



Town of Winthrop Housing Action Plan
30 June 2023

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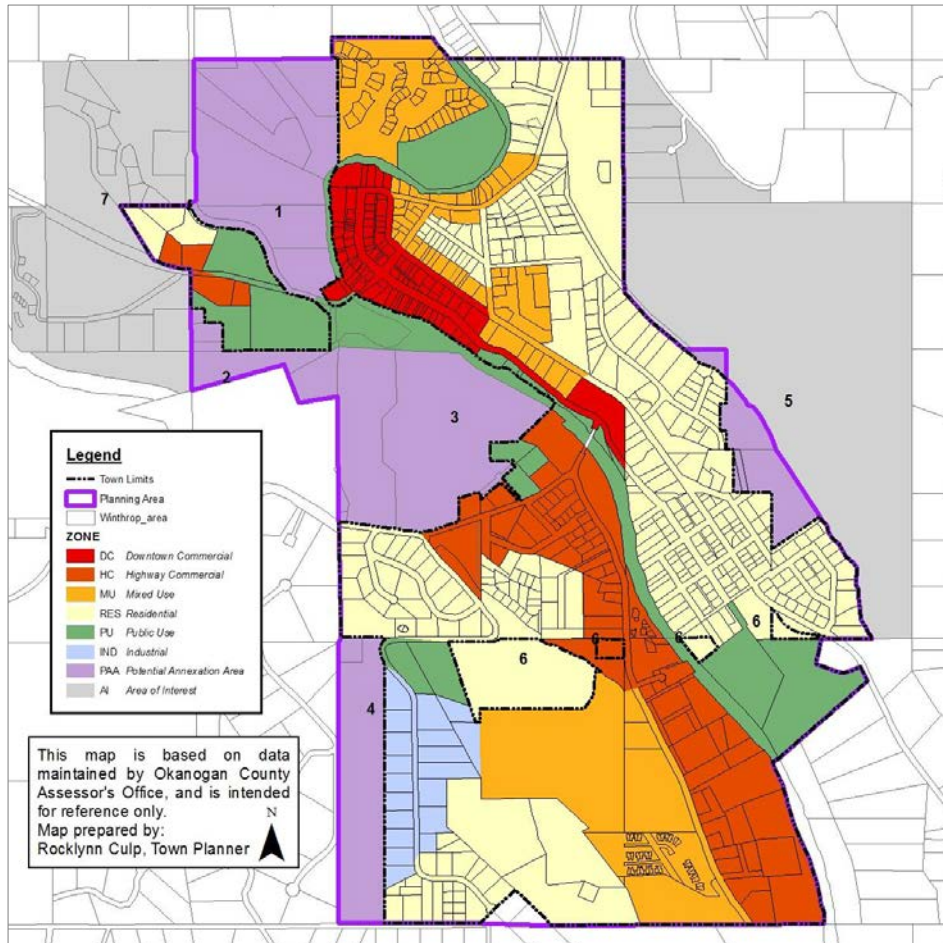
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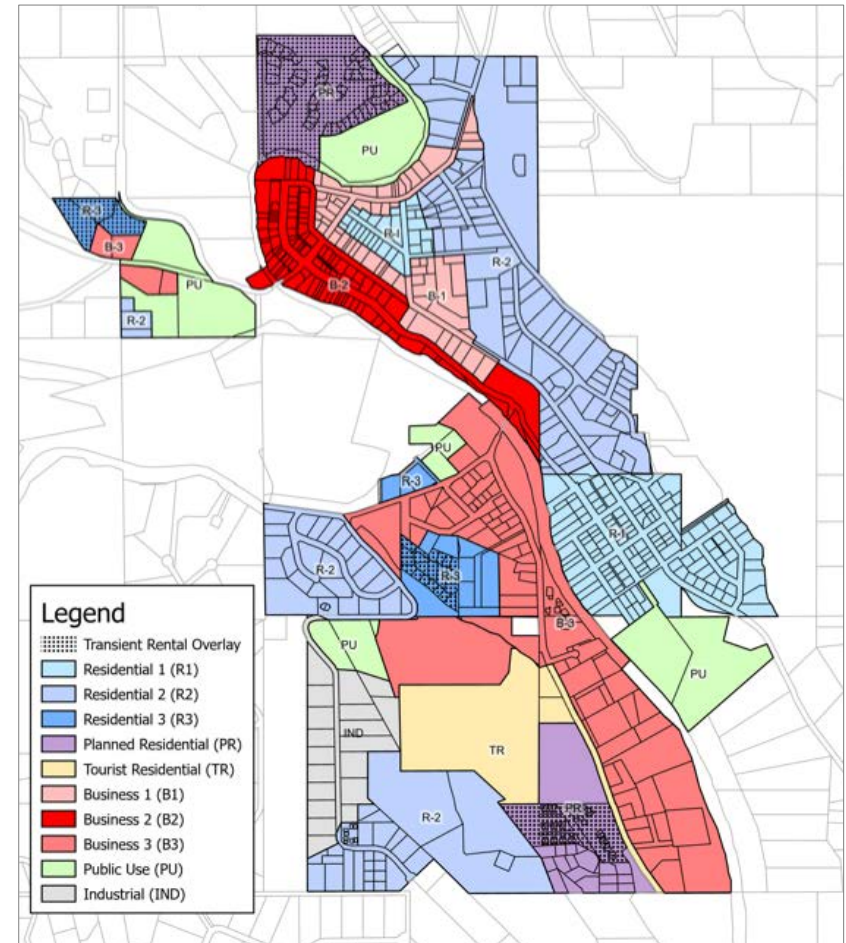
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Winthrop Comprehensive Plan 2015



Winthrop Zoning Map 2021

Winthrop Housing Action Plan (HAP) Executive Summary

This Winthrop Housing Action Plan (HAP) is based on analyses of demographics, housing trends, housing supply, housing resources, public opinions, housing requirements, and housing strategies detailed in a series of appendices attached to this document. The following narrative summarizes the major findings, implications, and proposals outlined in the appendices.

A. Demographics

Winthrop's population - increased from 270 persons in 1930, the decade the Town was incorporated, to 504 persons by the year 2020 with the lowest annual average growth rate between 1980-1990 of -3.1% and the highest most recent average annual growth rate between 2010-2020 of 2.5%.

If this trend continues, Winthrop's population will increase at an annual rate of 2.5% from 504 persons in 2020 to 1,057 persons by 2050 and likely develop out all remaining undeveloped land within the town Urban Growth Area (UGA) as well as redevelop or infill underutilized properties.

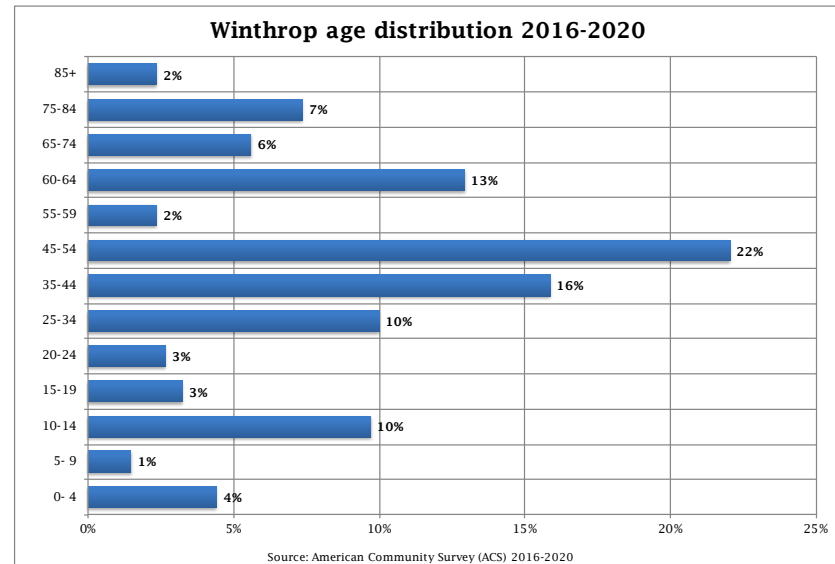
According to a 2021 analysis by the Methow Conservancy, the population within the Winthrop zip code (a larger area than Town limits) was 4,655 persons in 2020 of which 2,224 or 41.8% were part-time and 2,431 or 52.2% were full-time residents.

Winthrop's likely future population growth will depend on water and sewer availabilities as well as the extent to which the Methow Valley, and thereby Winthrop, continues to attract older and empty nester households who convert seasonal or second homes for year-round occupancy.

Winthrop's 2020 age specific concentrations - are reflective of a bell jar with a modest proportion in the middle family age

groups with children but with a significantly larger concentration above age 64. In-migration of older, empty nester, and retirement age households is a factor accounting for the population age distribution in Winthrop due to the area's moderate climate, recreational amenities, and other attractions for these age and household groups.

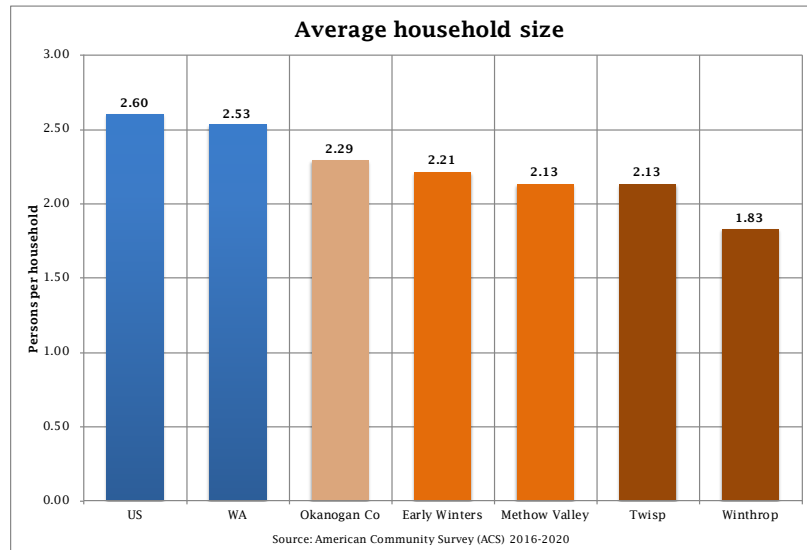
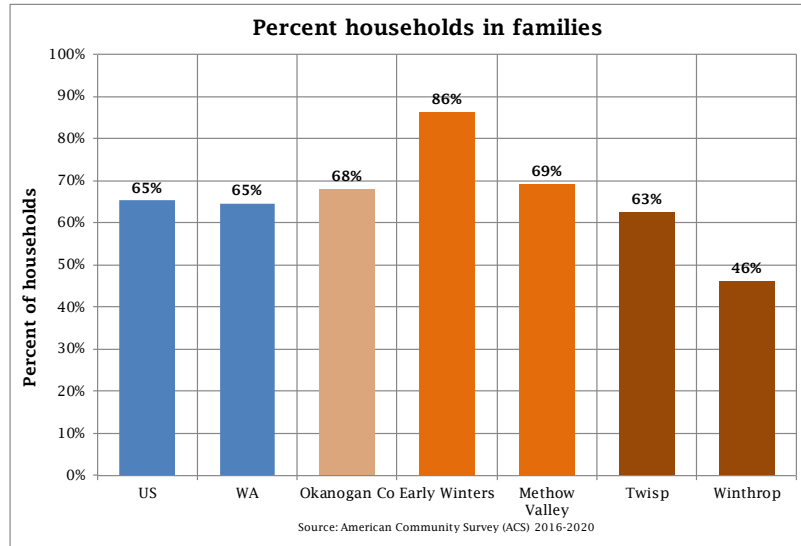
If the town continues to attract persons in the specific age groups that the town has in the past, however, the age form will be decidedly top heavy in the senior most age groups from 60+.



Winthrop has the lowest percentage (46%) of all households in families - with the remainder (54%) concentrated in non-family households of elderly and young individuals compared with Twisp, Methow Valley, Early Winters, Okanogan County, Washington State, and the United States.

The average household size in Winthrop - is 1.83 indicating

the town’s housing requirements will reflect a need for smaller units suitable for single person occupancy.



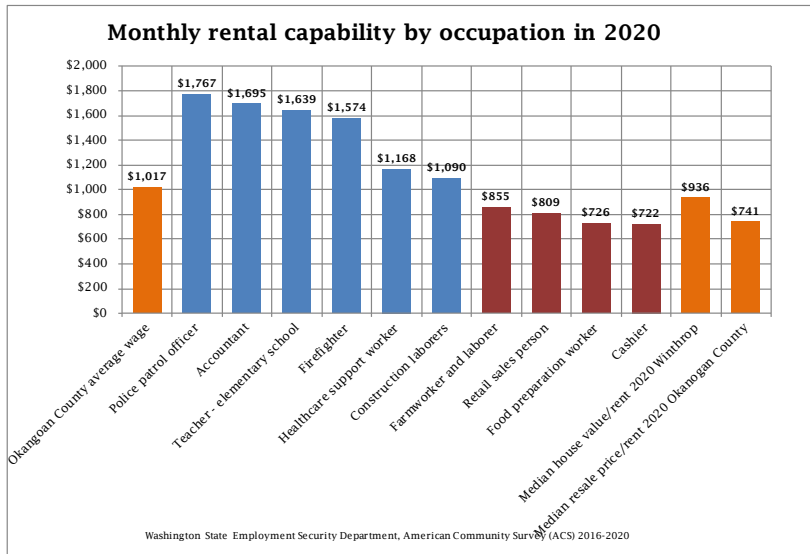
In summary - Winthrop is a tourist destination community with a high percentage of non-family single households, including elderly individuals, with higher per capita incomes, and younger individuals working in service jobs. Winthrop’s housing requirements that reflect such characteristics.

B. Housing trends

Windermere Real Estate/Methow Valley - tracks home sales within the Methow Valley using Multiple Listing Service (MLS) data along with proprietary off-market data. According to Windermere’s 2022 report:

- **Pending listings** - are the lowest in 40 years with 40 active listings at the beginning of 2023 compared with 404 active listings in 2012.
- **Number of single-family sales in 2022** - remained stable at 130 compared to 131 in 2021.
- **Total single-family sales by area** - included 96 houses in Winthrop, 44 in Twisp, 37 in Mazama, 23 in Methow, and 13 in Carlton or 15 more in Winthrop and 16 more in Twisp than in 2021.
- **Single-family sales prices** - were primarily in the \$500,000-\$750,000 price range increasing the median price to \$640,000 or by 15% over 2021.
- **Prospects** - expect trends be like the past 2 years with elevated prices, low inventory, and bidding wars on well-priced listings.

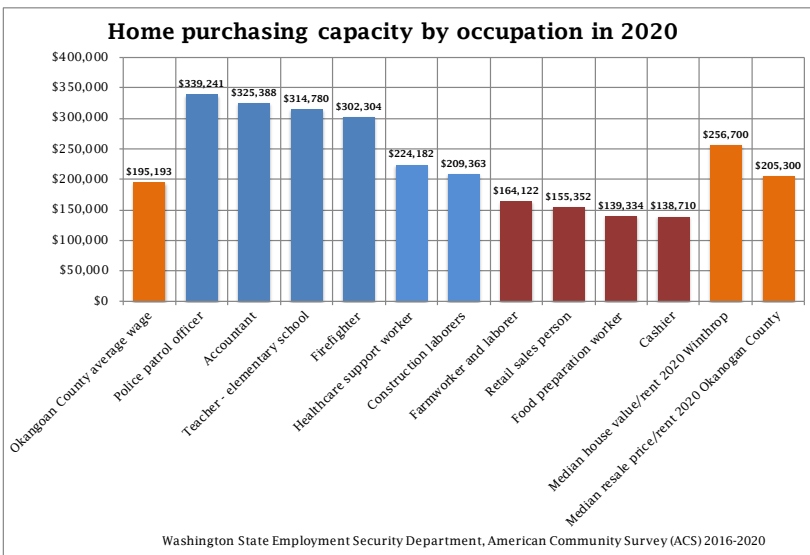
Critical skills housing capabilities - were calculated for police patrol officers, accountants, elementary teachers, firefighters, healthcare support workers, construction laborers, farmworker and laborer, retail salesperson, food preparation worker, and cashier that provide services that economically sustain a community.



within 25% of income for purchase and 30% of income for rent. These households must either have 2 or more working members to be able to reasonably afford housing or be paying beyond the 25-30% allowance considered a financially viable percent of income for housing.

C. Housing supply

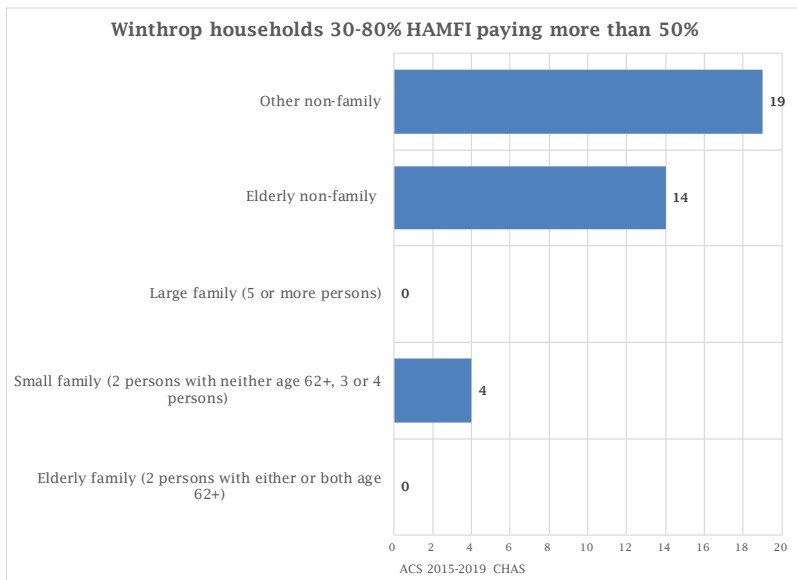
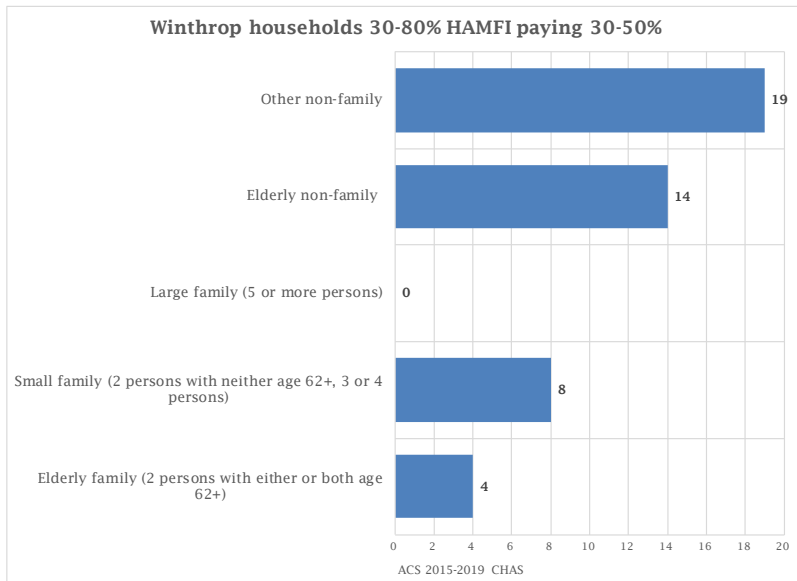
Aged housing stock - of Winthrop's 313 housing units, 74 or 24% were built over 54 years ago. Housing stock this old may not have current plumbing, electricity, exterior materials, or other improvements necessary to be well maintained, code compliant, and habitable. Winthrop, however, can't afford to lose older and less expensive housing stock as the housing market cannot build new housing for this cost. Repair and renovation programs will be necessary to keep older stock from falling into disrepair and being lost to the inventory.



Vacancy rate - of all housing units, which defines seasonal homes as vacant, was 41% in Winthrop in 2020 which reflects a high proportion of "vacant" seasonal or second homes in the inventory that are not available to full-time residents. If year-round older sale and rental housing is not available in sufficient numbers, the "churn" rate will not allow households to sort options in the year-round marketplace. New housing construction, if reflective of local year-round household needs and income capability, will generate turnover making older less expensive year-round sale and rental housing units available to a wider variety of household needs and financial capabilities.

Household types - the US Department of Housing & Urban Development (HUD) correlates Comprehensive Housing Affordability Statistics (CHAS) by household type including:

Implications - median house values and apartment rents in Winthrop are beyond the ability of what a farmworker, retail salesperson, food preparation worker, and cashier can afford



- **Elderly family** - 2 persons with either or both members over age 62 for 23 households in Winthrop in 2019,
- **Small family** - 2 persons with neither adult over age 62 with 3 or 4 persons for 67 households,
- **Large family** - of 5 or more persons for 10 households,
- **Elderly non-family** - adults over age 62 for 55 households,
- **Other non-family** - adults under age 62 for 61 households.

There were more elderly and young non-family households (116) than family households (100) in 2019.

Winthrop households that are the most housing stressed - paying 30-50% and 50% or more for housing, are predominantly non-family households including elderly and other non-elderly.

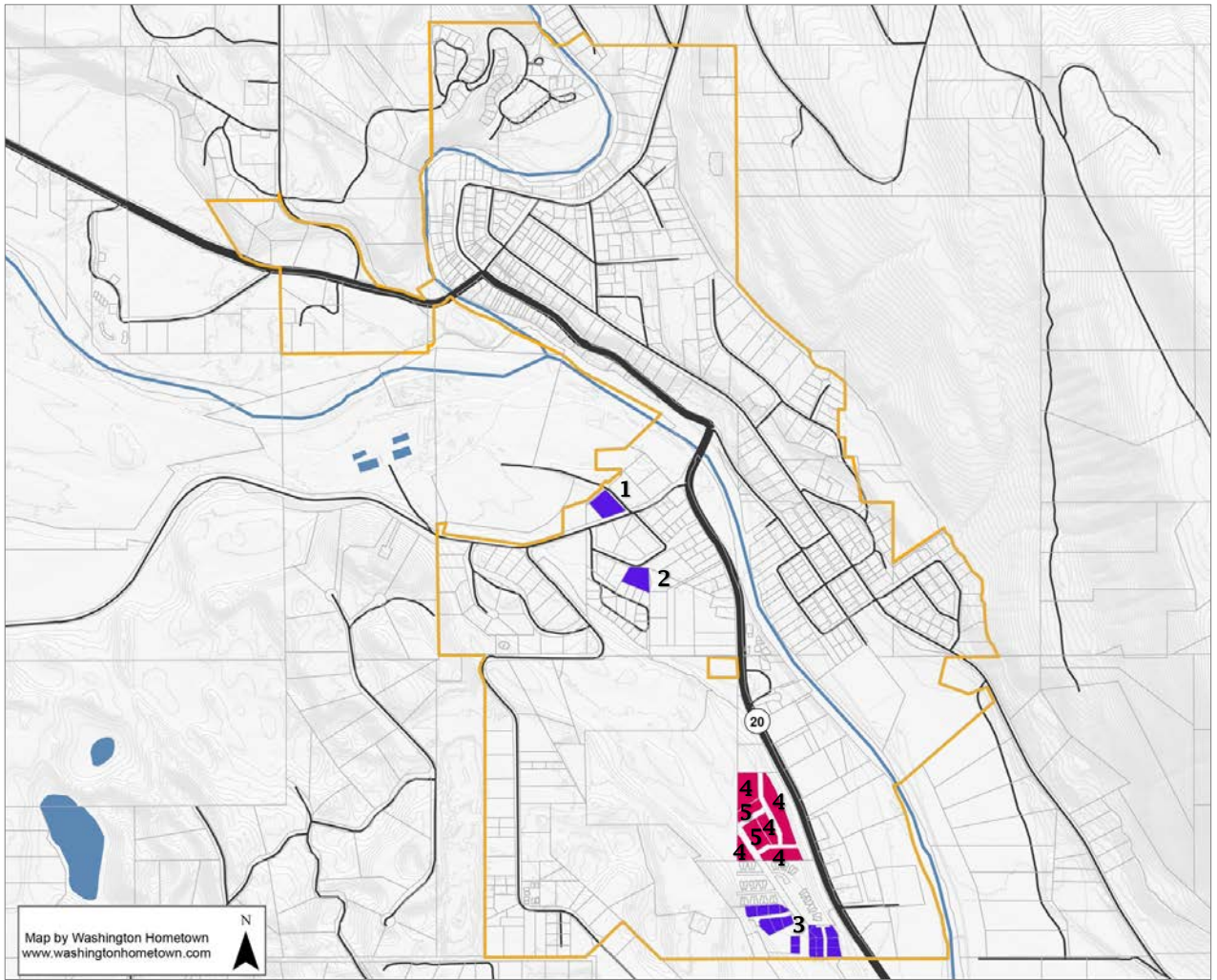
Assisted housing is currently provided - by nonprofit sponsors in 3 developments within Winthrop:

- **Methow Housing Trust (MHT) Cascade Meadows South Neighborhood** - for 16 permanently affordable 1-4-bedroom single-family units located on the west side of Highway 20 across from Mountain View Chalets.
- **Northwest Association for Housing Affordability (NAHA) Cedarwood Apartments** - 3 apartment buildings with 4 one-bedroom, 8 two-bedroom, and 4 four-bedroom units of USDA-RD Family Housing with rent and income restrictions financed with Low-Income Housing Tax Credits (LIHTC) and Section 515 Rural Rental Housing located at 220 White Avenue.

Assisted housing is currently provided - by a nonprofit sponsor in 1 development within Winthrop:

- **Jamie's Place** - 2 adult homes each accommodating 6 residents with private rooms/baths in a family home setting and 24-hour care for functionally impaired residents located at 109 Norfolk Road.

Proposed affordable housing - include 2 additional housing developments:



Existing projects

- 1 NW Assn Housing Affordability
- 2 Jamie's Place
- 3 Methow Housing Trust (MHT)

Proposed projects

- 4 Methow Housing Trust (MHT)
- 5 Housing Authority of Okanogan County (HAOC)

- **Methow Housing Trust (MHT) Cascade Meadows North Neighborhood** - on 8 acres for 26 permanently affordable 1-3-bedroom single-family homes located on the west side of Highway 20 across from the Winthrop Mountain View Chalets.
- **Housing Authority of Okanogan County (HAOC) Wildrose Family Housing in MHT's Cascade Meadows North Neighborhood** - 22 affordable rental units in Cascade Meadows North Neighborhood. The project received \$100,000 grant from Washington State's Department of Commerce's Connecting Housing Infrastructure Program (CHIP) to help pay for water, sewer, and stormwater costs.

Undeveloped land - approximately 35.17% of the land in Winthrop remains vacant or undeveloped. Despite the significant subdivision activity of the past decade, a relatively small percentage of new lots have been built upon. The most concentrated residential construction has consisted of infill in the medium density Heckendorn neighborhood, where compact homes have been developed on 5,000 square foot lots.

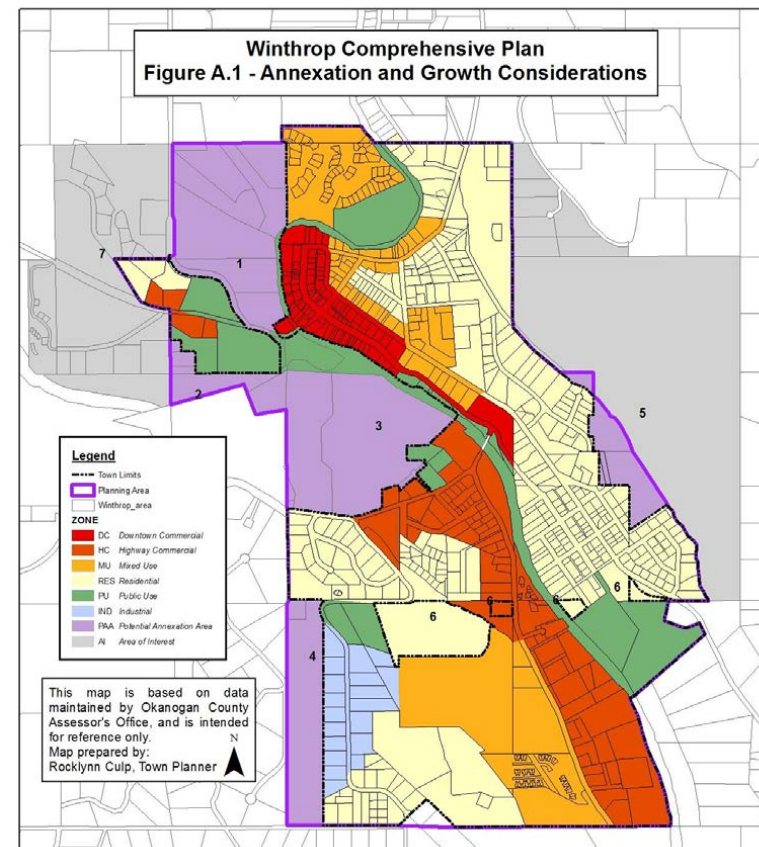
	# of parcels	Total acreage	% of total acreage
Single-family, ADU	315	120.64	22.76%
Duplex	25	1.69	0.32%
Multifamily	3	1.76	0.33%
Assisted living	1	0.87	0.16%
Lodging/overnight rentals	23	25.21	4.76%
Subtotal	367	150.17	28.33%
Undeveloped	209	186.39	35.17%
Total	777	529.98	100.00%

Source: 2023 Okanogan County Assessor

At current zoning densities, as many as 390 additional housing units could be built on existing vacant, residentially zoned land. The water and sewer systems,

however, need major investments to be able to serve a growing population.

Sewer treatment - Winthrop's sewer treatment plant is at capacity and needs to be replaced as does the main lift station. Only one line connects the system on the west side of the Methow River where the bulk of the developable land is located to the east side where the treatment plant is located. A new sewer river crossing is necessary.



Water capacity - while Winthrop has adequate water rights,

Accessory Dwelling Unit



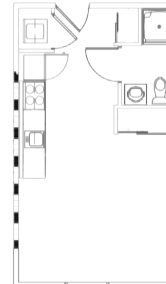
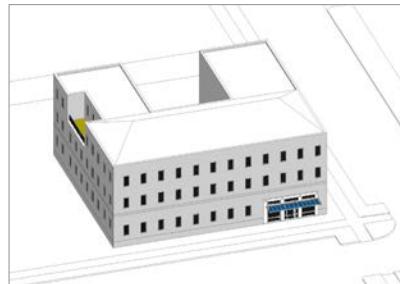
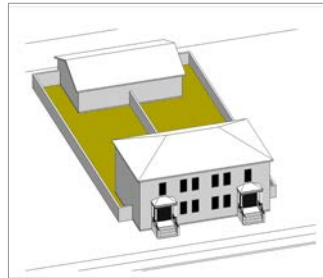
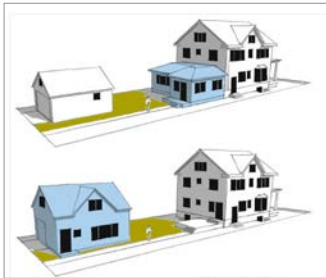
Duplex



Cottage



Townhouse



Courtyard Building

Multiplex

Live-Work

SEDU

and is working to acquire more, the town has reached the limit of the number of connections that are permitted by WA Department of Health (DOH). A moratorium on new subdivisions may be necessary until water system upgrades are completed.

Missing Middle Housing (MMH) - defines a range of multi-unit or clustered housing types compatible in scale with single-family homes and neighborhoods. MMH housing types are “missing”, because most MMH housing types are prohibited by Winthrop zoning and development requirements which should be revised to allow:

- Cottage or bungalow court, or courtyard building, or SEDU (studio) building types that would increase density and choice especially for small households.
- Reduce minimum lot sizes in acceptable areas within Winthrop to allow MMH types that would increase density and choice.
- Add maximum building widths and depths in R-2, R-3, and PR zones where MMH building types are to be introduced to retain single-family scale.
- Increase allowable density and/or reduce minimum required lot size to support some of the high density MMH building types including cottage or bungalow court, courtyard, multiplex, and SEDU.
- Retain height limits that allow 2.0 stories and up to 3.0 stories in higher density zoning districts to retain single-family scale trading increased density or smaller lots rather than increased height.
- Reduce parking requirements for MMH housing products like SEDU that accommodate non-family households or single individuals with less vehicle ownership or dependence.
- Add a clustering option that consolidates open space in configurations that are more accessible, aesthetic, and usable.
- Do not adopt minimum dwelling unit size requirements to achieve MMH density, accommodate non-family households, and reduce development costs.

D. Housing resources

The Methow Valley has a significant number of nonprofit housing resource groups pursuing different affordable housing objectives in the Methow Valley. The Winthrop Housing Action Plan (HAP) can coordinate the following resources to maximize its impact on housing conditions and opportunities within the town and valley.

- **The Methow Housing Trust (MHT)** - develops and preserves affordable, quality housing for residents of the Methow Valley following the Community Land Trust model with projects in Mazama, Winthrop, and Twisp.
- **Northwest Association for Housing Affordability (NAHA)** - a subordinate subsidiary of Catholic Housing Ventures develops and operates low-income housing using USDA Rural Rental Housing, HUD HOME Investment Partnerships, and HUD for Section 8 Housing Assistance Payments Programs with projects in Winthrop and Twisp.
- **Jamie's Place** - operates 2 adult family homes for 6 residents with private rooms/baths in a family home setting and 24-hour care for functionally impaired residents for each house in Winthrop.
- **Room One** - provides healthcare navigation, safety planning, mental health referrals, resources, food and nutrition, access to county and state resources, referral to legal resources, access to reproductive health, and more for youth in the Methow Valley from a facility in Twisp.
- **Housing Authority of Okanogan County (HAOC)** - assists limited income families attain housing using federal housing programs with multifamily developments in Winthrop and Twisp.
- **Methow At Home (MAH)** - supports elderly households who want to “age in place” by providing volunteer services, activities, and educational opportunities as well as a resource of paid providers can be hired if the requested service is beyond the scope of a volunteer.
- **Senior Assessment for Support & Housing (SASH)** - is a committee, rather than a stand-alone entity, exploring issues of

the valley's growing senior population, the services they need and whether those services are available in the area.

- **Methow Housing Solutions Network** - focuses on learning from others' experiences of communities facing similar challenges, like Port Townsend, Chelan, Leavenworth, San Juan Island, Sun Valley, and various Colorado counties, and listening to the Methow Valley community.
- **TwispWorks** - involves businesses, nonprofit organizations, artists, craftspeople, and the community at-large to make the Methow Valley a special place to live, work and visit from its campus in Twisp. In 2020, TwispWorks completed a comprehensive 18-month economic study to better understand the structural changes occurring in the Methow Valley and address questions relating to tourism, vacation homes, residential building, and other major industries, as well as economic disparity, and resident attitudes on change and the future.
- **The Methow Conservancy (MC)** - maintains a State of the Methow, a data collection and dissemination project about the Methow Watershed and its people including The Methow Population and Land (PAL) project that shares updatable information on the current conditions and trends in population, land use, development, and land protection.

E. Public opinions

Public opinion was solicited from a variety of methods including workshops, open houses, and an online survey of all residential addresses within the Winthrop zip code during the housing action planning process. Following is a summary of major findings.

- **Housing resource groups and employers' surveys and workshops** - were conducted of all nonprofit housing groups and employers on the 12th of October 2022 at the Winthrop Public Library. A summary of major findings includes:

- The employers who responded currently employ 592 part and full-time employees and 132 seasonal. This is a partial picture of valley-wide employment.
 - Many employers reported having "un-housed" employees including those that live in tents, cars, other non-compliant housing, or in housing greater than 30 miles away.
 - Many employers reported that lack of housing limits hiring for existing positions, including everything from seasonal jobs to technically and professionally experienced personnel.
 - Part and full-time employees include married households, while seasonal employees are primarily individuals.
 - Part and full-time employees own and rent; seasonal employees rent only.
 - The Methow Valley needs more affordable ownership options, better rental options across the income spectrum, and seasonal summer options.
 - Employees want a greater variety of housing types including smaller units located in Winthrop and Twisp with services.
 - Almost all employers are interested in participating in housing action plans.
- **Realtors, builders, architects' survey and workshop** - were conducted on the 31st of October 2022 at TwispWorks in Twisp. Invitations were emailed to 5 realtors, 10 developers, 14 architects, and 11 contractors or 40 in total who are active in the Methow Valley - 22 of which are based in the Methow Valley and 18 in the Seattle area. Workshop participant recommendations included using:
- Missing Middle Housing (MMH) in zoning allowances, reducing lot sizes and/or increasing densities, recruiting local construction labor including training high school students in building trades, and use of non-profit and low-income housing programs.
 - **An in-person and virtual open house** - was held in Winthrop at the Barn auditorium on May 25th in 2023. The event was publicized on the Town website, by email invitations, and

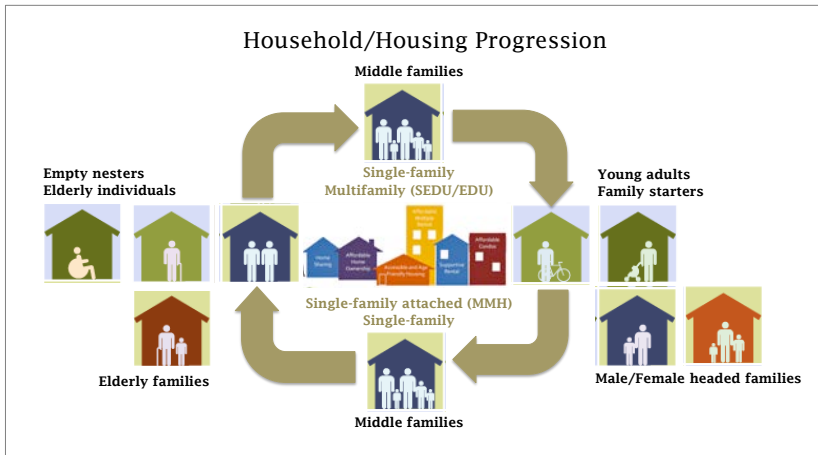
in the Winthrop Valley News. The open house reviewed background findings and implications and information on local housing costs, trends, and density options. The presentations were recorded and translated simultaneously into Spanish. Breakout tables were hosted on data, Missing Middle Housing (MMH) examples, and potential locations for locating MMH in the Town’s zoning districts.

The open house was attended in-person by around 80 people and on-line by 4 people who reside in Winthrop and the Methow Valley.

- **Resident household survey** - an on-line survey was conducted in English and Spanish of residential households concerning housing needs, trends, policy and project proposals, and financing options to all 1,825 mailing and post office box address within the Winthrop zip code. ___ respondents or ___% of all households completed the survey.

F. Housing requirements

- **Winthrop housing demand** - will gradually reflect the changing demographic characteristics of the town’s population



including an aging of the population resulting in smaller households, preferences for living alone, reduced child-bearing couples including non-nuclear family household types, the town’s increasing urbanization and housing markets, and the town’s increasing low-income single individual tourism-based workforce.

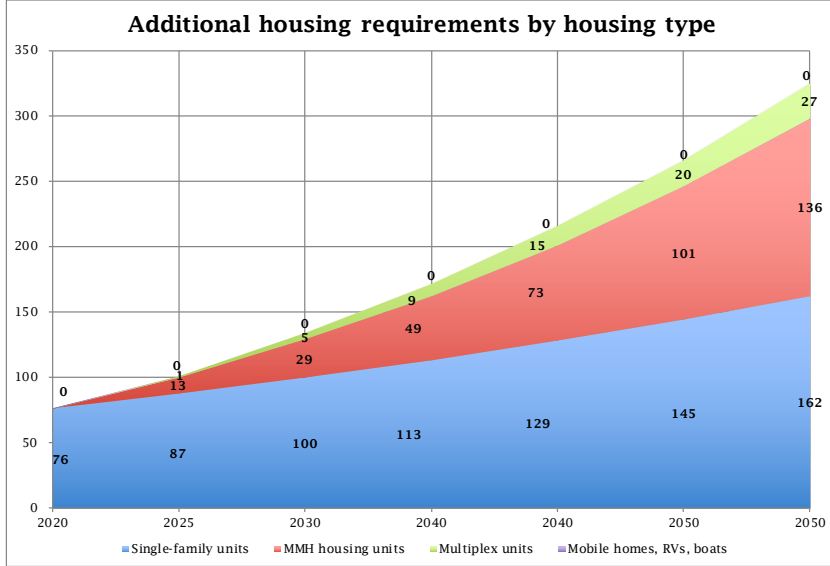
- **Winthrop households will progress through different life cycle stages** - correlated roughly with different types of housing where young adults move out of the family single-family house into small rental units in MMH or multiplex housing then back into single-family housing as their family grows and back into owner units in MMH or multiplex housing as empty nesters or elderly individuals.

	2020	2030	2040	2050
Population	504	645	826	1,057
Households	255	326	417	534
Vacancy allocation	18	23	29	37
Housing market (w/vacancy)	272	349	446	571
Less existing housing units*	177	197	217	237
Additional housing need	95	152	229	334
Additional single-family	76	100	129	162
Additional MMH (2-9)	0	29	73	136
Additional multiplex (10+)	0	5	15	27
Additional mobile home etc.	0	0	0	0

* Year-round available housing units - see Appendix F.

The projections indicate Winthrop housing market demands will reflect the increasing proportions of older, single individual, and smaller households who will seek to live and work in Winthrop in affordable and smaller housing types.

Winthrop housing stressed households - will need some form of housing assistance, whether public, Section 8, or other form of direct market subsidy, to reduce housing costs below 30% of income.



Alleviate cost burden 50%+	2020	2030	2040	2050
Single-family assisted	4	5	6	7
MMH assisted	26	51	89	144
Multiplex assisted	7	8	18	30
Mobile home assisted	0	0	0	0
Housing requirement	37	64	112	181
Alleviate burden 30-50%+				
Single-family assisted	12	14	17	20
MMH assisted	26	51	89	144
Multiplex assisted	7	8	18	30
Mobile home assisted	0	0	0	0
Housing requirement	45	74	123	193

Sources: ACS 2016-2020 CHAS data
Appendix F - Beckwith Consulting Group

Major implications of the projections include:

- The total assisted housing requirement for households paying more than 50% for housing will increase from 13.5% in 2020 to 31.6% by 2050 based on these trends.
- The total assisted housing requirement for households paying 30-50% for housing will increase from 16.4% in 2020 to 33.9% by 2050 based on these trends.
- Most significantly and most limiting, the housing projections assume some of the large supply of seasonal or part-time occupied housing units will or can be converted for occupancy on a full-time basis to meet Winthrop's housing needs when the market will be more determinant in deciding whether homeowners make such a transition.

Assisted housing projections by income

The Washington State Legislature recently passed House Bill (HB) 1220 concerning housing needs and allocations that will be projected by the Washington State Office of Financial Management (OFM) at a countywide level. The projections will account for underproduction, a healthy vacancy rate, and remove second homes.

Under HB 1220 counties and cities will need to decide how to allocate the needs, as they have done for population since the passage of the Growth Management Act (GMA). Commerce will develop allocation guidance and a tool (Housing for All Planning Tool or HAPT) to help communities do the work.

The allocations will be based on the income ranges from extremely low (0-30% of Area Median Income - AMI), very low (31-50%), low (51-80%), moderate (81-120%), and other (above 120%).

Housing requirements 2020-2044/5

	Future population target	Projected future group quarters (GO) population	Projected future household (HH) population	Projected future HH size	Projected total future households*	Existing households(1)	Net new households 2020-2044	Total future housing need (including vacant units 6%)	Existing housing supply (2)	Total future housing need minus existing housing supply	Projected net housing need for HH growth**
2044-45 Okanogan County	44,888	360	44,528	2.4005	18,549	16,942	1,607	19,733	17,696	2,037	2,037
Twisp	1,706	0	1,706	2.1300	801	580	221	849	579	270	270
Winthrop	934	0	934	1.9800	472	255	217	500	255	245	245

Sources

1 - ACS 2016-2021

2 - Existing housing supply less seasonal or second homes

Winthrop 2044							Percent of future Okanogan County households	2.1%
Affordability Level (% of AMI)	Housing needed to eliminate existing renter burden	Housing needed for existing homeless population	Housing need for cost burdened + homeless	Percent of households by income level (2018)	Remaining housing need to address household growth***	Projected future net new permanent supportive housing (PSH) need	Total net new housing need 2020-2044	
0-30%	20	7	27	9.0%	(5)		22	
0-30% (not PSH)							0	
PSH							0	
>30-50%	4	1	11	16.0%	28		39	
>50-80%			4	21.0%	47		51	
>80-100%			10	7.0%	7		17	
>100-120%			0	11.0%	27		27	
>120%+			0	36.0%	88		88	
Total	24	7	51	100.0%	194	0	245	
Emergency housing net need 2020-2044								

AMI - HUD Area Median Income. This is the median income calculated by HUD for each jurisdiction, to determine Fair Market Rents (FMRs) and income limits for HUD programs.

PSH - Permanent Supportive Housing

Source: HB 1220 Planning for Housing in Washington, June 2023

Source: (1) CHAS 2016-2020 ACS paying more than 30% for housing

Source: (2) equals percent Twisp and Winthrop are of county population and homeless

The above table lists OFM's estimate of existing housing affordable by income range for Okanogan County in 2020 and estimated additional housing needed by 2044 for a county population of 44,888. The table also lists OFM's estimate of existing affordable housing in Winthrop in 2044 under HAPT Method A of allocating additional housing.

Under this forecast method, Winthrop's projected total future households will increase to 472 by 2044 requiring an additional 245 new housing units including a 6% vacancy allocation.

The allocation by income groups will require 24 housing units to eliminate existing renter burden, 7 housing units to provide for Winthrop's allocation of countywide homeless populations based on the town's 2.1% of the county's population or 51 for all cost burdened including owners. Remaining housing needed to address household growth will be 194 units allocated by income group based on OFM's projection of the percent of all households in each income group.

Existing housing supply by income group

Winthrop's current housing inventory includes 92 units sponsored by the Methow Housing Trust (MHT) for 50-80% of AMI, National Association for Housing Affordability (NAHA) for 50-80% of AMI, Jamie's Place for emergency housing, and the Housing Authority for Okanogan County (HAOC) for 30-50% of AMI.

	MHT	NAHA	Jamie	HAOC	Total
0-30% Not-PSH*					
0-30% PSH					
30-50%				22	22
50-80%	42*	16*			58
80-100%	*				
100-120%	*				
120%+					
Emergency housing*			12		12
Total	42	16	12	22	92

MHT - Methow Housing Trust's Cascade Meadows South (16 units) and North (26 units) for 60-120% of HAMFI

NAHA - National Association Housing Affordability's Cedarwood Apartments for 50-60% of HAMFI

Jamie's - Jamie's Place Mountain Meadow

HAOC - Housing Authority of Okanogan County Wildrose Family Housing

G. Implementation

Implementation of Winthrop's Housing Action Plan involves completion of 28 action tasks including (not in priority order):

- **Development regulations** - 12 tasks to void ADU restrictive requirements, incorporate Missing Middle Housing (MMH) in residential and commercial zoning districts, increase density and reduce or split lot sizes, reduce parking requirements, add clustering options, and limit design review and SEPA requirements in residential districts.
- **Programs** - 6 tasks to implement home-sharing, a pilot host program for non-child-supported youth, provide Section 8 vouchers, Mainstream Vouchers, and Tenant Based Rental Assistance (TBRA).
- **Projects** - 4 tasks to acquire a strategic housing site using Land Acquisition Program (LAP), extend infrastructure using Connecting Housing to Infrastructure Program (CHIP), issue and RFP for a mixed-income mixed housing type development, and develop seasonal and temporary housing.

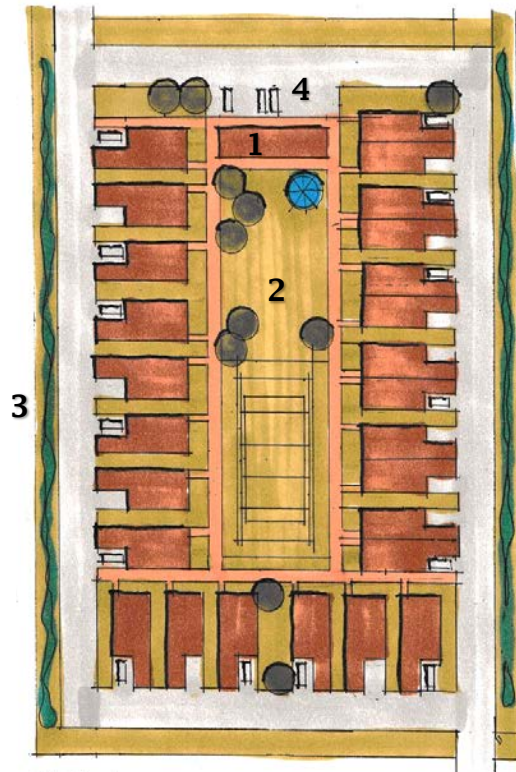
- **Incentives** - 2 tasks to reduce fees and charges for affordable housing units and approve a Multifamily Housing Tax Exemption (MFTE) for affordable units that qualify.
- **Finance** - 4 tasks to adopt HB 1590 0.1% Local Housing Sales Tax per RCW 82,14.530, REET 2 Housing Authorization per RCW 82.46.035, an Affordable Housing Tax Levy per RCW 84.52.105, and utilize Lodging Tax RCW 67.28.150 and RCW 67.28.160 for affordable housing and housing projects that benefit tourism development such as housing for seasonal employees.

H. Prototype cost analysis

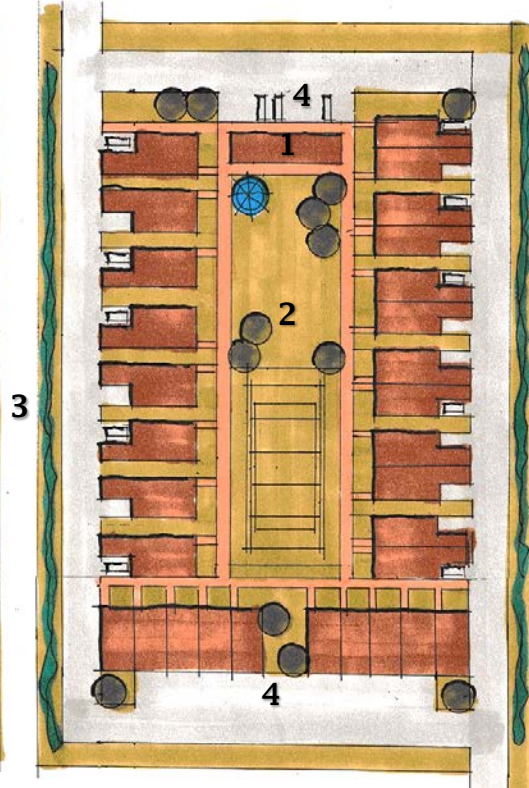
An analysis of possible MMH adaptations with which to meet Winthrop's housing requirements, particularly for smaller young and elderly households and seasonal employees, was completed as part of implementation strategies - see Appendix H.

The 3 examples demonstrate the higher densities and lower costs possible using cottage developments for:

- **MMH single-family** - developing 14 single story detached units of 1,000 square feet each and 12 single story units of 800 square feet each or a total of 26 units on 3.3 acres for a density of 7.9 units per acre.
- **MMH mixed housing types** - developing 9 single story detached units of 1,000 square feet each, 12 single story duplex units of 800 square feet each, and 10 single story rowhouses of 800 square feet each or a total of 30 units on 3.3 acres for a density of 9.1 units per acre.
- **MMH single story studios** - developing 18 single story rowhouses of 800 square feet each and 13 single story rowhouses of 640 square feet each or a total of 31 units on 3.2 acres for a density of 9.7 units per acre.
- **MMH 2 story studios** - developing 36 rowhouses of 800 square feet each in two stories and 26 rowhouses of 640 square feet each in two stories or a total of 62 units on 3.2 acres for a density of 19.4 units per acre.

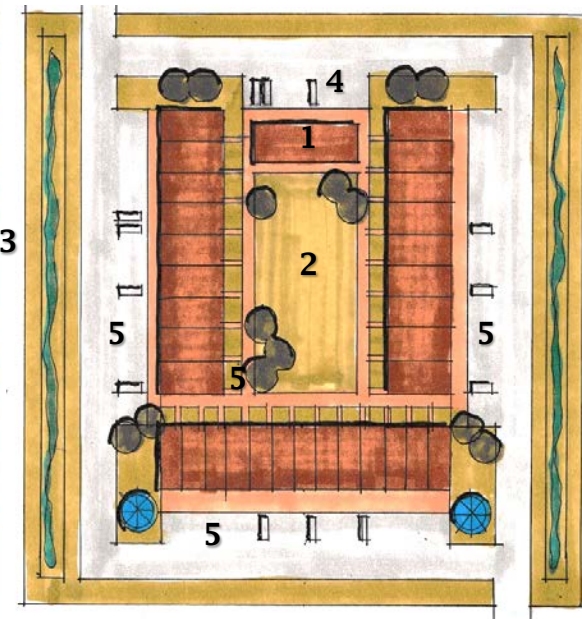


MMH single-family - 14 single story single-family 1,000 sq ft each and 12 single story duplex 800 sq feet each = 26 total units on 3.3 acres = 7.9 du/acre



MMH mixed housing types - 8 single story single-family 1,000 sq ft each, 12 single story duplex 800 sq feet each, and 10 single story rowhouse 800 sq ft each = 30 total units on 3.3 acres = 9.1 du/acre

Legend - 1 - clubhouse, 2 - common area, 3 - bioswale stormwater collection, 4 - visitor parking with solar over, 5 - tenant parking with solar over



MMH one story studios - 18 single story rowhouse 800 sq ft each and 13 single story rowhouse 640 sq ft each = 31 total units on 3.2 acres = 9.7 du/acre
MMH two story studios = 62 total units on 3.2 acres = 19.4 du/acre

Parking is provided for a garage and uncovered stall for detached single family and duplex units, for 2 stalls for each rowhouse, and visitor parking at the clubhouse.

The examples incorporate bioswales to absorb stormwater runoff from roads and parking areas, cisterns to collect and reuse stormwater, solar canopies over group parking areas and dwelling unit rooftops, a clubhouse for community social events, and a common area with sports court, picnic area, playground, or community garden.

Costs were estimated for each development concept assuming conventional stick-built construction, then discounted assuming:

- the land was purchased and placed in a land trust,
 - permits, fees, utility connections, and impact fees were waived,
 - dwelling unit size was reduced,
 - modular construction was used instead of stick-built,
 - containers were used instead of stick-built or modular,
- to determine the impact each measure would have on development costs individually and cumulatively.

The greatest cost savings by measure were possible using modular or container construction rather than stick-built and the least from waiving fees and charges or the land trust purchase cost though the use of a land trust is critical to keeping units affordable over time.

Measure	By measure	Cumulative*
Land trust	1.1-2.3%	1.1-2.3%
Fees and charges	0.4-0.7%	1.5-3.0%
Smaller units	9.5-12.6%	11.0-15.6%
Modular construction	12.7-26.0%	23.7-41.6%
Container construction	29.6-39.9%	40.6-55.5%

* Cumulative total includes modular or container construction but not both as they are exclusive construction options.

Generally, the analysis determined the cumulative cost savings possible ranged from 23.7% to 55.5% with the greatest cumulative cost savings realized for the MMH single story single-family development and the lowest cumulative cost savings realized from the MMH single story rowhouse developments - see Appendix H.

