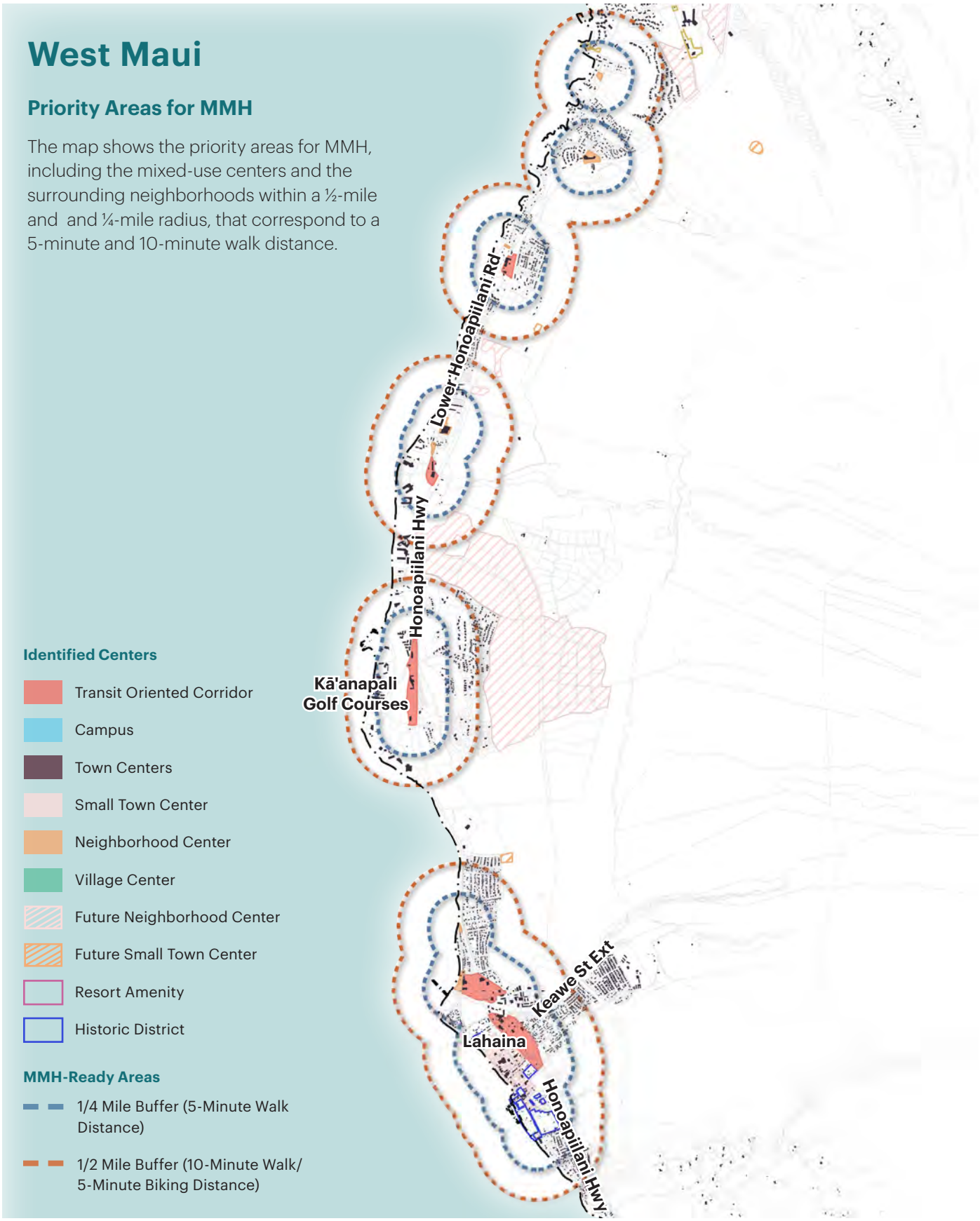


Figure 3.12 *MMH Priority Areas Map for West Maui*

West Maui

Priority Areas for MMH + Zoning

The map shows the priority areas for MMH, and the analyzed zoning districts that apply in these areas.

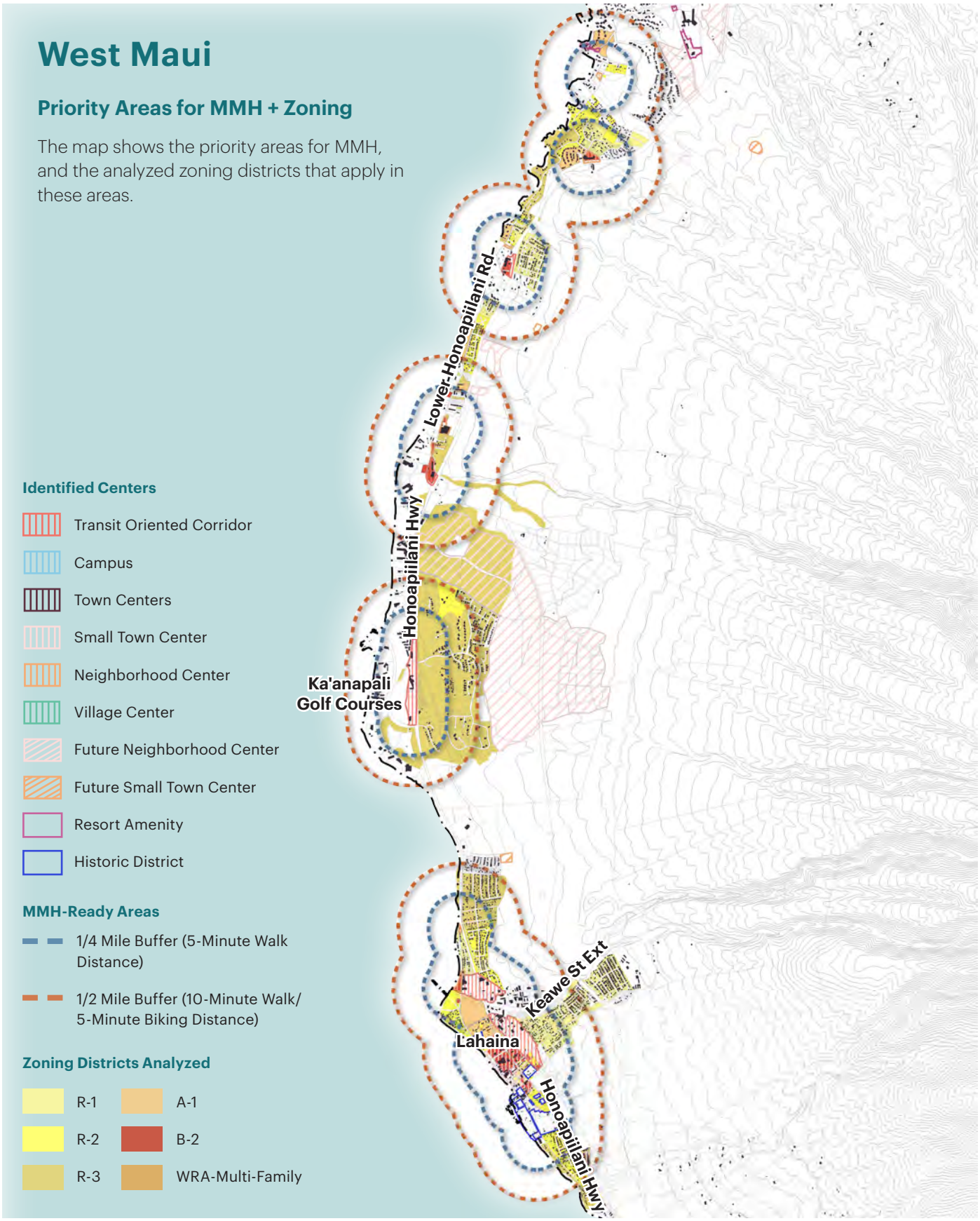


Figure 3.13 *Zoning Districts within MMH Priority Areas in West Maui*

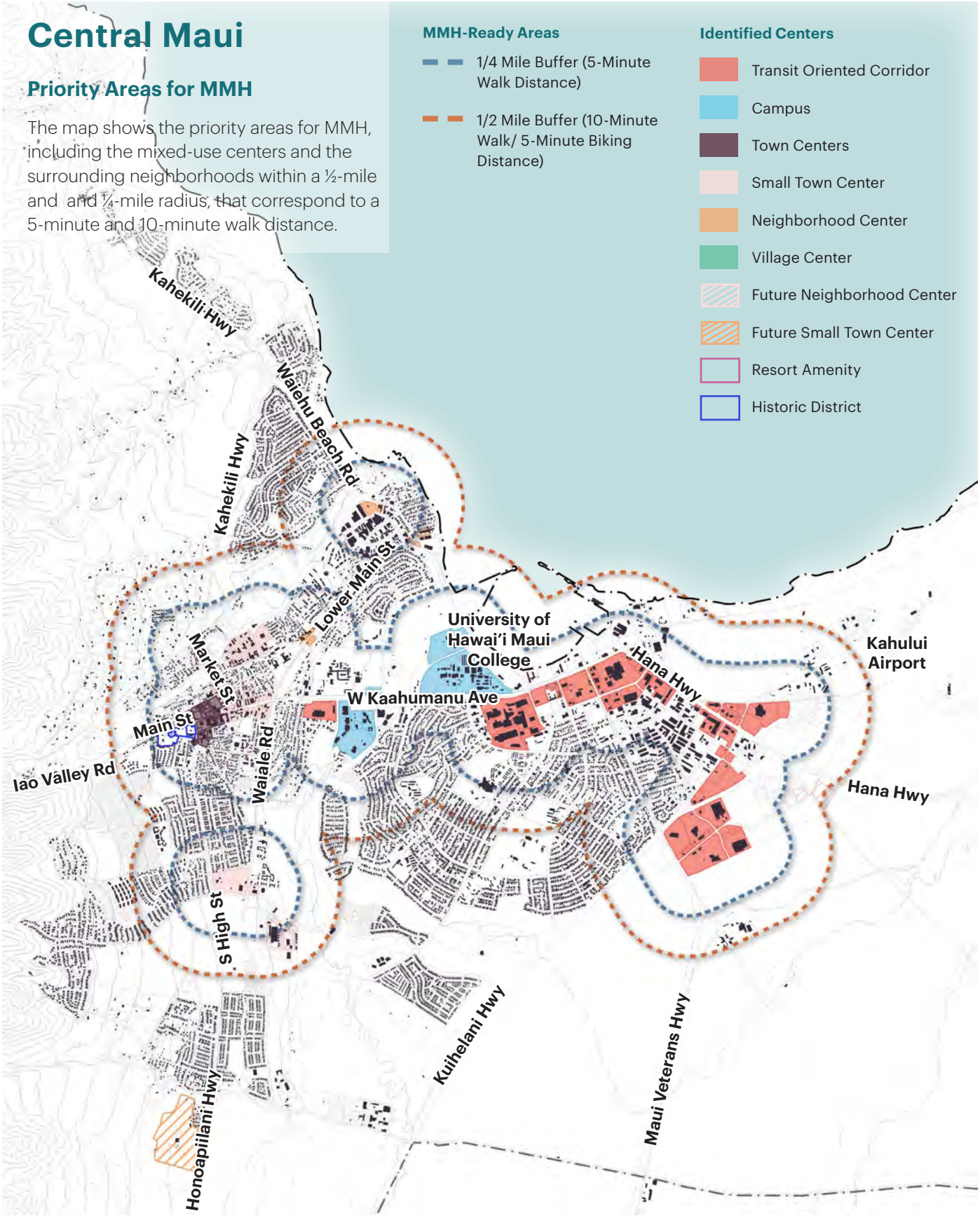


Figure 3.14 *MMH Priority Areas Map for Central Maui*

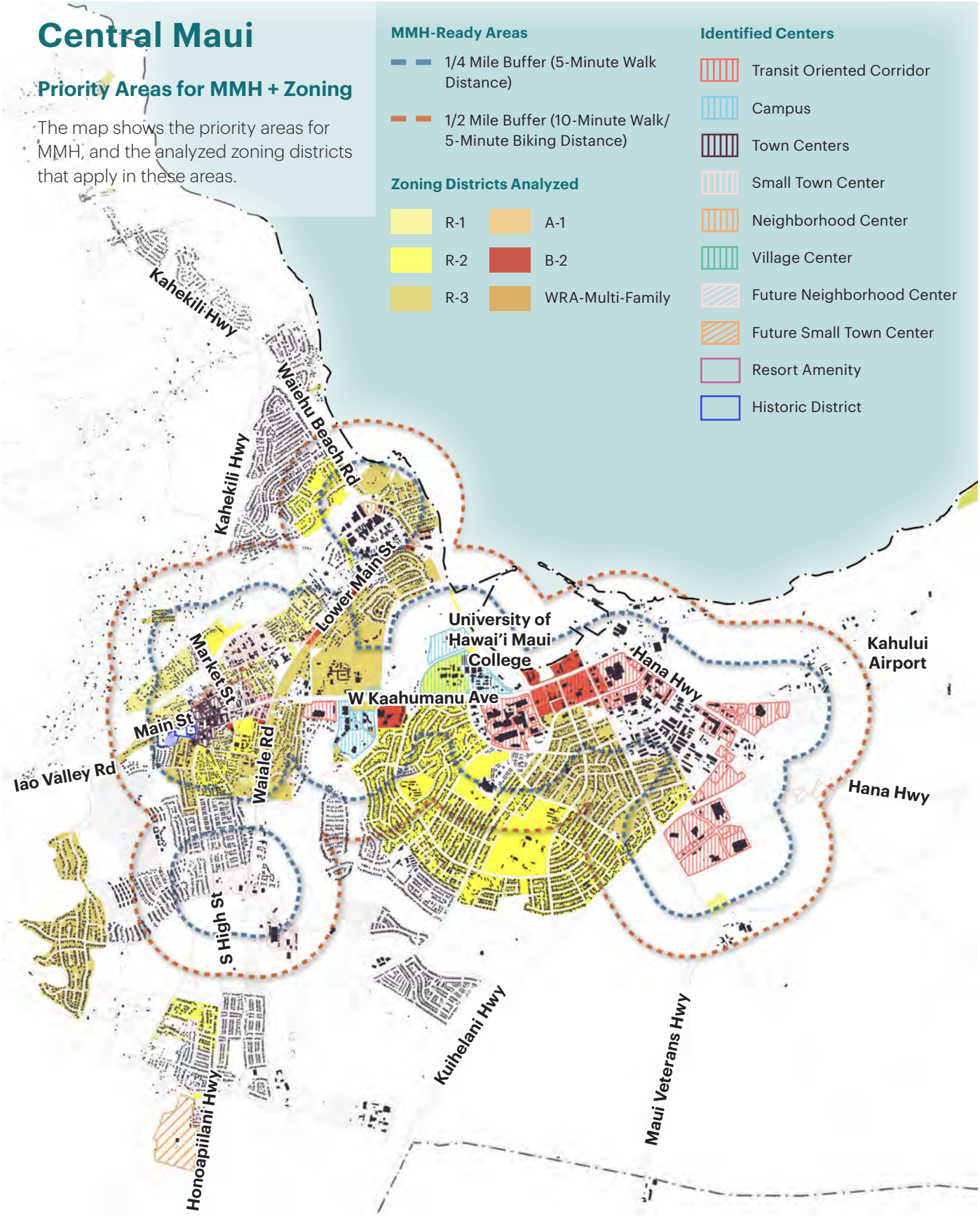


Figure 3.15 *Zoning Districts within MMH Priority MMH in Central Maui*

South Maui

Priority Areas for MMH

The map shows the priority areas for MMH, including the mixed-use centers and the surrounding neighborhoods within a ½-mile and and ¼-mile radius, that correspond to a 5-minute and 10-minute walk distance.

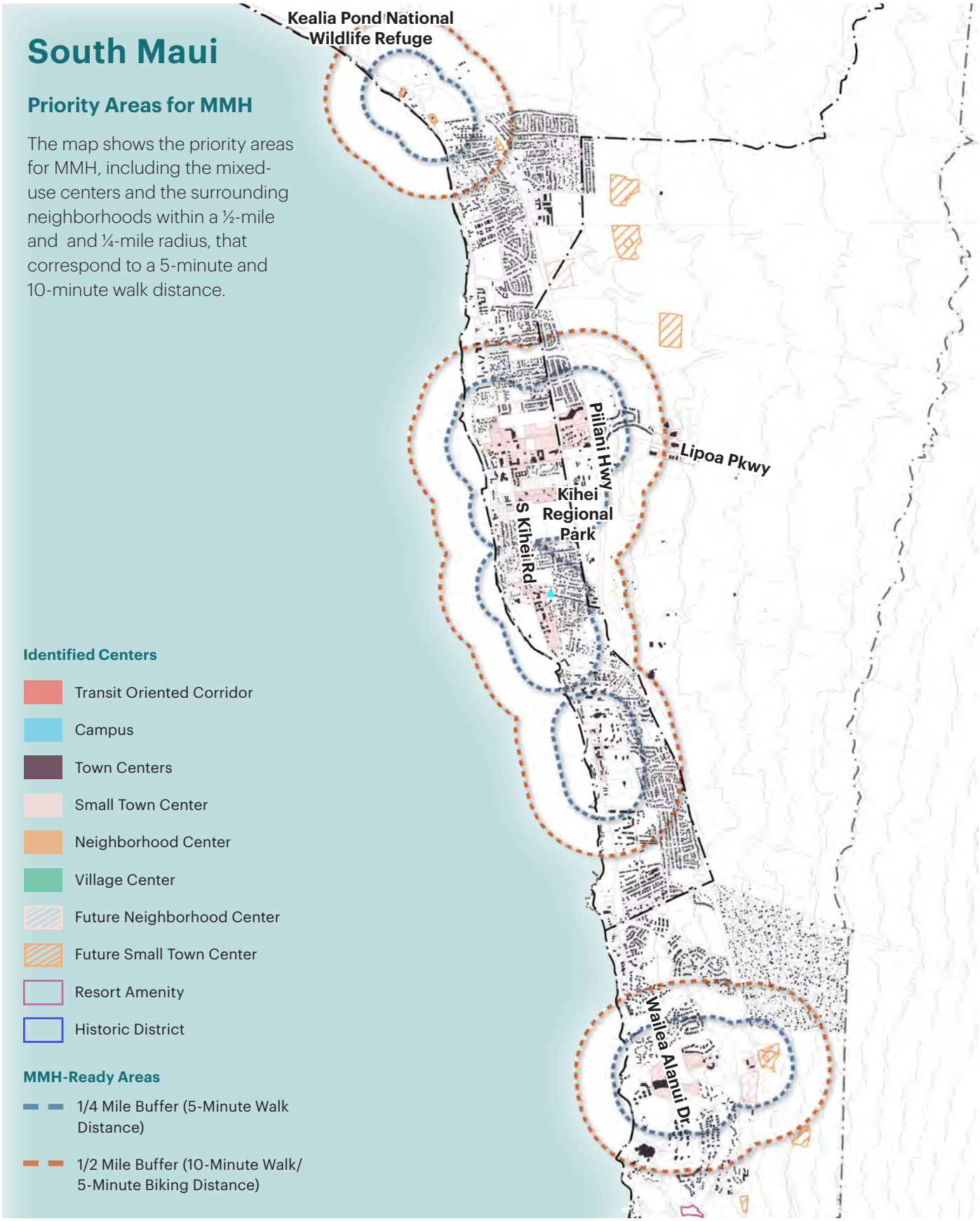


Figure 3.16 *MMH Priority Areas Map for South Maui*

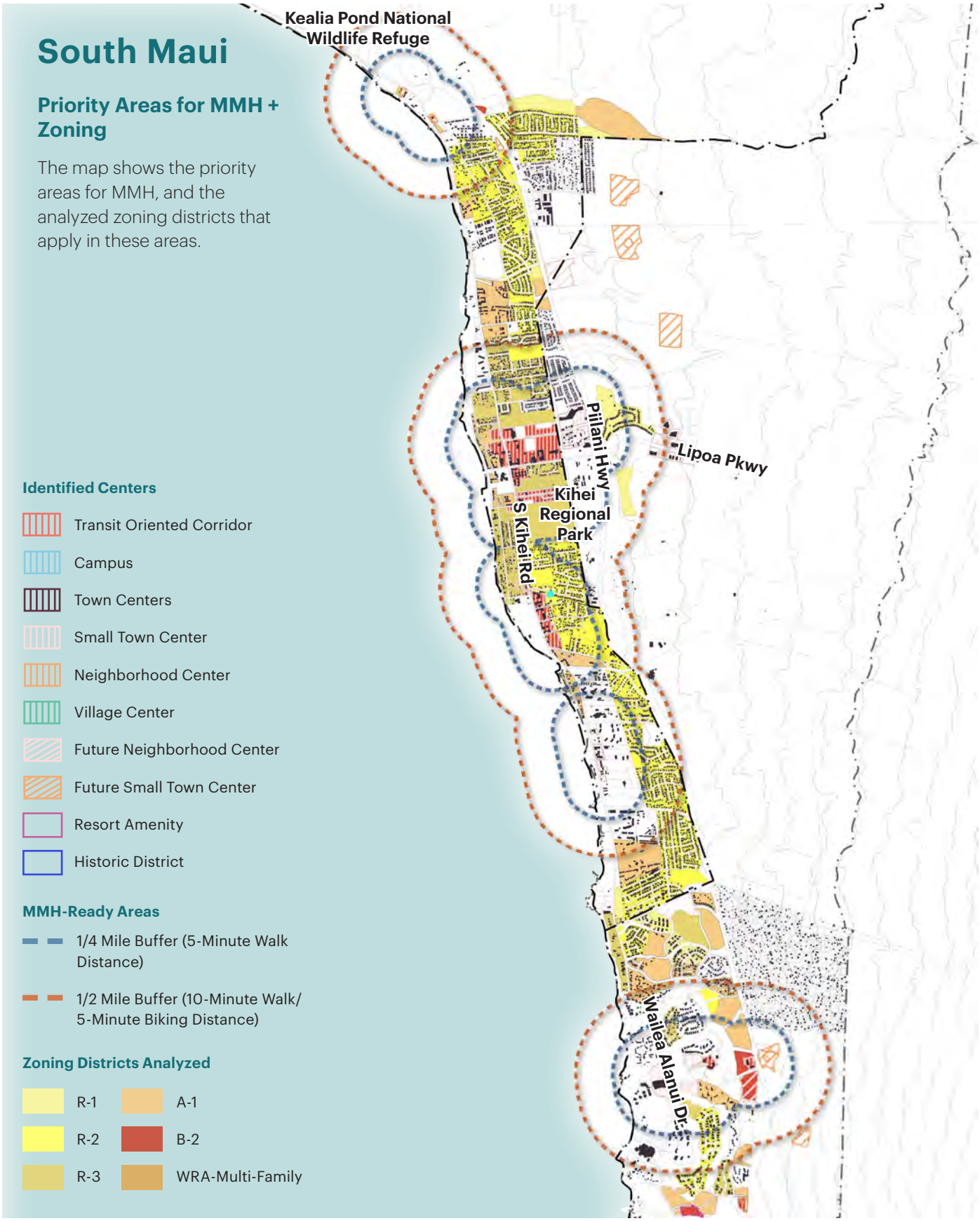


Figure 3.17 *Zoning Districts within MMH Priority Areas in South Maui*

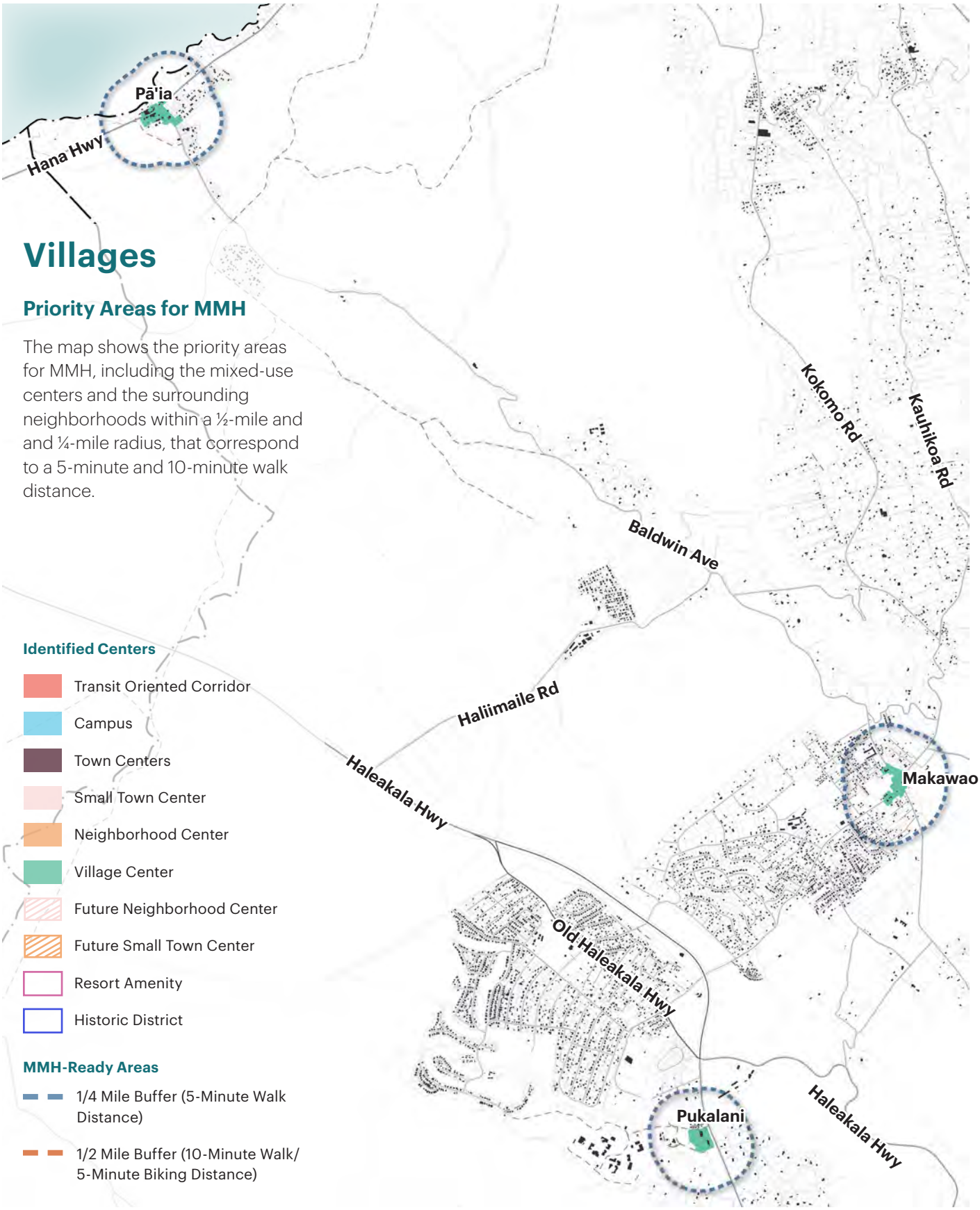


Figure 3.18 *MMH Priority Areas Map for Villages*

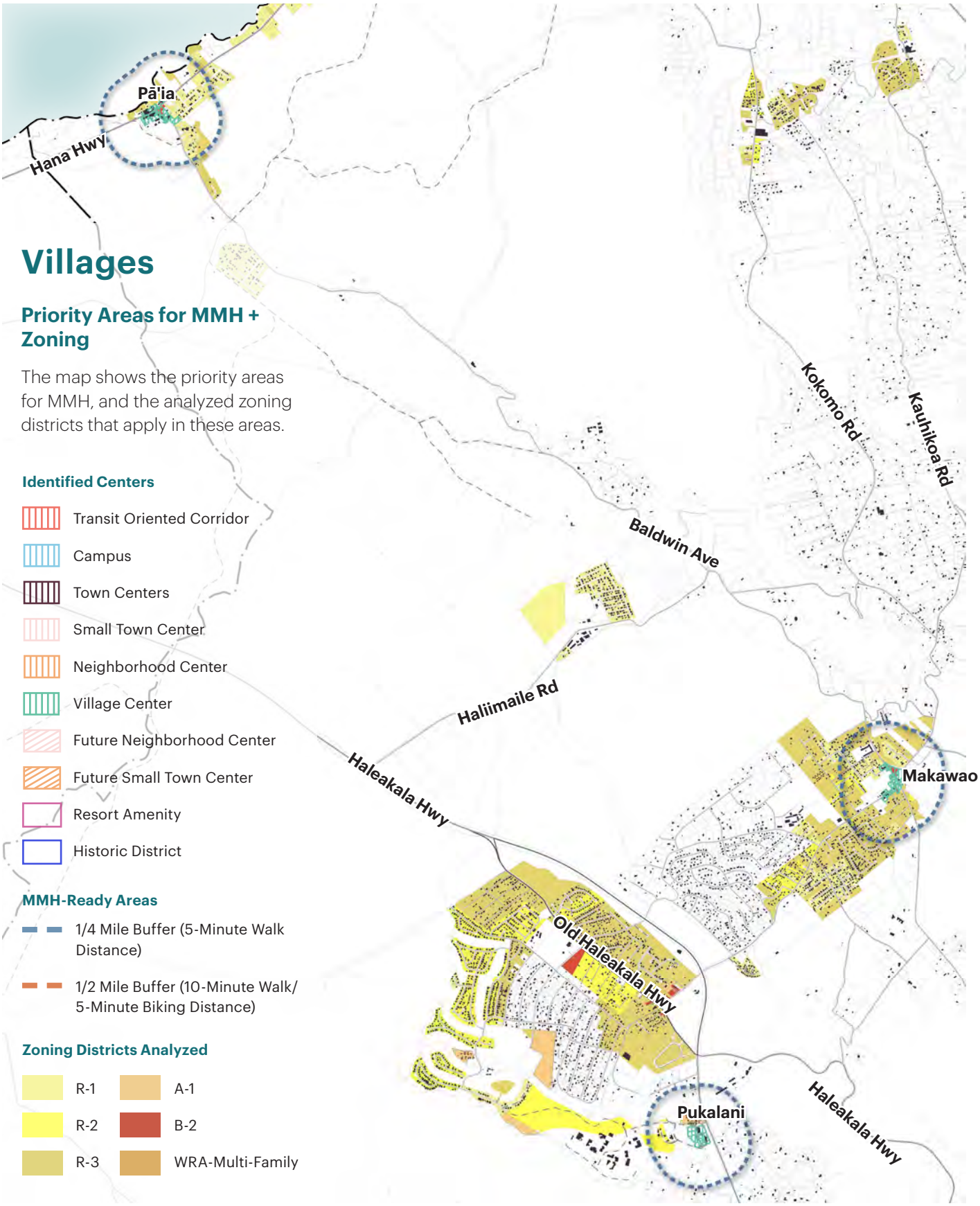


Figure 3.19 *Zoning Districts within MMH Priority Areas for Villages*

3.5 Potential Centers in Maui

Creating New Mixed-Use Centers for MMH-Ready Neighborhoods

Centers provide a destination for the surrounding community by creating space for neighborhood-serving retail, services, institutional and public uses in a pedestrian-oriented environment. Many centers already exist near Maui's traditional neighborhoods (see Section 3.3, "Existing Centers in Maui"), however there are opportunities to create new mixed-use centers by transforming existing underperforming or underutilized areas such as older malls, commercial centers with many vacancies, etc. Centers can also form part of new development in planned growth areas. These redeveloped or new centers have the potential to

Key Elements of A Center

An example from Austin, TX shows the transformation of a declining shopping center. While the scale of development in Maui 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 the Walkable Center by biking, walking, or driving.*
- ***Transition areas** to ensure compatibility with adjacent residential neighborhoods.*

transition an area from an auto-oriented pattern of development to a more walkable, mixed-use environment ideal for MMH at various scales of intensity.

Places to Consider for New Centers

The following areas have the potential to become new centers

- **Queen Ka'ahumanu Center**
- **Ohukai Plaza**
- **Waikapū Country Town District**
- **Maui Research and Technology Park**
- **Mā'alaea**

Figure 3.20 *Redevelopment of this shopping strip mall along W Ka'ahumanu Avenue could result in a new center surrounded by MMH neighborhoods*

1

Mixed-use center as the destination

2

Pedestrian-oriented physical character

3

Multi-modal access

4

House-scale transitions to adjacent neighborhoods

Designing Walkable Centers

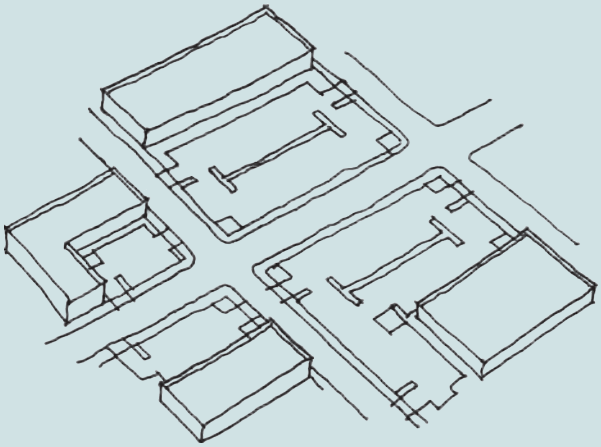
A center is not limited to a certain size. Smaller centers, like a Neighborhood Center, can be easily embedded into or developed adjacent to residential neighborhoods to provide convenient services for nearby residents, and help meet multiple daily needs in a single trip made by foot, bike, or car. These neighborhood-scale centers can serve as nodes of local activity that help to enliven a neighborhood and build community.

In designing new centers, connectivity and pedestrian-oriented design is key. Smaller block sizes allow for better connectivity and 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.

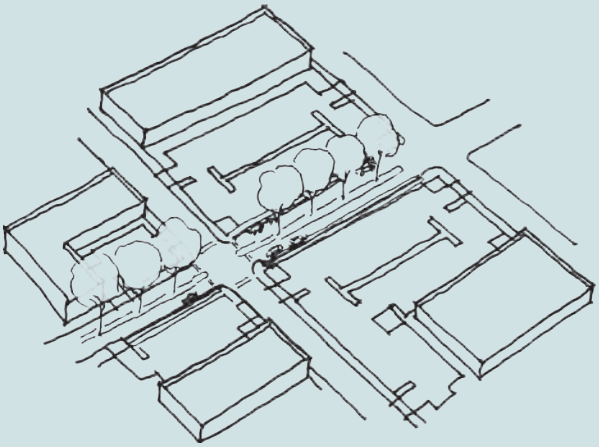
Figure 3.21 *In this example of redevelopment, vacant lots are transformed into neighborhood-scale centers to support the surrounding neighborhood. This type of transformation provides a new local amenity that makes the neighborhood more attractive for MMH development and infill. Centers can be of different types, and should be compatible in scale and form with the surrounding neighborhood.*

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 Center that can transform surrounding neighborhoods into MMH-Ready Neighborhoods and create suitable environments for Missing Middle Housing.

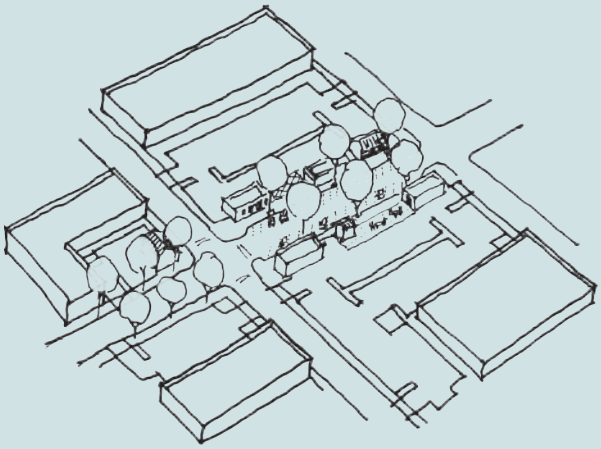


Existing Conditions



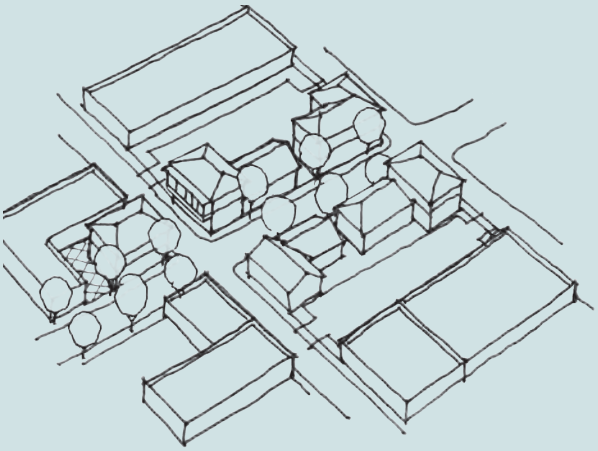
Step 1

Small changes could include landscaping, streetscape improvements and shared roads for bikes and cars.



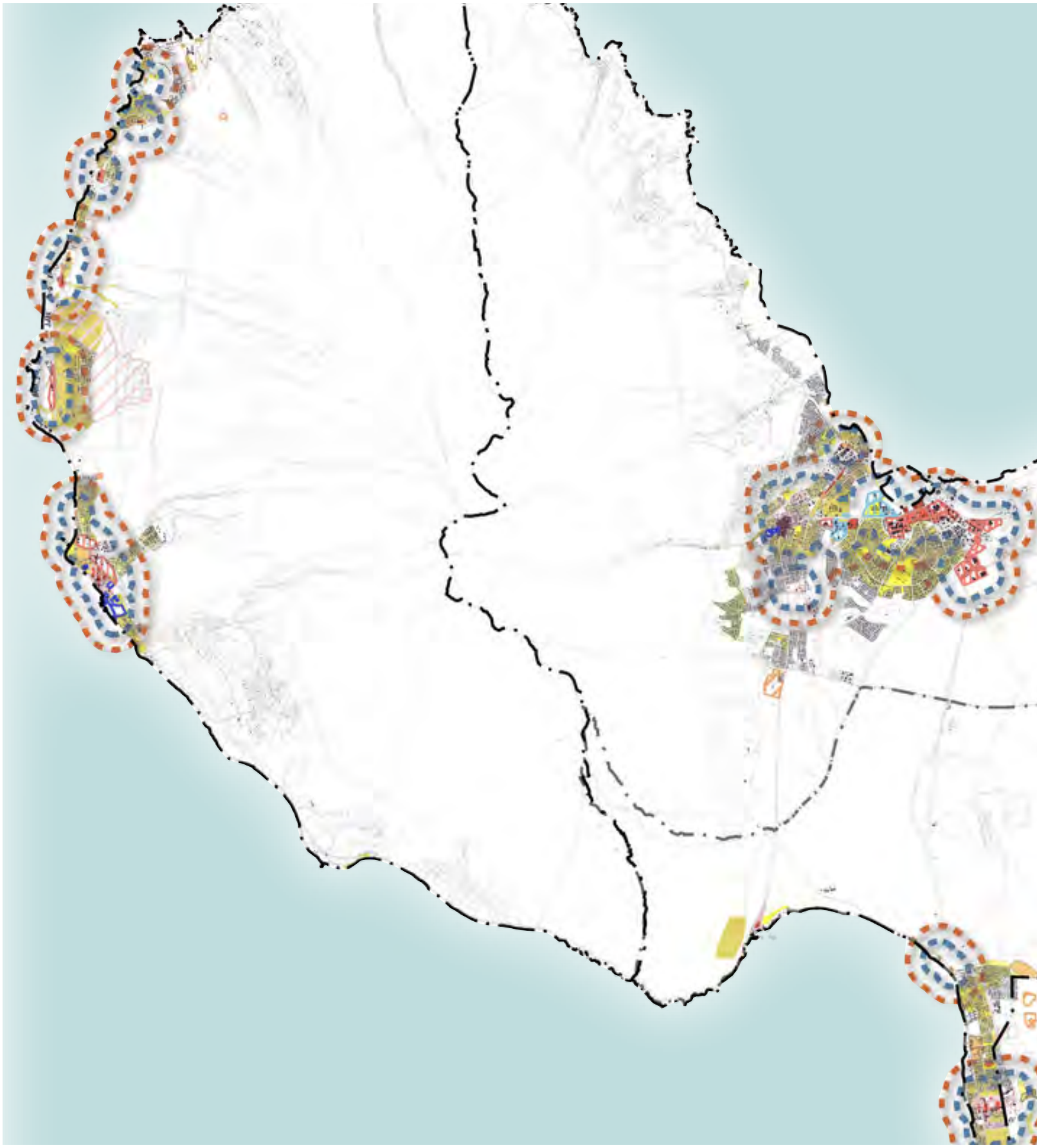
Step 2

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.



Step 3

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



CHAPTER

4

Analysis of Barriers

In this chapter

4.1 Summary of General Plan and Other Policy Plans

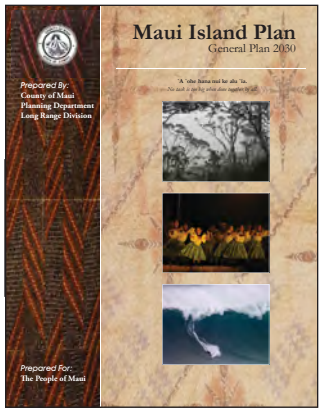


Figure 4.1

Maui Island Plan, General Plan 2030

The following analysis identifies which Maui's County policies support the development of MMH.

Maui Island Plan 2030

Part of the General Plan, the Maui Island Plan provides direction for future growth, the economy, and social and environmental planning decisions through the year 2030. This Plan accomplishes the following:

- Assesses existing conditions.
- Provides policy direction for land use and development, extension and improvement of transportation services and infrastructure, development of community facilities, expansion of the island's economic base, provision of housing and the protection of natural resources.
- Establishes policies to manage change and to direct decisions about future land use and development.
- Provides the foundation to set capital improvement priorities, revise zoning ordinances, and develop other implementation tools.

The General Plan supports multi-family development in urban settings in Maui.

Core Values

There are two core values that are relevant to implementing MMH in Maui.

- Plan and build communities that include a diversity of housing types.
- Establish a sustainable multi-modal transportation system that includes walking, biking, and mass transit, as well as automobile-based modes.

Using MMH as a tool for infill aligns with the Plan's core values. Building MMH in Maui will help diversify the housing stock, and add housing to existing neighborhoods in a context-sensitive manner. This will also support more compact, sustainable development patterns with multi-modal transportation.

Housing

Housing in Maui is becoming increasingly unaffordable for many residents. The County desires to create more housing at an affordable price by promoting compact, mixed-income communities with expanded housing choices. MMH could be an effective part of an infill strategy because it can provide additional housing that is similar in size and scale to existing single-family homes. These new typologies could be seamlessly integrated into existing neighborhoods.

In the housing section of this report, specific policies that support multi-family development and mix of housing types are 5.1.1.a, 5.1.1.b, and 5.1.1.e.

Land Use

Less than five percent of Maui's lands are within the State Urban District. With the goal of protecting natural and cultural resources in these areas, Maui's urban growth is anticipated to be in the form of:

- Infill development within planned urban expansion areas
- As new towns and settlements, and

- Infill and expansion of existing country towns and villages.

Some of the land use objectives and policies that align with MMH include:

- Ensure compact urban communities within growth areas.
- Provide incentives to facilitate the development of multi-family housing.
- Ensure affordable employee housing and multi-modal transportation opportunities.

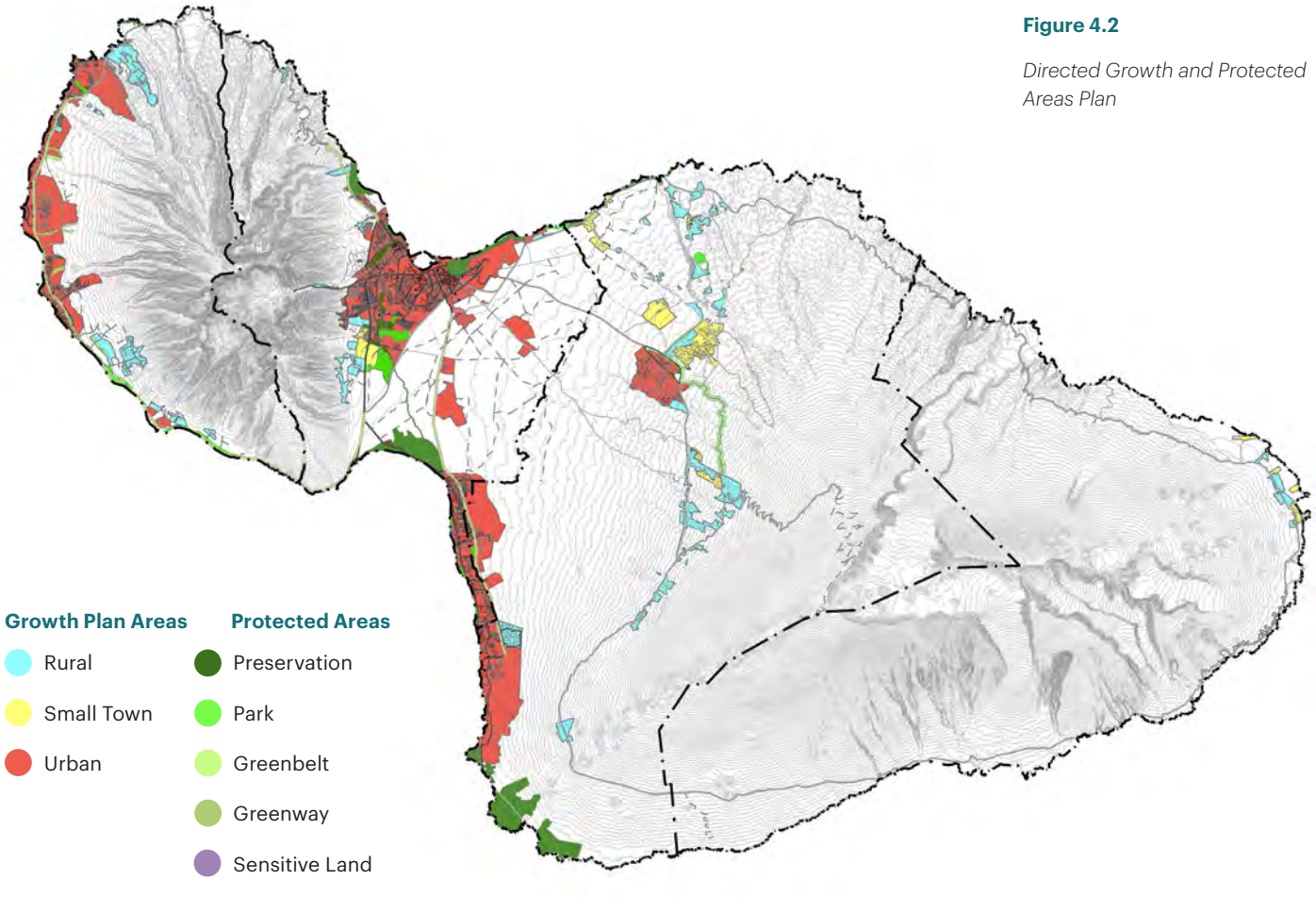
The Directed Growth Plan's main goal is to ensure that future development doesn't compromise Maui's natural resources. It's divided into two main sections:

- Growth Boundaries which contain approximately 5,389 acres of new planned urban and small town growth areas.
- Protected Area Types with the goal to regulate the State Conservation District

Overall, the Maui Island Plan emphasizes the critical need for more housing on Maui, particularly at price points attainable to those who are most cost-burdened under current conditions. At the same time, the Plan emphasizes the importance of preserving country areas and natural resources. Incorporating MMH into both new and existing neighborhoods is a key way to pursue both of these goals at once.

Figure 4.2

Directed Growth and Protected Areas Plan



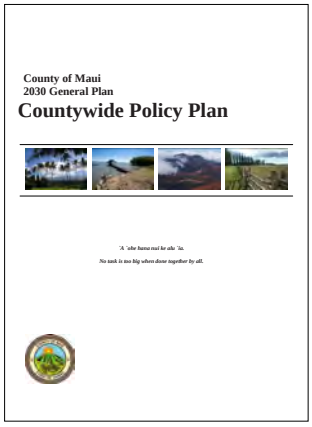


Figure 4.3

County of Maui 2030 General Plan: Countywide Policy Plan

Figure 4.4

West Maui Community Plan

Other Countywide Plans

County of Maui 2030 General Plan: Countywide Policy Plan (Adopted 2010)

The Countywide Policy Plan provides broad goals, objectives, policies, and implementing actions that portray the desired direction of the County's future. This plan includes a vision statement and core values that will guide the County's decision making to the year 2030. It also provides an explanation of the plan making process and background of the history of Maui. This plan also identifies guiding principles and a list of countywide goals that relate to core themes. This Plan will provide the policy framework for the development of the Maui Island Plan and the nine Community Plans.

Opportunities: In the Land Use section of this report, there is a desire to mitigate sprawl and support smart growth. Smart growth prioritizes development that is sensitive to the pedestrian experience, not the automobile. Two of the key principles of smart growth are to create a range of housing opportunities and choices and create walkable neighborhoods. Both of these principles tie in with MMH.

There is policy direction encouraging redevelopment and infill in existing communities. MMH is a great addition to an infill strategy because many MMH typologies work well in existing single-family neighborhoods.

Housing affordability is also a topic that is mentioned in this report. The Census Bureau estimated that residents of Maui County pay 42 percent of their income towards mortgage costs. MMH could help provide more attainable housing options for Maui residents.

Barriers: According to this report, both the new and old neighborhoods lack pedestrian and bike infrastructure. Even some of the densest residential areas have major gaps in the pedestrian network. This is a barrier because MMH is best located in areas with a robust pedestrian network and transit access.

Community Plans

Maui County's nine Community Plans are focused on community needs for future growth. Each community or area plan includes policy direction for stabilizing and/or improving the housing stock, beautification, infrastructure improvements, pedestrian safety, and natural and cultural resource protection. Each plan specifies this direction differs according to each area's needs and priorities. The following summarize each Plan's policies regarding housing:

West Maui Community Plan (Adopted 2022)

The goals, policies, and actions provided in the West Maui Community Plan will direct the County in its planning, programs, and decision-making. The policies and actions outlined in this plan direct the County's decisions related to managing land use, reviewing development projects, changes to zoning and development regulations, prioritizing funding for projects, and establishing new programs and initiatives. As a part of the General Plan for Maui County, the Plan aligns with the 2010 Countywide Policy Plan and the 2012 Maui Island Plan (MIP) within the County's hierarchical planning structure.

Opportunities: Section 2.2 of the Plan provides policy direction promoting a balanced and connected transportation network. These proposed infrastructure improvements could create more MMH-ready neighborhoods. In Section 2.4, the Plan strives to facilitate the creation of livable communities. Policy 2.5.12 mentions MMH and proposes these housing types as a way to meet the growing demand for diverse housing options and affordability. Policy 2.5.15 supports infill development and redevelopment near transit stops and transportation corridors. MMH could help

implement this policy as an infill strategy because of its compatibility with single-family homes.

Based on the Community Plan land use designations for West Maui, several areas can be ideal for MMH. The Residential, Neighborhood Center, Small Town Center, and Transit Oriented Corridor designations would provide environments where MMH could be integrated. This plan also identifies areas for growth. Of these growth areas, the following could provide opportunities for MMH: Pelelehua, Kā'anapali, Lāhainā Town North, and potentially Central Lāhainā.

Barriers: Lack of infrastructure and multi-modal transportation systems can be a barrier.

South Maui Community Plan (Draft 2024)

This Plan provides a growth framework, goals, policies and actions to address challenges and opportunities, and support the community's vision. The Plan guides future growth and development in South Maui over a 20-year timeframe. As established by Chapter 2.80B of the Maui County Code (MCC), the Plan outlines the community's vision for its future and the road map to achieve its vision. This document provides goals, policies, and actions to guide the County in its planning, programs, and decision-making. As a part of the General Plan for Maui County, the Plan aligns with the 2010 Countywide Policy Plan and the 2012 Maui Island Plan.

Opportunities: Section 2.1 provides policy direction that promotes the creation of a complete, balanced, efficient, and connected transportation network. This proposed transportation network will create a multi-modal transportation system creating a more walkable environment. Ideal ocations for MMH are near transit stops. Section 2. 2 provides policy direction with the goal of creating safe, healthy, and livable communities for all. Many of the policies in this section deal with the issue of housing affordability. MMH could help provide a variety of housing options at an attainable price. Policy 2.2.22 supports MMH types to meet the demand for diverse housing options.

The Community Plan designations that align with MMH include the Residential, Neighborhood Center, Small Town Center, and Transit Oriented Corridor designations. This Plan also identifies areas for growth, of which the following could provide opportunities for MMH: Mā'alaea, Mauka North Kīhei, Central Kīhei, Honua'ula, and Mākena. The County-owned parcel in South Maui can be an opportunity to demonstrate how MMH can add housing options.

Barriers: This area has significant gaps in bicycle and pedestrian facilities along major roadways. There are also significant gaps in public transit systems. MMH thrives in walkable environments with high connectivity to transit systems. Without multi-modal infrastructure, many of these areas may not be able to provide the walkable environment that MMH requires.

Kīhei-Mākena Community Plan (Adopted 1998)

The Kīhei-Mākena Community Plan reflects current and anticipated conditions in the Kīhei-Mākena region and advances planning goals, objectives, policies, and implementation considerations to guide decision-making in the region through 2010. This Plan provides specific recommendations to address the goals, objectives, and policies contained in the General Plan, while recognizing the values and unique attributes of the Kīhei-Mākena area in order to enhance the region's overall living environment.

Opportunities: There is vacant land for housing which can be an opportunity for MMH. This Plan mentions improving bike networks which would help create more MMH-ready neighborhoods. In the land

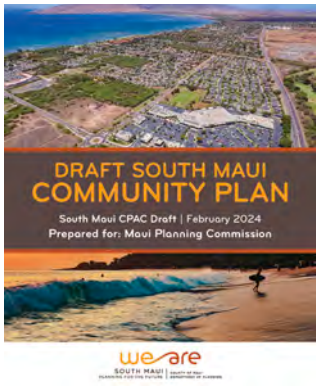


Figure 4.5

South Maui Community Plan

Figure 4.6

Kīhei-Mākena Community Plan

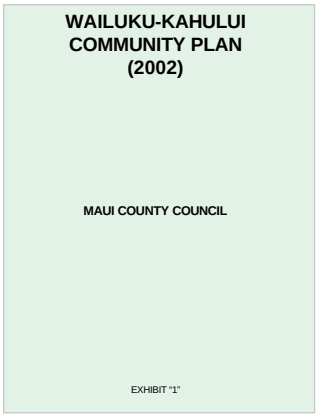


Figure 4.7

Wailuku-Kahului Community Plan

use section of this document, one of the goals is to establish a mix of land uses to enhance the neighborhoods and minimize car dependence. This diversity of land uses could create an urban neighborhood with amenities for community members. MMH could integrate well into this neighborhood environment.

This Plan also talks about housing affordability. MMH is attainable by design so could help with issues of affordability. In the housing section of this plan, the desire is to provide a diversity of housing choices at a range of prices. MMH comes in many forms and could help the community meet this goal. Many of the project districts desire a mix of single-family and multi-family housing. Because MMH types are house-scale, they present an infill strategy that is sensitive to the single-family character of existing neighborhoods.

Barriers: This area is primarily car-dependent. There is a desire to improve their infrastructure to support multi-modal transit, but this community does not currently have the infrastructure. In the housing and urban design section of this plan, one of the objectives is to implement landscaped setbacks for future multi-family areas. This can be a barrier to MMH on infill lots.

Wailuku-Kahului Community Plan (Adopted 2002)

The Wailuku-Kahului Community Plan describes current and anticipated conditions in the Wailuku-Kahului region and advances planning goals, objectives, policies and implementation considerations to guide decision-making through 2010. This Plan provides specific recommendations to address the goals, objectives and policies of the General Plan, while recognizing the historic values and unique spiritual significance of island cultures of Wailuku-Kahului.

Opportunities: In the identification of problems and opportunities in this region, lack of affordable housing is one of the key issues identified. MMH can offer a solution to this problem by providing more attainable housing options for residents. There is a desire to accommodate mixed-use residential as a transition between residential districts and the civic center. MMH is a good solution for these neighborhoods in close proximity to civic and commercial districts. Within

Figure 4.8

An example of a mixed-use building in Maui.

the Wailuku Town Core, there are mixed-use areas where multi-family residential is recommended. Because of its proximity to the commercial core, this area could be ideal for MMH. In the transportation section, one of the objectives is to provide bikeways and walkways that connect residential areas with major community facilities and activity centers. These transportation changes could create more Missing Middle Ready neighborhoods. This report also identifies Project Districts 2 and 3 as promising locations for MMH.

Barriers: An overarching barrier to MMH development is public infrastructure and access for pedestrians and bicyclists. However, there is general support for multi-family housing, which benefits MMH.

Corridor Plans

Ka'ahumanu Ave Community Corridor Action Plan (March 2022)
The recommendations in this plan provide guidance for developing this corridor as a transit-oriented community connecting major employment centers and amenities. The transit-oriented community approach supports accessibility, diversity of housing, and public spaces to activate the street and connect communities to services. The vision includes connecting Wailuku and Kahului while generating choices in mobility, open spaces and housing. The actions include strategies for sustainable and resilient development while preserving Maui history and culture within five focus areas along the corridor, with the improvement of sidewalks, signage, landscape and public spaces.

West Maui Community Corridor (February 2024)
This plan is focused on a "Framework for a Resilient Future" with a vision to create a more connected, affordable, and transit-oriented community in West Maui that considers resilient systems, stewardship of resources, culture and character. This will develop projects, programs and policies that will help to create opportunities for affordable and workforce housing, economic development, and sustainable and resilient infrastructure. It contemplates a new transit hub in West Maui and the development of five areas of focus for the Community Corridor.

West Maui Greenway (September 2022)
The West Maui Greenway Plan considers a 25+ mile, multi-use trail connecting Ukumehame to Līpoa Point to promote connections to daily destinations like work and schools. The main goal is to provide a safe alternative mode of transportation besides the Honoapi'ilani Highway while connecting the community to the outdoors as a recreational experience and highlighting the region's history and culture. This plan considers resilient strategies to mitigate the impact of climate change.

Missing Middle Housing is well aligned with the vision of these Corridor Plans, and can help meet their growth objectives.

Figure 4.9

Ka'ahumanu Ave Action Plan

Figure 4.10

West Maui Community Corridor

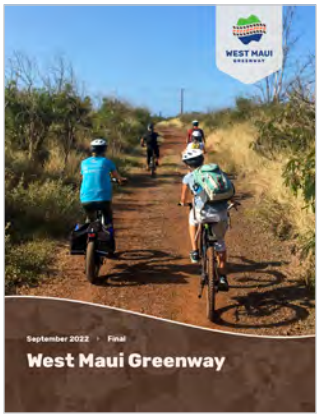


Figure 4.11

West Maui Greenway

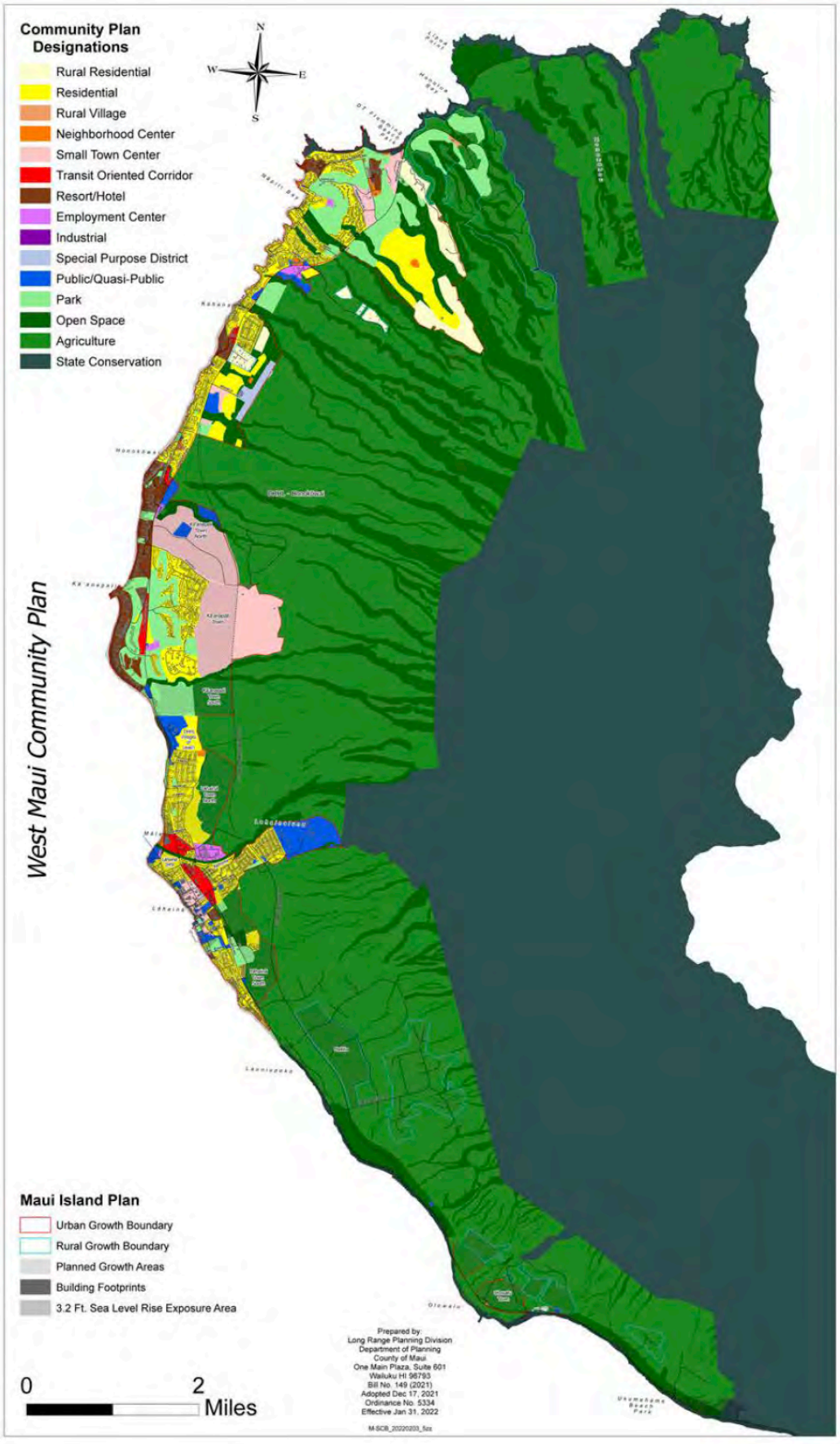


Figure 4.12

Future Community Plan Map West Maui (Source: County of Maui)

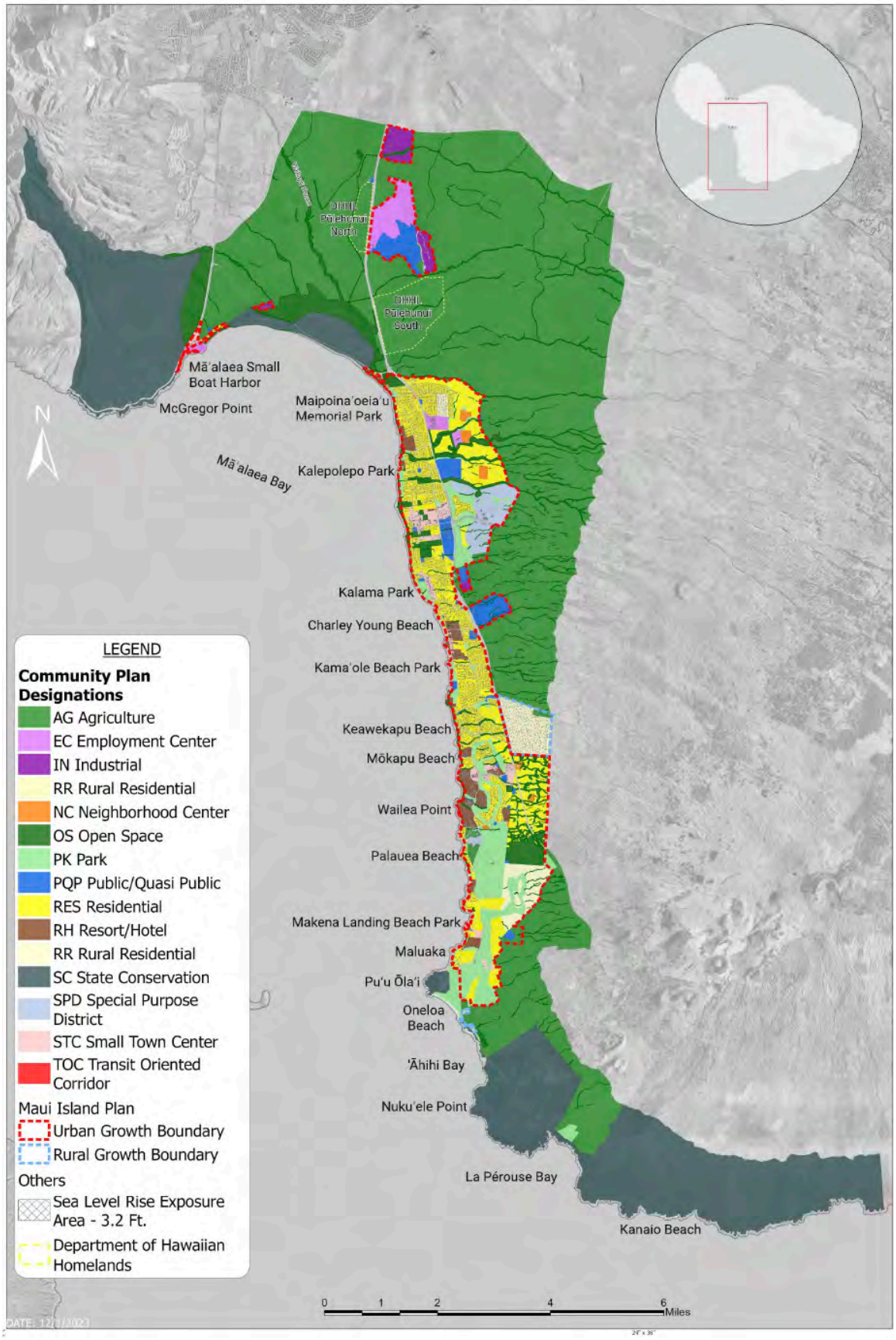


Figure 4.13

Future Community Plan Map South Maui (Source: County of Maui)

4.2 Summary of Zoning Districts and Development Standards

This section summarizes the regulatory analysis of the six zoning districts selected for the MMH Scan™ Analysis.

Figure 4.14

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 anywhere from 8 to 64 du/ac.

Zoning Districts Overview

The following analysis focuses on the six zoning districts selected for the MMH Scan™ for West, Central and South Maui. These districts were selected for two key reasons: the extent to which they occur near existing and potential centers and priority areas for MMH described in Chapter Three, and because the size and scale of buildings allowed by the regulations in these zones align with the house-scale nature of typical MMH types. **The six zoning districts selected for analysis are R-1, R-2, R-3, A-1, B-2 and WRA Business/Multi-Family.**

The analysis identifies which MMH types are enabled in each zoning district in reference to the permitted uses, lot sizes, and density. Other regulations that pertain to MMH are analyzed in Section 4.3. This analysis assumes that "multi-family dwelling" could refer to MMH types (e.g. cottage courts, fourplexes, small and large multiplexes, or courtyard buildings, depending on the district). This analysis also assumes that there are no buffer yard standards required or open space if the standard in the zone does not mention it.

An ordinance has been proposed to increase the allowable density in the residential districts in a way that would enable MMH types such as duplexes and fourplexes on standard lots; however, there must also be a change to allowed uses in the code so that multi-family units can be permitted. The current code permits duplexes with the use of a Special Use Permit. The proposed ordinance also requires side and rear setback of 10 feet for buildings that exceed 15 feet in height, which can be a barrier for lots less than 60 feet wide.

Potential barriers to MMH are summarized below for each of the zoning districts analyzed. Additional barriers and potential solutions will be explored in the Maui Missing Middle Housing Deep Dive™, as part of this Missing Middle Housing study for Central, West and South Maui.

R-1

This zoning district's principal use is single-family. Accessory Dwelling Units (ADUs) are allowed by-right, one ADU is allowed on any lot up to 7,500 square feet (sq ft), and two ADUs are allowed on lots 7,500 sq ft or larger. The minimum lot size for this zoning district is 6,000 sq ft, which can accommodate some MMH types. However, the maximum allowed density of 7.26 dwelling units per acre (du/ac) is still too low to allow most MMH types.

R-2

This zoning district's principal use is single-family with ADUs allowed by-right. One ADU is allowed on any lot up to 7,500 sq ft, and two ADUs are allowed on lots 7,500 sq ft or larger. The minimum lot size for this zoning district is 7,500 sq ft which can accommodate most MMH types. However, the maximum allowed density (5.8 du/ac) poses a barrier to many MMH types. Lot size is a minor barrier because it does not

totally prevent MMH from being built, but it limits MMH development on smaller lots in this zone.

R-3
This zoning district's principal use is single-family with ADUs allowed by-right. One ADU is allowed on any lot up to 7,500 sq ft, and two ADUs are allowed on lots 7,500 sq ft or larger. The minimum lot size (10,000 sq ft) is considered a major barrier because many MMH types are optimized for smaller lots, and a limited range of MMH types are designed for larger lots. The maximum allowed density (4.35 du/ac) is a major barrier as it is too low for almost all MMH types.

A-1
This zoning district allows a variety of housing types, from townhouses to bungalow courts. However, the maximum lot coverage (25 percent) is too low to enable many MMH building types. The maximum Floor Area Ratio (FAR) of 0.5 is a major barrier to accommodating many MMH types. Minimum lot sizes required (10,000 sq ft) is a major barrier because it limits the range of MMH types that are optimized for a larger lot of this size. Larger lots within the A-1 district may require additional development standards in order to produce more predictable built outcomes.

B-2
This zoning district allows a variety of multi-family dwellings, duplexes, and bungalow courts. This zone does not have a density requirement, so density is not a barrier to MMH. Minimum lot size (6,000 sq ft) is a minor barrier because it does not prevent MMH from being built, but it limits MMH development on smaller lots within this zone. The maximum Floor Area Ratio (2.0) is not a barrier to accommodating most MMH types. The 90-foot maximum building height in the B-2 district (excluding West Maui and Hāna) forms a major practical barrier to MMH since it incentivizes larger development types than MMH. Larger lots in the B-2 district may require additional development standards to produce more predictable built outcomes.

WRA-Business/Multi-Family
This zoning district allows multi-family and single-family residential uses. This zone does not have a density requirement, so density is not a barrier to MMH. The maximum Floor Area Ratio (1.5) is not a barrier to accommodating most MMH types. The minimum lot size (4,500 sq ft) is not a barrier for most MMH types as well. In most of the Wailuku Redevelopment Area, maximum building height is not a barrier to MMH, but along Main Street, the 60-foot height limit could form a minor practical barrier to some MMH types, since the height limit incentivizes larger development. The setback standards for buildings greater than 30 feet can be a minor barrier for Large MMH types. Larger lots in the WRA-B/MF district may require additional development standards to produce more predictable built outcomes.

> **Regulations were identified as a major contributor to high housing prices, and a barrier to producing affordable housing."**
>
> **Affordable Housing Policy Plan**
> Final Report, 2017

Other Development Standards

Special Management Area
This requires additional review for a development (large or small) on land in proximity to Maui's shoreline. The main purpose is to regulate any use, activity or operation that can qualify as a development and to provide a means to preserve, protect and restore the natural resources of the Coastal Zone of Hawai'i.

Fire Sprinklers
The International Building Code (IBC) requires fire sprinklers for buildings with three or more units. This requirement can be a barrier to MMH because the cost of including such systems in house-scale MMH buildings is proportionally higher than for larger projects. However, according to the State Building Code Council (SBCC), fire sprinklers in Hawai'i's new one and two-family dwellings are not required. They can be installed voluntarily or as an alternative to more costly access road or water supply solutions. There is potential to offer other incentives for MMH development to counteract the cost burden that would otherwise discourage MMH projects, such as possible homeowner insurance premiums discounts, property development allowances and higher appraisal values. In areas where there is an inadequate or nonexistent water supply, fire sprinklers can be supplied by a pump and tank, a pressurized tank, or a private well.

4.3 Summary of Barriers

The table below identifies the various types of barriers to MMH within the Maui County Zoning Code and the degree to which MMH types are enabled under the current zoning regulations. This table summarizes and graphically represents the findings from the written analysis in Section 4.2.

Key

- ✕ Major Barrier
- ● Minor Barrier
- ✓ Enables MMH
- N/A Not Applicable

Summary of Barriers to MMH (Maui County Zoning Code)

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	✓[5]	✓[5]	✓[5]	✕	✓	✓
Min. Setbacks	●	●	●	✕	●	●
Min. Off-Street Parking	✕	✕	✕	✕	✕	✕
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	1[2]	2[2]	3[2]	3[3]	3[4]	3[1]

Notes:

n/a = Not applicable

[1] Zoning district allows multi-family

[2] Zoning district allows single-family, duplex with Special Use Permit, and ADUs

[3] Zoning district allows bungalow courts, apartment courts, and townhouses

[4] Zone district allows multi-family dwellings, duplex and bungalow courts

[5] No lot coverage regulation, maximum imprevious surface regulatinons apply

*No buffer yards and open space requirements

Note

The Summary of Barriers takes into consideration findings from the analysis of the Maui County Zoning Code for the R-1, R-2, R-3, A-1, B-2 and WRA B/MF zoning districts.
Source: https://library.municode.com/hi/county_of_maui/codes/code_of_ordinances?nodeId=COCOMAHA

Analysis: Lot Size Standards

Lot Size

Although lot size standards typically apply when new lots are created rather than to existing lots, these standards are still important to understand for MMH to be enabled. Existing minimum lot area requirements for R-3 and A-1 zones are extremely high for a walkable context and reflect more suburban standards. The cost of land is a main barrier to housing affordability—therefore, high lot area requirements result in the cost being passed on to the resident, raising housing prices.

Lot Width

Lot width is a more effective regulation than lot area, primarily because a project can comply with the minimum lot area but still result in a building that could be too large for its context or not physically fit on the lot. In contrast, regulating by lot width enables building types to be better coordinated with the underlying context, which results in standards for maximum building footprints that are coordinated with lot widths that fit well in typical residential neighborhoods. Currently, Maui's Zoning Ordinance regulates by minimum lot width standards.

The grey bars in Figure 4.15 show the typical lot width ranges for each MMH type based on front or rear vehicular access. A dot represents the minimum lot frontage required by each zone analyzed, with the dot color corresponding to that zone. If the grey bar is above the minimum, the minimum lot width is not wide enough for the MMH type and multiple lots would need to be combined to enable that type.

As shown in the diagram, existing lot width minimum regulations permit a variety of MMH types, but they are higher than optimal for some types in the R-3 and A-1 zones. Requiring high lot width minimums limits infill potential on existing compact lots in the most walkable contexts and limits potential to add housing on existing larger lots or opportunities to split lots. Additionally, high lot width minimums require more land area, therefore adding to development costs.

Figure 4.15
The palette of MMH types is provided here for reference with the typical lot width ranges for each type

Typical Lot Width Ranges for the Palette of Missing Middle Housing Types

Duplex Side-by-Side
40'-75'

Duplex Stacked
30'-75'

Cottage Court
90'-160'

Triplex/Fourplex
50'-80'

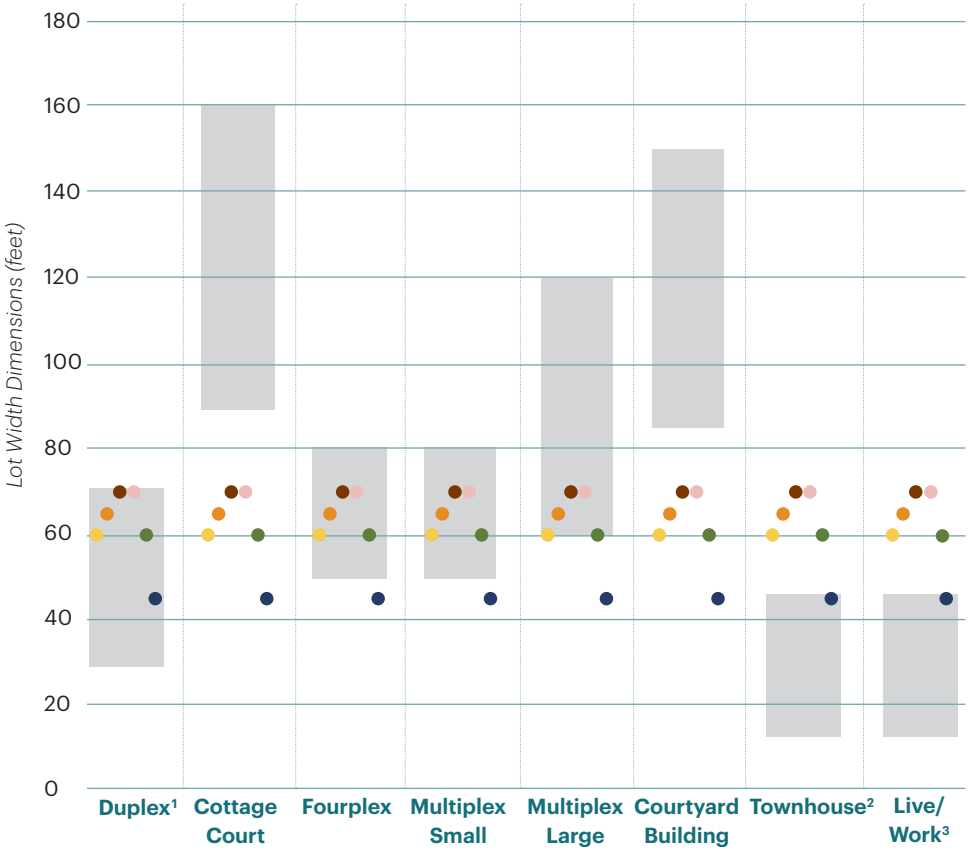


Figure 4.16 *Analysis of typical lot widths in selected zoning districts compared to lot width ranges required for typical MMH types*

Legend

Typical MMH Lot Width Range (minimum to maximum)

Minimum Required Lot Widths

- R-1 = 60 ft
- R-2 = 65 ft
- R-3 = 70 ft
- A-1 = 70 ft
- B-2 = 60 ft
- WRA- B/MF= 45 ft

[1] Minimum 40 feet for Duplex Side-by-Side

[2] Reflects the width of a single lot.

[3] Reflects the width of a single lot. The MMH live/work type includes ground story residential.

Multiplex Small

50'-80'

Multiplex Large

60'-120'

Courtyard Building

85'-150'

Townhouse

16'-45' (single unit),
56'-158' (3-4 units in a row)

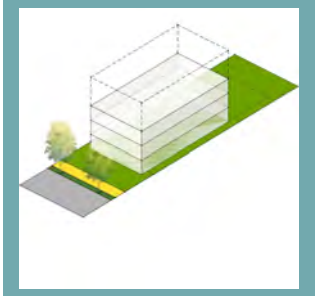
Live/Work

16'-45' (single unit),
56'-158' (3-4 units in a row)

Analysis: Building Envelope Standards

CLOSER LOOK

What is a Building Envelope?



A building envelope is the outermost defined limits of where a building can fit on a lot. Minimum setbacks and maximum lot coverage primarily shape this, creating limits on where a building can be located.

Minimum Setbacks

MMH typically functions best with a 10 to 15-foot front setback, a 5 to 20-foot rear setback depending how deep the lot is; a 3 to 6-foot interior side setback (exclusive of driveways), and a 10 to 12-foot side street setback. Existing housing patterns within the MMH priority areas generally match these setbacks. However, in the zoning standards for all three Residential zoning districts, the side/rear setbacks are greater (10 feet) than typical MMH side setbacks if a building is more than 15 feet in height (i.e., two stories or more), thus posing a minor barrier to MMH.

Furthermore, the WRA Business/Multi-Family setback standards require a 10 to 20-foot front, side and rear setback for a building greater than 30 to 45 feet in height, which is too large for infill and can be a barrier for Large MMH types. The B-2 zoning district doesn't have a front setback requirement, nor are side and rear setbacks required where a B-2 lot adjoins another B-2 lot. However, when adjacent to another zoning district, side and rear setbacks are required to match those of the adjoining zoning district, which could be a barrier to MMH if the adjoining zoning requires exccessive setbacks. The A-1 zone has front and rear setbacks of 20 feet, and side setbacks of 15 feet for buildings taller than 35 feet, which can be a barrier for Large MMH.

Maximum Lot Coverage

Lot coverage standards may need to be calibrated to housing types and actual lot sizes. The A-1 zoning district has a maximum lot coverage of 25 percent for the building footprint, which can be a major barrier for MMH types. This standard is based on suburban conditions and is not necessarily conducive to walkable neighborhoods. Lot coverage requirements are not applicable in the B-2 and WRA Business/Multi-Family district. The Residential districts have requirements for the maximum impervious surface on a lot to be 65 percent. This is not a barrier for MMH assuming parking ratios of approximately one space per unit.

Maximum Height

MMH types typically do not exceed 2.5 stories, or about 35 feet in overall building height. All Residential zones in Maui have maximum height limits of 30 feet which could be a barrier for some MMH types. Both B-2 and WRA-Business/Multi-Family have maximum height standards of 45 feet in certain conditions, which can incentivize development taller than MMH. Where there is the possibility of more intense housing, such as three to four-story buildings within the urban core, the building height may need to be calibrated with additional form controls, particularly to allow Large MMH types.

Open Space

To preserve ocean views, open space is incentivized for A-1 and B-2 makai sites. It provides bonuses in the form of additional floor area and increased number of stories for including open space beyond the required setbacks.

Analysis: Parking Standards

Parking Spaces Required

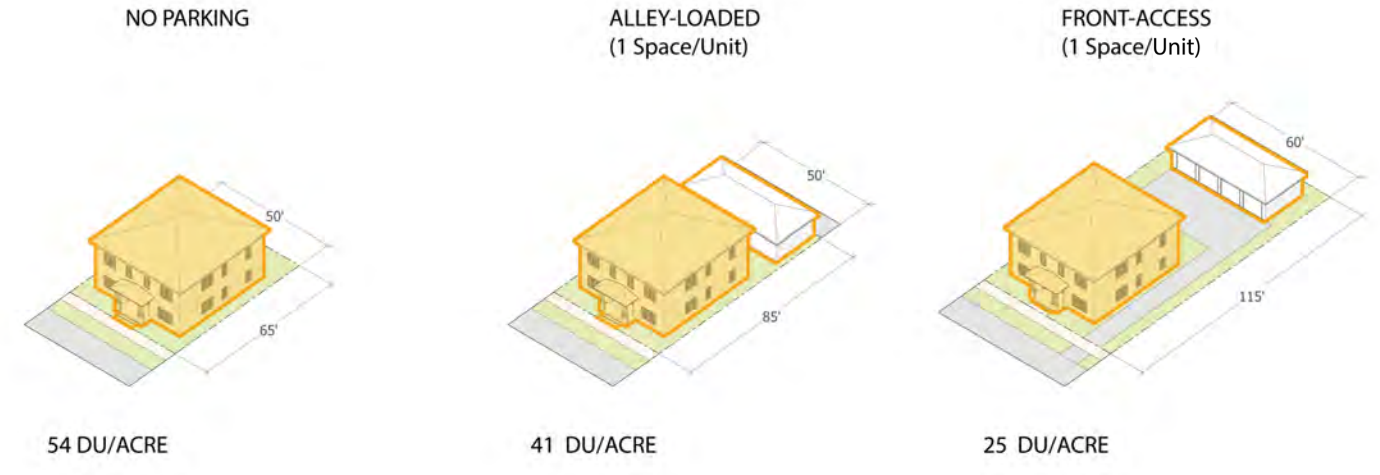
Existing parking requirements for the analyzed zoning districts are too high to enable MMH types such as duplexes, cottage courts, and townhouses. The number of required parking spaces is based on the floor area of each dwelling unit. Each dwelling unit under 3,000 square feet, even if combined with other units to form a single building, as in a fourplex, requires at least two spaces. A duplex would require at least four parking spaces, which is excessively high by MMH standards. Accessory dwelling units require at least one parking space per dwelling, and a proposed code amendment allowing an additional kitchenette per unit will also require an additional parking space, which can be a significant barrier for MMH.

The number of the required parking spaces may be reduced by up to 50 percent after a review process considering the lot configuration, General Plan, zoning and state land use designations, historic character and applicable design guidelines. Nearby transit, pedestrian, or bicycle access and bicycle parking can be considered as part of this reduction. For live/work and mixed-use development, parking may be shared between the dwelling and the business uses.

Driveway and Parking Area

According to the Maui County Code, the width of a residential driveway must be a minimum of 10 feet and a maximum of 22 feet, unless required to meet fire access or turning radius requirements. An accessory dwelling may have a separate driveway from the main dwelling if the requirements are met. When more than one driveway is on the same property, the total width of all driveways cannot exceed 60 percent of the frontage of the property if the frontage is less than 100 feet, and if the frontage is more than 100 feet, the total width of driveways cannot exceed 50 percent of the frontage. These limitations on driveway width do not pose any barriers to MMH; in fact, fewer and narrower driveways are better in terms of encouraging walkable, MMH-friendly environments.

Figure 4.17
How Parking Impacts Housing *Requiring more parking, especially on lots without alley access, limits the amount of space available for dwelling units, and therefore limits the range of housing types that the lot can support and the resultant density.*
Source: Opticos Design



Analysis: Allowable Density + FAR

Allowable Density

Most MMH types are not enabled in the residential zoning districts reviewed because current density limits are too low. This is true even after accounting for the increases in density allowed under the proposed ordinance revising the R-1, R-2, and R-3 standards to permit one dwelling unit per 2,500 square feet of lot area. Simply increasing the maximum allowed units per lot, however, could create other issues such as large buildings that are not contextually appropriate for their neighborhood, or new developments that are a poor fit for Maui's climatic and cultural context.

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

Allowable FAR

The A-1, B-2, and WRA Business/Multi-Family districts do not include density regulations, but instead regulate by floor area ratio, or FAR—calculated by dividing the total area of all floors of the building(s) by the area of the lot. Although the FAR limits in the B-2 (2.0) and WRA Business/Multi-Family (1.5) broadly enable MMH, the FAR limit in the A-1 district (0.5) could be a barrier depending on lot configuration and dimensions. For more information on MMH and FAR, see the "Closer Look" sidebar on the facing page.

MMH Types Enabled by Current Standards

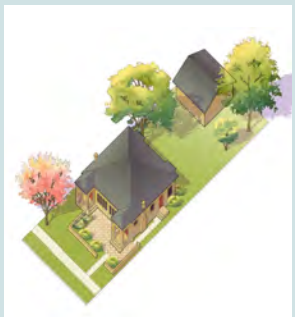
The chart below shows the extent to which various MMH types would be enabled in each district based on the resultant density as applied to minimum lot sizes. When the teal bar falls outside the gray area, that type is not enabled.

Figure 4.18
Analysis of density limits for R-1, R-2 and R-3

R-1, R-2, R-3 Density Standards Compared to the Density Ranges of Typical MMH Types

Legend

- Range of MMH Type
- Range Enabled by Zoning
- ✓ MMH Type Enabled
- ✗ MMH Type Not Enabled



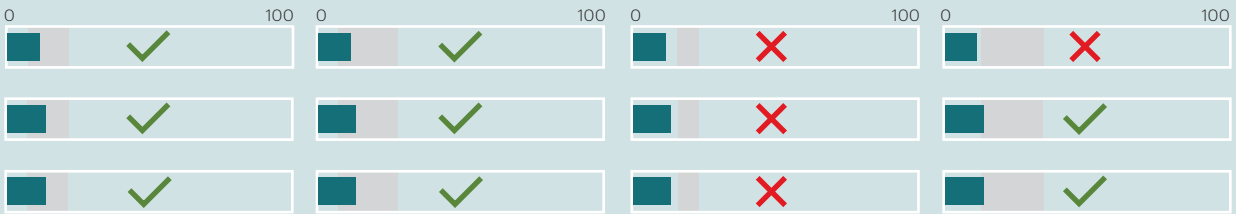
Duplex Side-by-Side
8-22 du/ac

Duplex Stacked
8-29 du/ac

Cottage Court
18-24 du/ac

Triplex/Fourplex
15-35 du/ac

Zoning and Density Limits:



R-1
14.52 du/ac

R-2
17.42 du/ac

R-3
17.42 du/ac

Depending on the support for changing existing zoning, the MMH types and their standards could be adopted as newly calibrated and consolidated zoning districts applied to identified walkable neighborhoods. The characteristics of each MMH type need to be publicly discussed and tested for the specific areas where they may apply.

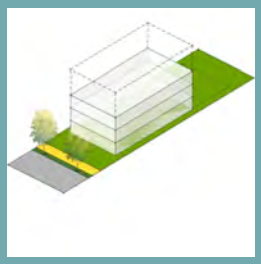
We recommend either of two approaches:

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

CLOSER LOOK

FAR Regulations + MMH

Regulations based on allowable Floor Area Ratio (FAR) set a maximum size for building(s) that depends on the area of the lot. While this does not always guarantee compatibility in scale between new and existing buildings, it is more favorable to MMH than density-based regulations as it



does not restrict the number of units within a building of a given size. Typical MMH types can generate a resultant FAR ranging approximately from 0.5 to 1.5.

Multiplex Small

36-44 du/ac

Multiplex Large

37-48 du/ac

Courtyard Building

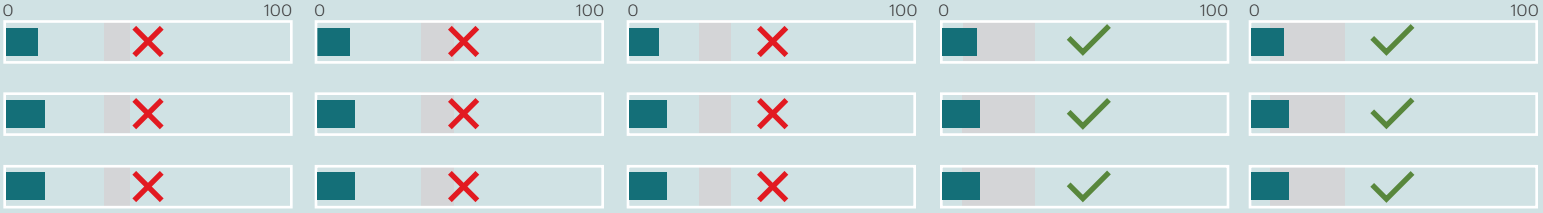
25-36 du/ac

Townhouse

8-32 du/ac

Live/Work

8-32 du/ac



4.4 Next Steps

The findings from the MMH Scan™ will inform the next stage of the project, the MMH Deep Dive™ for West, Central and South Maui.

Recommendations for Implementing MMH

This MMH Scan™ (Analysis + Definition of Barriers to MMH) is the first of a two-part analysis and focuses on identifying barriers to MMH. The MMH Deep Dive™ (Testing + Solutions for MMH) is a more detailed analysis and will include the following steps:

- **Test fits on selected sites** in close proximity to amenities, to identify the number of dwellings allowed, and the maximum building size that can be achieved under two scenarios:
  - What the existing zoning allows, and
  - What would fit well based on the existing physical attributes of the opportunity site (such as lot width, lot depth, etc.) as well as the surrounding context but not limitated by existing zoning.

These results will inform recommended improvements and changes to the existing standards. This work will include:

- **Recommend changes** to the policy plans as well as to zoning standards for the R-1, R-2, R-3, A-1, B-2 and WRA Business/Multi-Family zoning districts.
- **Prioritized recommendations** to identify the critical items that need to happen first.

Figure 4.19

An example of live/work development in Kihei, South Maui, with storefronts oriented to the sidewalk and housing above.

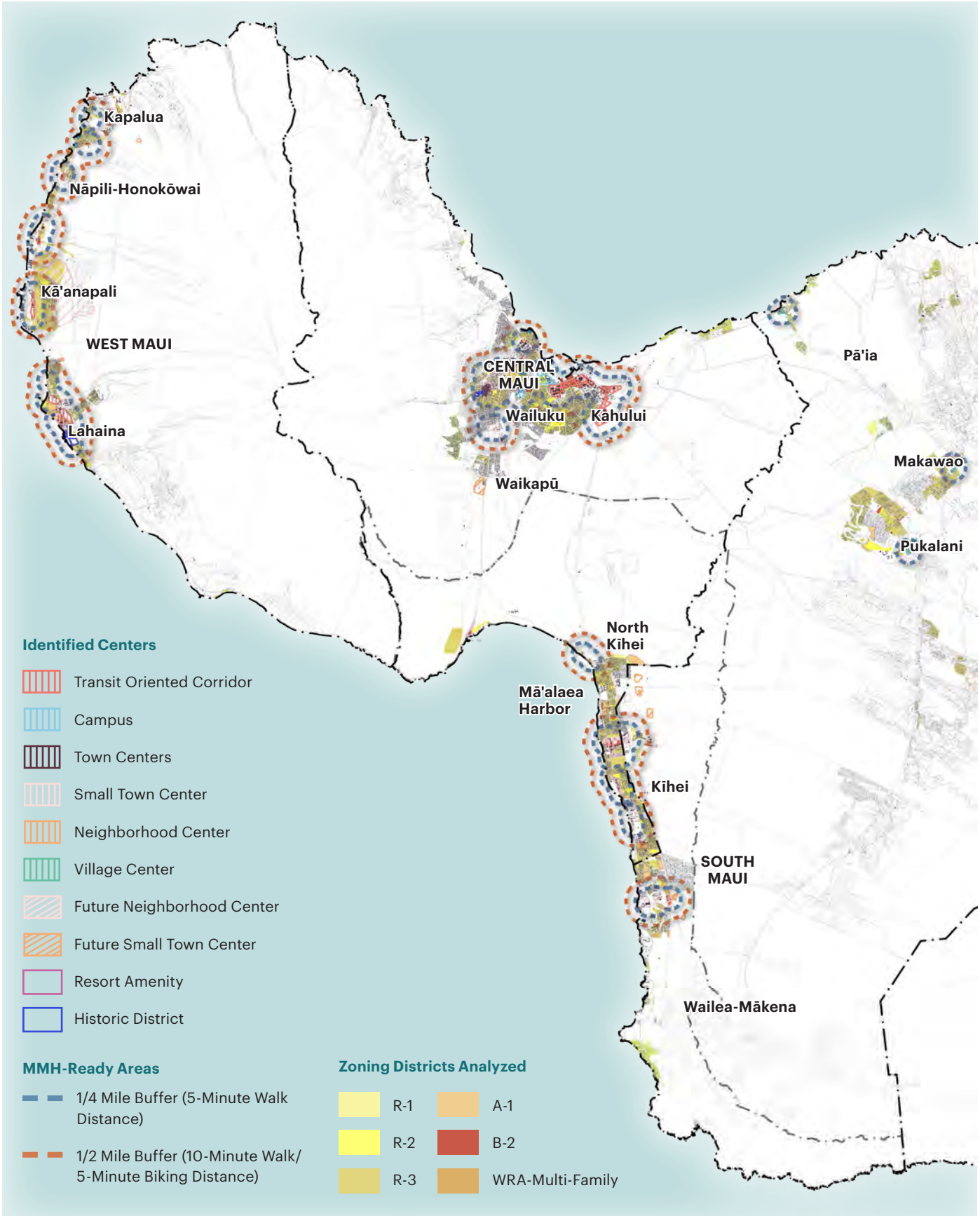


Figure 4.20 *Zoning Districts within MMH Priority Areas in West, Central and South Maui*


OPTICOS


COUNTY OF MAUI
STATE OF HAWAII


HAWAI'I COMMUNITY
FOUNDATION

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)

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.
Best,

Patricia Céspedes (she/her), Senior Designer

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

Over 20 years of
people. possibilities. promise.

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)

Aloha Director Blystone, Greg, and Stefan,

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
Email: Jarret.Pascual@mauicounty.us
Office: (808) 270-7141 | Cell: (808) 79