Regional Housing Needs Assessment Methodology

MARCH 2025

Lower Connecticut River Valley Council of Governments

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Housing Needs Assessment

What is a Housing Needs Assessment?

A housing needs assessment (HNA) is a method of calculating how many housing units a jurisdiction must add to its current supply in order to meet the needs of existing and future residents. This calculation typically relies on a combination of demographic, economic, and housing characteristic data and can be performed at the state, regional, or sometimes local level. Some HNAs also distribute the calculated housing needs across regions or municipalities based on a variety of factors that balance planning goals and local needs. Once completed, an HNA can be used to inform housing policies and strategies, including setting targets for affordable housing, identifying suitable locations for housing development, and planning and zoning for different types of housing units.

The Lower Connecticut River Valley Council of Governments (RiverCOG), through its Regional Housing Committee, has created an HNA formula to determine housing needs at the regional level and to allocate those needs across the Lower Connecticut River Valley Planning Region. This methodology will be used by RiverCOG in its 2027 update of the Regional Housing Plan.

Background and Context

The Lower Connecticut River Valley region is characterized by its stunning open space preserves, bustling downtowns, quaint main streets, and access to the Connecticut River. The region's natural resources, combined with its built environment, provide a quality of life that is unmatched. Unfortunately, development patterns over the last several decades have resulted in minimal opportunities for many would-be residents to migrate to the region, resulting in population and job stagnation. For the region to thrive, it must focus on addressing the lack of diversity in its housing options and consider ways to shift toward more sustainable, affordable, and desirable development patterns.

During the 2021 creation of the Lower Connecticut River Valley Plan of Conservation and Development 2021-2031 (RPOCD), it was acknowledged that the region must address housing options to increase the diversity of the residents. In pursuit of this goal, RiverCOG created the Regional Housing Plan (RHP) as a comprehensive and holistic approach to understanding a region's unmet housing needs. This approach was adopted because factors that impact housing do not confine themselves to municipal boundaries, especially in a relatively small region with few large municipalities.

The RHP focuses on proactive steps the region can take to achieve the vision in the RPOCD. Specifically, it seeks the targeted creation of housing to diversify local demographics, grow jobs and workforce, and address the dynamic housing need trends across the state and nation in a sustainable and context-sensitive way.

The RHP, which was adopted in 2022, established a baseline assessment of the region's demographics, economic conditions, and current housing stock using 2020 US Census data. The baseline assessment highlights the relationship between the people currently living and working in the region and the type of housing that is currently available and serves as a foundation for understanding the region's housing needs. The assessment revealed that jobs, housing, and demographics impact each other, and all have been in a stagnant to declining trend in the region over the last decade.

The six objectives of the RHP are as follows:
1. *Diversify the Region's population in terms of age, race, and socio-economic status.*

2. *Create a resilient workforce in the region.*

3. *Ensure that people who work in the region can live near their jobs.*

4. *Diversify housing stock for a variety of household types.*

5. *Examine ways to make the existing housing stock, office, and retail space in the region functional for a changing population.*

6. *Encourage orderly creation of housing of different styles and types throughout the region near existing areas of development, employment, and transit.*

Regional Housing Plan Key Findings

The region has limited rental and multi-family housing options.

Regionally, 71% of current housing is categorized as single-family, detached units.

The current housing stock is made up of older, larger, single-family units, on larger lots

New housing construction in the region has been limited - 63% was built before 1980.

The 1% population loss between 2010 and 2020 reflected an 18% loss in persons under the age of 18.

Housing costs, with maintenance & commute, are not affordable to significant portions of the population

The region's population is aging and declining – it is losing and not replacing young people.

Businesses struggle to attract and retain workers.

The current housing stock is unlikely to attract & retain a younger population of workers.

RHP Conclusions and Next Steps

The RHP concluded that the region's existing housing stock is unlikely to attract or retain the younger population the region needs to fuel job growth and creation. Further, a slow or stagnant job market will cause more residents to leave and fewer to arrive. In general, the region needs to increase its supply of smaller, modern, and more affordable units, strategically deployed to mitigate or reverse population loss trends. It is understood that private developers will be primarily responsible for creating additional housing and the market will control what is ultimately built. Therefore, as part of the RHP, a housing market analysis was conducted to establish how much housing the region could realistically expect to absorb over a ten-year period. Considering historic development trends in the region during periods of both high and low growth, the analysis concluded that 200 units per year over 10 years (2,000 units total) was the status quo estimate.

While a useful starting point, there were limitations to this estimate and the utility of the RHP. Although the plan analyzed demographics, jobs, and housing supply and established a target number of units for the next 10 years based on market absorption, it did not sufficiently connect the pieces. A better understanding of this connection and the unit distribution across the region could improve the municipalities' ability to plan for housing.

Although markets will generally control the development of housing units, municipalities control land use decisions that encourage or discourage development from happening. Planning for different housing types in local Plans of Conservation and Development and zoning land appropriately can incentivize development. However, the choices municipalities make in planning and zoning will look different if the need is 15 units, 50 units, or 150 units. Understanding the magnitude of the need will allow municipalities to right-size their strategies.

Overview of HNA Approach

Process

RiverCOG's Regional Housing Committee began the process of creating the regional HNA in January 2024. The approach began with a review of best practices from professional associations and other states around the country. Three workshops were held between January and September 2024, where the committee established a base model by adjusting best practices to account for local and regional priorities, determined data sources, and reviewed modeling tools, maps, and diagrams to visualize the findings. A final working group meeting was held in December 2024 which was facilitated by Dr. Don Poland of Goman & York, a housing consultant. Dr. Poland's facilitation helped the committee fine-tune the data choices and achieve consensus on the final methodology. In December 2024, the committee recommended the HNA should be presented to the RiverCOG board for endorsement. At the January 22, 2025 meeting of the RiverCOG Board, the member municipalities voted unanimously to endorse the methodology for use in the 2027 RHP update and to inform future conversations around housing.

Workshop 1: Intro to Process and Case Study Review

An introduction to the process and review of case studies occurred from January to March 2024, at which point the committee held Workshop 1 to discuss findings. In addition to reviewing Connecticut housing plans, laws, and policies, the committee selected case studies for review from professional publications of the American Planning Association which analyzed different methods of assessing housing needs.[1] These publications referenced several states to illustrate different practices. In making the ultimate selection, the committee considered geographic location, depth and breadth of analysis, how long the approach had been in use, and overlap in goals, objectives, trends, and challenges with the region (even if at a different scale).

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[1] Meck, Stuart, et al. "Regional Approaches to Affordable Housing." 4 Mar. 2008. https://www.huduser.gov/portal/publications/affhsg/reg_aff_hsg.html; Joans, Melissa. "Data-Driven Housing Assessments and Action Plans, Part 1: The Data." PAS Memo, 1 May 2017. American Planning Association National, www.planning.org/publications/document/9124085/

Selected States

Washington
Oregon
California
New Hampshire
● Connecticut
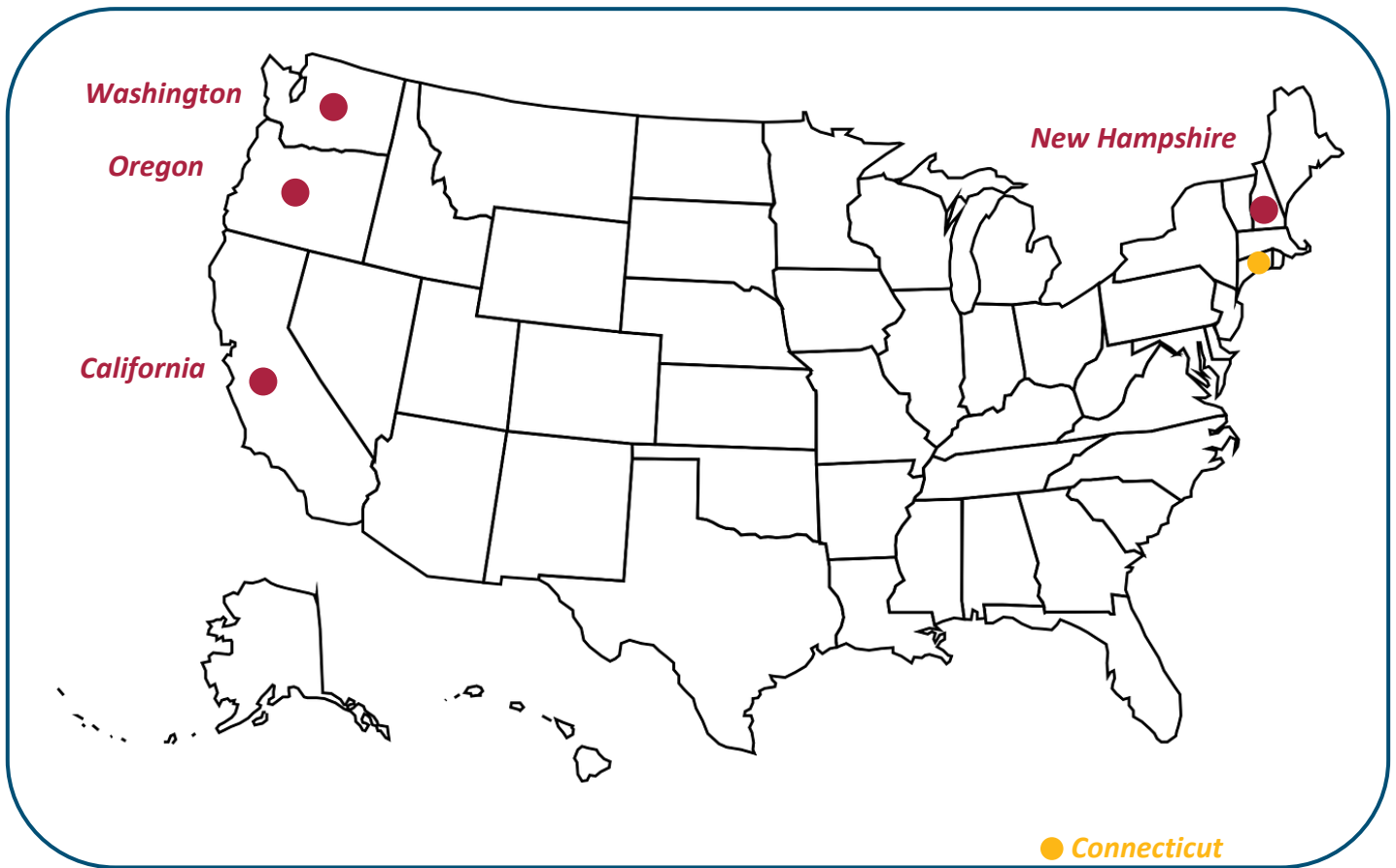
Connecticut

There is currently no requirement for a housing needs assessment in Connecticut. Many towns in Connecticut address affordable housing development on a case-by-case basis in relation to Chapter 126a, § 8-30g of the Connecticut General Statutes, the "Connecticut Affordable Housing Land Use Appeals Procedure." Under CGS § 8-30g, Connecticut municipalities in which less than 10% of the housing stock is affordable (per the statute's definition) are subject to appeals by developers to the Superior Court, where the burden of proof is on the municipality to prove that a project would be a threat to the public's health, safety, or welfare. These developments are not required to follow local zoning regulations, and they must restrict at least 30% of the units as affordable to low- and moderate-income households (earning 80% or 60% of AMI) for at least 40 years.

Acknowledging that communities in Connecticut require a more active tool and approach to creating new housing opportunities and expanding affordable housing options, the Legislature adopted CGS § 8-30j in 2017. Section 8-30j requires every Connecticut municipality to prepare and adopt an affordable housing plan once every five years, the first of which were required to be adopted by June 2022. These plans are required to demonstrate how the community "intend[s] to increase the number of affordable housing developments in the municipality."[2]

More recently, effective 2023, Public Act No. 23-207 (Sec. 18) required the Office of Policy & Management (OPM) to develop a methodology for determining regional housing needs and a "fair share" allocation for each town within a region for delivering the identified number of housing units. The final report, once complete, will be presented to the General Assembly to help guide choices for future housing production policy considerations. At the start of RiverCOG's HNA process, work on the state methodology had not started. As of the creation of this report, a draft assessment result has been released, but a final methodology has not been produced.

New Hampshire

New Hampshire[3] began conducting housing needs assessments in 1988. The process is a partnership between the state and the Regional Planning Commissions (similar to a Council of Governments). In 2022, the regions collaborated to create a "fair share production model." The model projects the number of housing units, by tenure and AMI, that municipalities would need to allow or accommodate to meet projected population and employment demand and to support a more balanced housing market.

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[2] *Affordable Housing and Land Use Appeals*. CT Gen Stat § 8-30j. (2024) www.cga.ct.gov/current/pub/chap_126a.htm#sec_8-30j

[3] Rockingham Planning Commission. "RPC Municipal Officials Forum & Regional Housing Needs Assessment Preview - 1/11/2023." *YouTube*, 12 Jan. 2023, www.youtube.com/watch?v=qv0nbVTsDpE; Root Policy Research. *2023 New Hampshire Statewide Housing Needs Assessment*. New Hampshire Housing, Mar. 2023. https://www.nhhfa.org/wp-content/uploads/2023/04/2023-NH-Statewide-Housing-Needs-Assessment-Executive-Summary.pdf; Root Policy Research. *State of New Hampshire Fair Share Housing Production Model*. New Hampshire Housing, Dec. 2022. https://www.swrpc.org/wp-content/uploads/2023/04/NH_Fair_Share_model_2020-2040_Presentation.pdf

Housing needs are calculated based on the following:

- o Projected population through 2040 (less current population)
- o Household size based on headship ratio (grouping population growth by age group and applying an assumed household formation rate for each age cohort)
- o Statewide ownership rate (assumed that the current breakdown of renters would remain constant)
- o Vacancy rate to make up for the current deficit of units and sustain a healthy market

The study behind the methodology noted that, while New Hampshire is not experiencing substantial growth, there is still a constrained housing market, leading to increasing housing prices. Establishing a healthy vacancy rate was seen as an important way to increase supply enough to allow mobility between units and reduce competition. Additional units were added to accommodate seasonal/recreational use based on past annual growth rates. This is because seasonal units create additional pressure on the housing market and can increase even when there is a drop in housing production.

Future housing needs were allocated to municipalities based on a proportional share of population and job growth – each weighted at 50% of the total need. This initial allocation number could then be adjusted based on several factors, including the number of uninhabitable units, buildable land and infrastructure, level of opportunity, and community resources. Importantly, the allocation is a partnership between the region and the municipalities, and adjustments are agreed upon before the allocation is made.

California

In California,[4] which has been conducting housing needs assessments since the 1980s, the state Department of Housing and Community Development is responsible for determining housing needs at the regional level. Housing needs for each region are determined based on the following:

- o Projected population (less people living in group quarters)
- o Household size to convert the projected population into projected households
- o Adjustments to measure underproduction or deficiencies in current supply: average housing unit replacement (from demolition), unhealthy vacancy rates (renter and owner), cost burdening (relative to the regional average), overcrowding (more than one person per room), the relationship between jobs and housing, and units lost during a state of emergency.
- o Existing occupied units to subtract and isolate the future need

Units are distributed to the regions by income categories from very low (<50% AMI) to above moderate (>120% AMI).

The regional Councils (or Associations) of Government are responsible for allocating their determined housing needs to their municipalities. There is significant flexibility in creating the allocation model, which allows regions to align the allocation with their planning goals and policies. The state provides guidance on factors that the regions should consider in creating their allocation methodology, including existing and projected jobs and housing relationship, housing opportunities and constraints (infrastructure, suitable land, preserved land, climate change, etc.), distribution of household growth, inter-municipal agreements to direct growth toward a city, loss of publicly assisted housing units, high housing cost burdens, overcrowding, farmworker housing needs, housing needs generated from a university, housing needs of those

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[4] **"Regional Housing Needs Allocation (RHNA) | California Department of Housing and Community Development."** *Ca.gov*, 2019, www.hcd.ca.gov/planning-and-community-development/regional-housing-needs-allocation; **CA Department of Housing & Community Development. "California's Housing Future 2040: The next RHNA Webinar Recording March 9, 2023."** *YouTube*, 15 Mar. 2023, www.youtube.com/watch?v=orine5zFdgw&list=PL4g-apBQQt52rtETTCdnK2_NacjOmw-4A; **SANDAG.** *6th Cycle Regional Housing Needs Assessment Methodology*. **San Diego Association of Governments, 27 Nov. 2019.** https://www.sandag.org/-/media/SANDAG/Documents/PDF/projects-and-programs/regional-initiatives/housing-land-use/regional-housing-needs-assessment/6th-cycle-regional-housing-needs-assessment-methodology-2019-11-22.pdf

experiencing homelessness, loss of units during a state of emergency, greenhouse gas emission targets, and other factors which do not conflict with the statutory objectives.

To illustrate this process, the committee examined the allocation methodology from the San Diego Association of Governments (SANDAG). SANDAG has prioritized planning around high-efficiency transit. Therefore, of their total need, 65% was distributed based on the regional share of transit stations (75% to rapid bus stations and 25% to major transit stops). The remaining 35% was allocated based on the regional share of jobs. An equity adjustment was applied to the final allocation for each municipality, allocating more units in each income category to a municipality with a lower percentage of units in that category relative to the region.

Washington

In 2021, the Washington Legislature adopted HB 1220, which directed the Department of Commerce to calculate existing and future housing needs for communities in Washington,[5] including units for moderate, low, very low, and extremely low-income households, and for emergency housing, emergency shelters, and permanent supportive housing. The Department of Commerce developed a methodology and Excel tool called the Housing for All Planning Tool (HAPT) to project housing needs based on county population projections.

Future housing needs are calculated based on the following:
- o Population projection (less group quarters)
- o Household size by age group (adjusted for demographic shift) to convert the projected population into projected households
- o Vacancy rate to sustain a healthy housing market

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[5] **Growth Management Services.** *Establishing Housing Targets for Your Community*. **Washington State Department of Commerce, July 2023.**
https://permitbulletin.mercerisland.gov/public/2024%20Comp%20Plan%20Periodic%20Review%20Admin%20Record/Exhibits%20251-300/ex%20281%20hb%201220%20book1_establishing%20housing%20targets_july%202023_updated%2020230901.pdf; --
Growth Management Services. "Guidance and Data for Updating Housing Elements." Washington State Department of Commerce, 6 Apr. 2023, https://vimeo.com/815481608/e363b02b8d?share=copy; Growth Management Services.
Guidance and Data for Updating Your Housing Elements. **Washington State Department of Commerce, Aug. 2023.**
https://deptofcommerce.app.box.com/s/1d9d5l7g509r389f0mjpowh8isjpirlh

- Existing occupied units (less seasonal/second homes) to subtract and isolate the future need

Underproduction is measured in this model by accounting for households that theoretically should have formed if the housing market were less constrained. This typically results in a smaller average household size which is applied to the entire population, rather than just the future population.

Current housing needs are then projected by income level, adding together units needed for cost-burdened renter households and homeless households. This number is subtracted from the future housing needs to determine the number of total additional units needed. These units are broken into AMI brackets based on projected households in each category.

The total housing needs are projected at the county level and counties, cities, and towns are encouraged to work together to allocate the needs based on land and infrastructure capacity, jobs, services, and other factors.

Oregon

Oregon[6] has long required municipalities to plan for future housing needs in their comprehensive plans. In 2019, a new regulation (HB 2003) established the need for a new methodology to quantify regional and local housing needs. During the committee's case study review, a technical report dated March 2021 which detailed the work in progress was available for analysis.

According to that report, housing needs for each region should be calculated based on:
- Future Households:

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[6] **Oregon Housing and Community Services, and ECONorthwest. Building on New Ground: Meeting Oregon's Housing Need. Oregon Housing and Community Services, Feb. 2021. https://www.oregon.gov/ohcs/about-us/Documents/RHNA%20and%20OHNA/02-21-2021-ECONW-OHCS.pdf; ECONorthwest. Implementing a Regional Housing Needs Analysis Methodology in Oregon: Approach, Results, and Initial Recommendations. Oregon Housing and Community Services, Mar. 2021. https://rivercogct.sharepoint.com/:b:/s/RiverCOG/ERC61m44wMZJhusrFqZok_sBv-_8ofpl0UGICyVuSWMe5g?e=YkmW1x**

- Projected population (future population less current population and group quarters)
- Household size by region to convert projected population into projected households (assumes constant household size)
- National average ratio of housing units to households (ensuring a ratio greater than 1:1 for a healthy vacancy rate in the market)
  - Underproduction:
    - Current ratio of housing units to households by region
    - National ratio of housing units to households (in regions where the existing ratio of housing units to households falls below the national average, the number of units needed to reach the national average is calculated)
    - National ratio of housing units to households less seasonal/second homes (applied to regions with a larger than average share of seasonal/second homes)
  - Homelessness:
    - Point-in-Time estimate with a multiplier of 160% (assuming an undercount of the homeless population)
    - McKinney Vento data on homelessness collected by school districts

These items are distributed by income level for each region based on regional median family income adjusted for household size. For underproduction, income distribution is based on cost-burdening. All housing for the homeless was placed in the 0-30% income category.

It should be noted that in measuring underproduction, the report considers an approach of cross-tabulating housing stock affordable to different income groups and households by income group to identify any mismatches (surplus or deficit) between households and housing stock affordable to them. This approach was ultimately dismissed as it assumes every cost-burdened household needs an additional unit and would result in a potential overproduction of housing. Cost-burdening was instead used to bin needed units into income categories rather than to calculate the need.

The report recommends that units be distributed relative to urban growth boundaries - delineations between an urban center where growth should be directed and a rural

area where growth should be limited. Municipalities outside of the urban growth boundary are allocated units for future households based solely on a proportional share of the regional population. Municipalities inside of the urban growth boundary are allocated units for future households, underproduction, and homelessness. Allocations inside the urban growth boundary are based 50% on a proportional share of the forecasted population, and a 50% proportional share of current jobs. The analysis considered transportation proximity and commuter flows, but jobs were ultimately selected as the best available data.

In December 2024, after the case study review, Oregon released an update to the Housing Needs Analysis Methodology.[7] The same three categories for measuring need are used, however, some of the calculations were changed:

Future Households: The conversion of population to households is now a complex calculation based on adjusting current persons per household by age cohort to account for demographic change. In addition, instead of applying a 1.14 ratio of housing units to households, a 5% vacancy rate is applied to establish a healthy market.

Underproduction: Instead of applying a national ratio of housing units to households, the methodology calculates what it calls, "missing households" which are defined as households that have not formed in the market but theoretically would have if the market were less constrained. The calculation is based on the changes in headship rate for different age cohorts between 18 and 64 as compared to the headship rates in the year 2000. This number is added to the current total of households and a 5% vacancy rate is applied to create healthy market conditions. Existing units, less seasonal and uninhabitable units, are subtracted from the total to calculate underproduction.

Homelessness: A methodology for estimating homelessness from the Portland State University Homeless Research and Action Collaborative replaced the original data sources, however, those data sources are included in the new methodology.

A calculation for housing units lost to seasonal/second homes was added to the methodology. It is based on the ratio of new seasonal/second homes to total housing production. These units are allocated solely based share of current seasonal/second home stock.

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[7]ECONorthwest. *Oregon Housing Needs Analysis Methodology*. Oregon Office of Economic Analysis, Dec. 2024. https://www.oregon.gov/das/oea/Documents/OHNA-Methodology-Report-2024.pdf

Workshop 2: Input Selection

Workshop 2 occurred in June 2024. The committee assessed the commonalities between the case study methodologies and began to evaluate inputs for the regional HNA. All case studies were readily divided into three basic components which were used to aid the committee's assessment: 1) a determination of how many units are needed, typically separated by income category; 2) an allocation of units to municipalities in a region; and 3) local accommodation in which municipalities plan for their allocated units.

<u>Determination</u>

The determination analysis is a calculation of how many housing units the region needs. Establishing what "need" means is a key step to establishing a methodology. At the outset, the committee decided that it was important to accommodate the current population (underproduction, overcrowding, homelessness), and prepare for the future population. In other words, the regional HNA should consider both "current needs" and "growth needs". The committee also agreed that it was important (as with the case studies) to provide more than a 1:1 ratio of housing units to households and opted to incorporate a healthy vacancy rate into the model.

The following were the identified common determination inputs from the case studies along with associated questions and considerations from the committee:
- o Total Projected Population:
    - Does this account for climate migration?
    - Is this where we look at open jobs/job growth?
    - Is homelessness accounted for and how are we defining it?
- o Household Size:
    - How will we measure household size?
- o Existing Units:
    - How can we capture shortage and underproduction? Doubled-up units?
    - Are seasonal units counted?
    - Are uninhabitable units included?
- o Vacancy:
    - Can we increase the vacancy rate for undercount adjustment?

Allocation

The allocation of units is fundamentally about how the region and its municipalities see themselves growing. An overarching question raised by the committee in evaluating the inputs was:

What do we want our community to look like in the future?

The Regional Plan of Conservation and Development (RPOCD) (adopted 2021) served as a blueprint for these purposes. The RPOCD vision centers around concentrating physical and economic development in "activity centers" envisioned as "vibrant destinations where civic, residential, commercial, and employment uses can be integrated." In addition, the RHP was used to evaluate inputs to ensure that choices reflected the region's housing goals and objectives.

The following were the identified common allocation inputs from the case studies along with associated questions and considerations from the committee:

- o Population Growth
    - ▪ How do we account for municipalities with declining population?
- o Transit
    - ▪ Do we have sufficient transit and transit service to support basing allocation on it?
    - ▪ Does transit include bus or is it limited to rail?
- o Jobs
    - ▪ What about access to services, amenities, and general opportunities?
    - ▪ Can this be analogized to Urban Growth Boundaries if we expand to include clusters of activity?
- o Buildable Land
    - ▪ Does this also include infrastructure?
- o Equity
    - ▪ Does this account for a municipality's existing share of units?

Accommodation

The accommodation component focuses on how local municipalities plan and zone for the units they are allocated to ensure that they could be built. The committee only tangentially addresses local accommodation as it is an area that municipalities, rather than the region, should lead, and it is not included in the regional HNA. When evaluating potential inputs for the first two components, they considered which entity, the region or the municipality, would be better equipped to provide the input. If the answer was the municipality, the input was moved to the accommodation category.

Workshop 3: Data Evaluation

While Workshop 2 provided a selection of preferred inputs, final inputs were necessarily dependent on available reliable data. During the third workshop, held in September 2024, the committee reviewed data options for each selected input. Data were chosen by staff based on current availability, reliability, consistency with previous planning efforts, and suitability in meeting the intent of the selected inputs. Data sources were also evaluated in response to the questions asked by the committee at Workshop 2.

Data sources and evaluation are set out below in order of model input.

Determination

Total Projected Population

Both the Decennial and American Community Survey (ACS) census data provide existing population data for the region. These data sources were used in both the RPOCD and RHP to assess current and historic changes in regional and local demographics. As Decennial and ACS census data are collected at different intervals, either source could be used, dependent on the year, to assess the current population. If timing permits, Decennial is preferred.

> ### *Population*
>
> Q.   *Does this account for climate migration?*
>
> A.   *Climate migration is not yet included in population projections because there is not an accepted population projection from the state. However, we can monitor the population of the next 5 and 10 years and adjust if we see substantial growth in this area.*
>
> Q.   *Is this where we look at open jobs/job growth?*
>
> A.   *Because the region has struggled to fill job vacancies, the committee discussed adding a calculation for open jobs or job vacancies to the population projection. However, job vacancies are likely caused, at least in part, by population decline. By providing additional units to account for current undersupply and future growth, the region may be able to attract the population needed to fill job vacancies and grow jobs, particularly if the units are deployed strategically where workers are needed.*
>
> Q.   *Is homelessness accounted for and how are we defining it?*
>
> A.   *The census population count includes people receiving services from shelters, soup kitchens, and mobile food vans as well as people living in previously identified outdoor locations and other places where people are known to sleep.*

Future population is more difficult to assess, as there is not an agreed-upon population projection for the state. To the extent they exist, projections typically show a population decline for the region.[8] The committee discussed creating a range of

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[8] US Census Bureau. "Population and Housing Unit Estimates." *Census.gov*, 30 Nov. 2018, www.census.gov/programs-surveys/popest.html; State of Connecticut Data Center. "Data.gov." *Data.gov*, 2015, catalog.data.gov/dataset/2015-2040-population-projections-town-level. Accessed 25 Mar. 2025;

population projections based on a reasonable change from the current population (-1%, 1%, and 2.5%). Because there is no timeline associated with this projection, the committee agreed to apply a 10-year time horizon, evaluated and, if necessary, adjusted at the 5-year mark in line with the required updates to the local affordable housing plans.

Household Size

Both Decennial and ACS census data estimate household size for the region. As with population, either source could be used, depending on the year. If timing permits, Decennial is preferred. However, demographic trends have shown that due to smaller family size, increasing numbers of single person households, and an aging population, the household size is likely to shrink over the next 5 to 10 years. The household size, as measured by the census, should be adjusted accordingly.

> *Household Size*
>
> Q. *How will we measure household size?*
> A. *Household size will be measured by adjusting the regional average household size to reflect shrinking households. Ideally this would be based on the projected rate of change based on historic trends.*

Existing Units

The ACS census data estimates the existing number of housing units in the region and was used as the data source for the RPOCD and RHP. The count includes houses, apartments, mobile homes, a group of rooms, or a single room that is either occupied or intended for occupancy as separate living quarters, though all units must have direct access from outside the building or through a common hall.

Vacancy

There is no set number for what constitutes a healthy vacancy rate. According to Lincoln Land Institute, a reasonable vacancy rate for a local housing market is between 4% and 8%. Case studies used a range from 2% to 14%. The Decennial Census measures existing vacancy rate, which if healthy can be projected into the future, or if unhealthy, can be adjusted. In a market with an unhealthy vacancy rate, the adjusted vacancy rate can be applied to both current supply and future need to account for underproduction and create a more stable housing market.

Allocation

Population Growth

The initial formula proposed allocating units based on share of projected population growth. However, as discussed above, there is not an agreed upon population projection in the state. In addition, existing population projections show declining population in several of the region's municipalities. This would result in negative unit allocations, which is contrary to the RHP objectives.

Existing population figures are readily available from both ACS and Decennial Census data, which forms the basis for the population projections in the determination phase. Using share of existing population as an allocation metric will keep the scale of growth across municipalities consistent relative to existing size. It will also act as an equalizer in ensuring that each municipality receives an allocation of units to account for underproduction and current need.

> *Population Growth*
>
> Q. *How do we account for municipalities with declining population?*
>
> A. *Using population growth as an allocation metric would result in negative allocations for municipalities with a declining population. This is antithetical to the goals in the RHP. For this and other reasons discussed above, population growth was replaced with share of regional population.*

Transit

Several of the case studies considered transit as an allocation metric, however only California (SANDAG) ultimately selected it. In that example, transit allocation was divided into rail and rapid bus transit.

RiverCOG does not have a robust public transit system, however, collocation of housing with transit is an objective and recommendation of the RHP. The region aims to encourage more sustainable growth patterns by directing growth toward areas with access to high quality transit. RiverCOG is currently working on a Transit Oriented Development (TOD) Vision Plan focused on the region's three Shoreline East rail stations in Clinton, Westbrook, and Old Saybrook, and the River Valley Transit Bus Terminal in Middletown. These are the transit stations in the region best positioned to support higher frequency transit if development densities warranted it. The allocation will be based on proximity to those stations using a ½ mile walkability buffer.

> Q. *Does transit include bus or is it limited to rail?*
>
> A. *Because RiverCOG is currently planning for TOD at three rail stations and one bus station, both bus and rail will be included in the methodology. However, due to the current frequency of transit, only those four locations will be included.*

Jobs

The LEHD Origin-Destination Employment Statistics (LODES) data is produced by the census and provides data on job numbers by town. This data was used in the creation of RiverCOG's Comprehensive Economic Development Strategy (CEDS). In addition to being a frequent allocation metric across the case studies, providing access to jobs was a strong focus of the RHP (and CEDS). Using LODES data, each municipality's share of regional jobs can be easily established.

Jobs

Q. What about access to services, amenities, and general opportunities?

A. This was a concept that was explored after Workshop 2. The committee discussed overlapping Services, Amenities, and Infrastructure (sewer and water) to create "activity centers" consistent with the Future Land Use Map in RiverCOG's POCD. After exploring data options, it was determined that too many value judgments would be required to move this concept forward. The questions of which services and amenities to include and how to weigh them became a source of contention. In addition, the committee determined that the existence of sewer was not the same as sewer capacity, and without understanding the capacity and cost of sewer extension, the mere existence of a sewer system was not necessarily more supportive of housing density than high septic capacity soil.

Q. Can this be analogized to Urban Growth Boundaries if we expand to include clusters of activity?

A. Urban Growth Boundaries are not something that exist in Connecticut, however the concept from Oregon was interesting to the committee. Using activity centers as targets for future growth areas while prioritizing areas outside the activity centers as rural, agricultural, or open space land is consistent with the Urban Growth Boundary concept, though unofficial. Although the methodology ultimately moved away from activity centers in favor of the cleaner jobs data, the RHP and RPOCD encourage planning for housing near existing activity centers. This can be accomplished by the municipalities at the accommodation stage.

Buildable Land

Initially, the methodology included adjustment to the allocation of units based on the amount of buildable land. The adjustment would reduce the allocation share to a municipality that does not have sufficient land free of permanently preserved open

space, floodplains, steep slopes, etc. to accommodate its allocated units. Although the data to identify these development limitations are readily available, this adjustment was ultimately excluded as unnecessary. The RHP and RPOCD emphasize directing new development toward infill, adaptive reuse, and conversion of larger single-family units to multi-family homes. This does not require a municipality to have large amounts of new buildable land. In addition, the other allocation metrics are already directing growth to the municipalities where development and infrastructure exist, giving municipalities with large amounts of open space, wetlands, floodplains, etc. lower initial allocations. Accommodating the units becomes an exercise in upzoning specific areas of the municipality to accommodate more growth.

> ### Buildable Land
> Q. *Does this also include infrastructure?*
> A. *The buildable land analysis did not include infrastructure, which was initially considered as part of the activity center analysis (discussed under Jobs above).. .*

Weighting

Once the metrics for allocation were finalized, each was assigned a weight. The weight will be applied to the total determined housing needs and needs will be distributed to the municipalities based on their tally in each category. The breakdown of weight for allocation metrics is as follows:

- o Share of Regional Population (50%): Share of population was weighted 50% of the total determined need. This is because population is an equalizer that ensures each municipality receives some share of housing units, regardless of other growth priority factors.
- o Transit (10%): Access to transit was weighted 10% because there are very few transit stations in the region. A higher number would have resulted in an overemphasis on a small handful of municipalities. Further, while the region encourages collocating housing with transit, the level of service is not where it needs to be yet to support true TOD and warrant a higher percentage.
- o Jobs (40%): Share of regional jobs was weighted 40% - the remaining total of need. Providing access and opportunity for existing workers to live near their jobs and to attract new workers to the region were high priorities of the POCD

and RHP. Without robust transit systems in place, collocating housing with jobs is the best way to promote those goals.

Equity

After the total unit allocations are calculated for each municipality, the units will be divided into income categories. The Comprehensive Housing Affordability Strategy (CHAS) data can be used for this purpose as it provides existing households by AMI bracket (30%, 50%, 80%, and 100%) for the region and for each municipality.

The committee discussed basing the equity adjustment on the existing share of cost burdened households in each income category. This is an approach that might be considered in a future methodology. However, for this initial version it was preferred to keep the calculation straightforward. The committee decided to increase or decrease the municipality's share of units within each income category compared to the regional average. The equity breakdown is a categorizing of the allocation by income bracket rather than a new calculation.

> *__Equity__*
> *Q. Does this account for a municipality's existing share of units?*
> *A: The equity adjustment does account for a municipality's share of units in the sense that a municipality with a large number of units in any category will see a smaller allocation in that category.*

Working Group Meeting

Following the scheduled workshops, the committee hosted a working group meeting to discuss and resolve outstanding issues and concerns regarding the data and inputs. Dr. Don Poland of Goman & York was brought on board to facilitate this process. Dr. Poland is a spatial and social scientist with over thirty years' experience in land use planning, housing, economic development, real estate development, and community investment. Having worked in the public, private, non-profit, and academic sectors, he offers a unique perspective and deep understanding of the challenges that communities and developers face. Dr. Poland consulted on the RHP, providing the housing market analysis. His familiarity with the RHP along with the region and its

housing challenges enabled him to guide the discussion. Specific topics discussed included the population projections, household size, seasonal units, and vacancy rate.

Population Projection

Without an official population projection for the region, there was substantial discussion among committee members about the appropriate projection to use. Of particular concern was the fact that some municipalities in the region are anticipating growth while others are anticipating decline. First, the committee agreed that regardless of whether decline was projected, the region should plan for growth. Population decline is antithetical to the goals in the RHP and proactively planning for growth may reverse declining population trends. Second, it was determined that although different municipalities are expected to grow (or decline) at different rates, one population projection for the whole region was appropriate. Often, the reason for a household locating in one municipality as opposed to another is the availability and affordability of housing. Therefore, the region has the opportunity to shape regionwide population growth by increasing housing opportunities in municipalities consistent with planning goals. The allocation metrics are the tools to ensure that regional growth is distributed appropriately in this way. Lastly, the committee settled on a standard 1% population growth projection for the initial methodology. Dr. Poland confirmed this as a reasonable starting metric based on historic regional trends. The committee concurred that this projection will be evaluated and adjusted at the 5-year mark if actual population growth or decline warrants it.

Household Size

The model, when tested, was particularly sensitive to changes in household size. In testing the model, the committee discussed using the existing regional household size for the current population, however, this was ultimately rejected as it does not account for doubled-up households or households that would have formed if not for the constrained housing supply. In addition, the committee agreed that a smaller household size would be required for the future population estimate because household size in the region has been shrinking – a trend that is expected to continue. Dr. Poland assisted the group in identifying an appropriate household size for the current population and future population, both slightly less than the existing household size, based on regional demographic trends. These numbers were used to

test the model (described below) but will be reevaluated during the update to the RHP to ensure that new data still reflects those trends.

Seasonal Units

The region has many seasonal units (also referred to as second/vacation homes), particularly in the shoreline and lake communities. The prevalence of these units places additional strain on the housing market because they remove supply from potential year-round residents. The committee discussed whether to remove seasonal units from the existing supply before calculating need. However, seasonal units are existing units – the seasonal nature is based on ownership which is continuously in flux. A second home could become year-round when the owner retires, or a year-round home could become seasonal when the current owner moves out. Further, decisions that increase housing supply and increase affordability in a municipality can impact how many units convert to seasonal or remain year-round. Seasonal units are also tied to geography, meaning that they do not impact the entire region equally.

Seasonal units are counted as vacant units in the census data. In places with a large number of seasonal units, this can result in a high vacancy rate despite the lack of available housing. In the methodology, the seasonal units will be removed from the total vacant units to reflect a more accurate vacancy rate. However, the committee decided not to also remove seasonal units from the total existing units for the reasons discussed above. It was determined that the RHP update should discuss the impact of seasonal units on housing supply and municipalities heavily impacted should determine how they intend to mitigate the effect in their local plans.
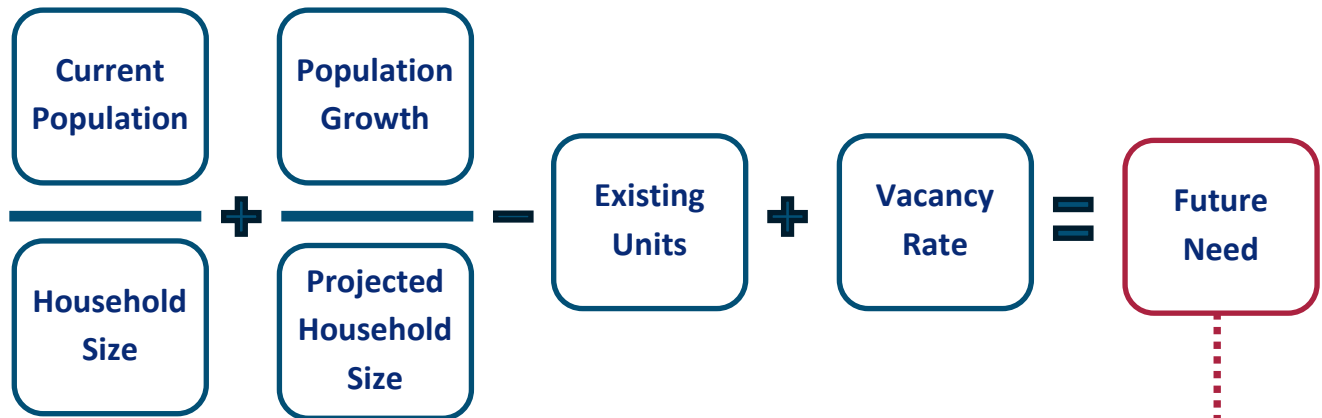
Vacancy Rate

What constitutes a healthy vacancy rate will vary by region based on market conditions. Dr. Poland assisted the committee in selecting a healthy vacancy rate based on the housing market analysis he completed for the RHP. This rate was used to test the methodology but will be reevaluated during the RHP update process to ensure that it still aligns with current data.
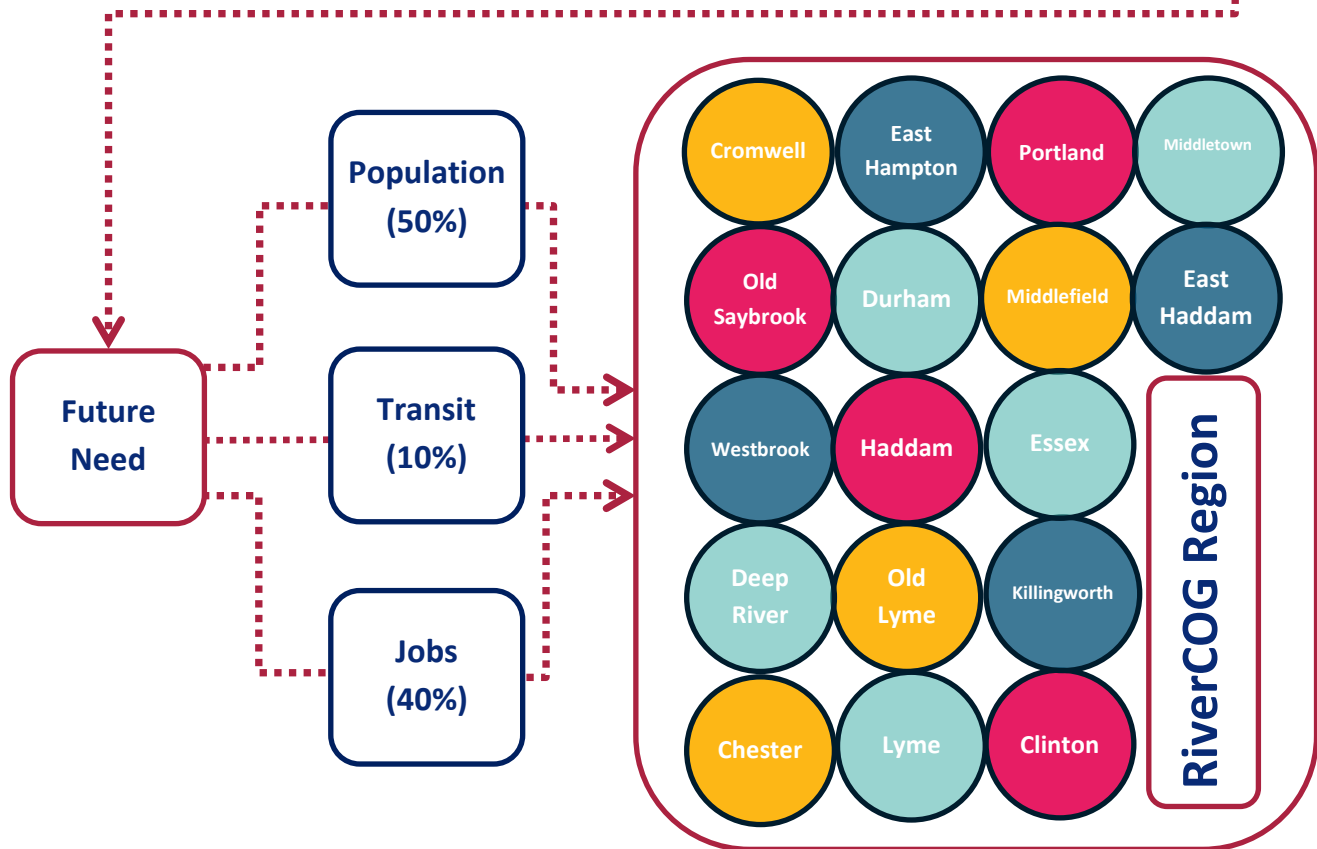
Final Methodology Framework

The final methodology is illustrated in the graphics below.

Determination of Need:

$$\frac{\text{Current Population}}{\text{Household Size}} + \frac{\text{Population Growth}}{\text{Projected Household Size}} - \text{Existing Units} + \text{Vacancy Rate} = \text{Future Need}$$

Allocation of Units:

Future Need

Population (50%)

Transit (10%)

Jobs (40%)

RiverCOG Region

Cromwell · East Hampton · Portland · Middletown · Old Saybrook · Durham · Middlefield · East Haddam · Westbrook · Haddam · Essex · Deep River · Old Lyme · Killingworth · Chester · Lyme · Clinton

The methodology was tested using 2020 and 2023 data for illustrative purposes. A Regional Housing Needs Assessment Calculator was created for this purpose. A detailed explanation of the Calculator and the results of the data testing can be viewed in the technical appendix. When the methodology is used for future planning efforts, the most recent data (from the sources identified through this process) will be used to calculate need and allocate units. Therefore, the numbers in the appendix do not represent a final needs assessment.

Key Takeaways

This methodology is a tool to assist municipalities in planning for a healthy housing market in a regionally coordinated way. It will be used in the update to the RHP and as a tool to give municipalities a reasonable target number of housing units to plan for.

Although the methodology uses a region-wide growth projection, every municipality will be asked to prepare for different levels of growth based on the agreed upon allocation factors (population, jobs, and transit). This will allow municipalities to "right-size" their planning approaches and better understand the scale of change they need.

There are no requirements for municipalities to build housing – it is understood that the market generally controls what gets built. The goal is for municipalities to ensure that their allocated units could be created under their regulations. There are no prescriptions for how this is done – new build, retrofit, adaptive reuse, accessory dwelling units, etc. – that is within the local purview. However, the updated RHP will provide recommendations and tools to assist with this process. Work on the next update will begin in late 2025.

Appendix A

Technical Documentation

Regional Housing Needs Assessment

Technical Documentation

March 2025

Lower Connecticut River Valley Council of Governments

Lower Connecticut River Valley Council of Governments

Introduction

This document describes the individual components of the RiverCOG Regional Housing Needs Assessment Calculator. The online calculator is a supplemental tool created to investigate the efficacy of the RHNA methodology and will be used to ascertain the RHNA allocation in future iterations of the Regional Housing Plan.

This document begins with a brief overview of static values. Then a brief description of the function of each user selected value within the online calculator. The remainder of this document will explore each equation used in the online calculator and describes each subsequent variable with notation for data sources when appropriate.

This resource is to be used as technical guidance for understanding the mechanisms used to derive value estimations for Future Regional Housing Units and any subsequent allocation models. This document and the examples used therein are not a recommendation or assertion of future housing need.

You can access the live tool by navigating to:
https://www.rivercog.org/housingcalculator

Direct Source Static Values

Current Household Size	Adjusted Census Data
Total Current Population	Census Table P1 - Total Population - 2020 DEC Redistribution Data (PL94-171) Census Table S0101 - ACS Age and Sex
Total Existing Units	Census Table DP04 - ACS Selected Housing Characteristics
Total Seasonal Units	Census Table B25004 - ACS Vacancy Status
Total Vacancy Units	Census Table B25004 - ACS Vacancy Status

Table 1: Direct Source Static Values

Current Household Size is a base value from the US Census for "**Persons Per Household**". This value may be adjusted using localized variables that impact the rate of household formation for a given geographic area. These variables are explained in greater detail in the Housing Market Study of the RiverCOG Regional Housing Plan (Adopted July 2022).

Total Current Population is the summation of **"Total Population"** for each county subdivision as recorded in Census Table S0101 of the American Community Survey 5 Year Estimates Subject Tables. The Decennial Census was substituted for the 2020 data as a more comprehensive and statistically significant source.

Total Existing Units is the summation of **"Total Housing Units"** for each county subdivision as recorded in Census Table DP04 of the American Community Survey 5-Year Estimates Data Profiles.

Total Seasonal Units is the summation of "Total" for each county subdivision as recorded in Census Table B25004 of the American Community Survey 5-Year Estimates Detailed Tables.

Total Seasonal Units is the summation of **"For seasonal, recreational or occasional use"** for each county subdivision as recorded in Census Table B25004 of the American Community Survey 5-Year Estimates Detailed Tables.

Calculated Static Values

Current Vacancy Rate	Percent vacancy for current housing units
Non-Seasonal Vacant Units	Total vacant units that are not seasonal units

Table 2: Calculated Static Values

Current Vacancy Rate is calculated by subtracting **Total Seasonal Units** from **Total Vacancy Units** and then dividing the difference by the **Total Existing Units**.

Non-Seasonal Vacant Units is calculated by subtracting **Total Seasonal Units** from **Total Vacancy Units**.

User Selected Values

These values are subject to change based on a variety of considerations for a given geographic area. The online calculator provides user selected fields with set value ranges to allow some flexibility in evaluating variations.

Healthy Vacancy Rate	Percent of total housing units that are unoccupied
Population Growth	Percent of total population change
Projected Household Size	Chosen coefficient of future household size
Year	Selection of Year for static values

Table 3: User Selected Values

Health Vacancy Rate is a selected value from 5% to 12% in 0.5% increments. The value represents the desired amount of unoccupied housing units.

Consideration for choosing a value
Choose a value that best maintains a healthy housing market both for first time home buyers and for the movement from currently occupied units.

Population Growth is a selected value from -3% to 3% in 0.5% increments. The value represents the expected total population change expressed as a percent.

Consideration for choosing a value
Choose a best estimate for the expected population change accounting for all births, deaths and migration. A negative value indicates population decline. A positive value indicates population growth. A value of 0 indicates no appreciable change.

Projected Household Size is a selected value from 1.5 to 3 in 0.1 increments. The current national average of 2.37 is also available. The value represents the estimated average household size.

Consideration for choosing a value
Choose a best estimate for the average number of persons occupying each housing unit based on expected household formation trends.

Year* is a selected value that will automatically adjust all direct source static values to reflect the respective source's data from that calendar year.

*Note as of writing CHFA region data does not change, but the tables will still update with changes to estimated future regional housing units.

The Determination Equation

This section will explore each component of the equation from the determination section of the online calculator using sample data. Please note that values may change in the online calculator as new data becomes available.

Estimated Future Regional Housing Units is comprised of two (2) components added together. Those components are built with sub-components that are derived from both calculated and static values.
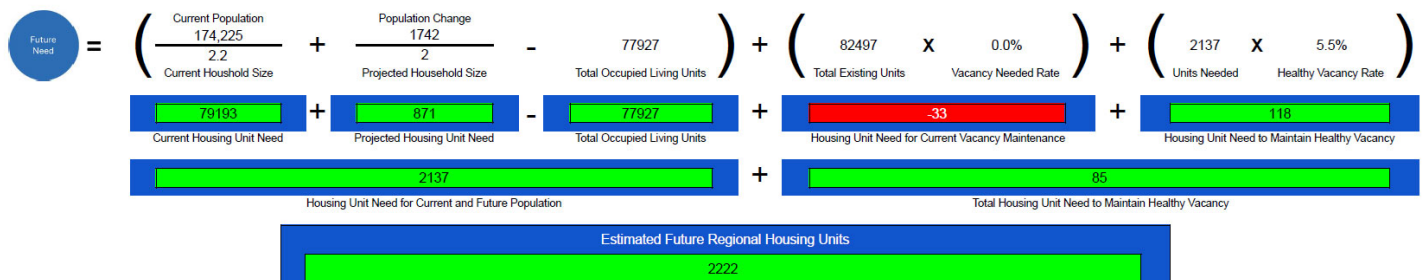

Figure 1: Example of the equation for Determination of Estimated Future Regional Housing Units

Housing Unit Need - Population

Housing Unit Need for Current and Future Population is step one of the determination equation. This component calculates the total housing units needed to match all households with a living unit. Refer to the figures in this document to help identify the respective values in the online calculator.

Housing Unit Need for Current and Future Population
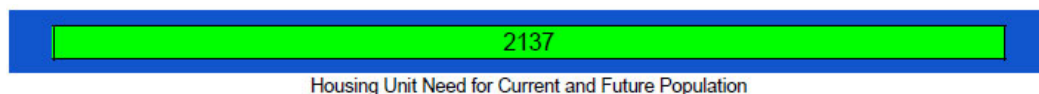
Figure 2: Example of Housing Unit Need for Current and Future Population

Housing Unit Need for Current and Future Population comprises of three (3) sub-components: **Current Housing Unit Need**, **Projected Housing Unit Need** and **Total Occupied Living Units**.
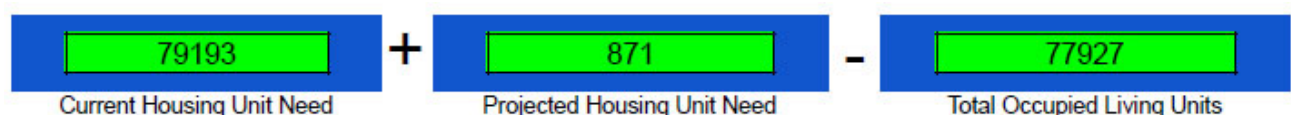

Figure 3: Example of Housing Unit Need for Current and Future Population sub-components

5

Housing Unit Need - Population

Current Housing Unit Need is calculated by dividing the static value for **Current Population** by the static value of **Current Household Size**.

$$\frac{\text{Current Population}}{\text{Current Houshold Size}} = \frac{174,225}{2.2}$$

Current Housing Unit Need: 79193

Figure 4: Example of the equation for Current Housing Unit Need

Projected Housing Unit Need is calculated by dividing the calculated value for **Population Change** by the user selected value for **Projected Household Size**.

Population Change is calculated by multiplying the static value for **Total Current Population** by the user selected value for **Population Growth**.

$$\frac{\text{Population Change}}{\text{Projected Household Size}} = \frac{1742}{2}$$

Projected Housing Unit Need: 871

Figure 5: Example of the equation for Projected Housing Unit Need
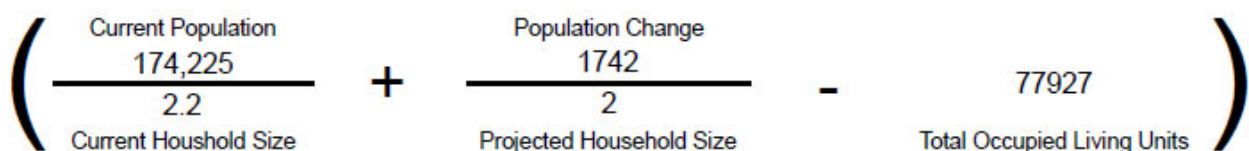
Total Occupied Living Units is calculated by subtracting the static value for **Non-Seasonal Vacant Units** from static value for **Total Existing Units**.

Total Occupied Living Units: 77927

Total Occupied Living Units: 77927

Figure 6: Example of the equation for Projected Housing Unit Need

Housing Unit Need for Current and Future Population is calculated by adding **Current Housing Unit Need** to **Projected Housing Unit Need** and then subtracting the **Total Occupied Living Units** from the resulting sum.

$$\left(\frac{174,225}{2.2} + \frac{1742}{2} - 77927 \right)$$

Figure 7: Example of the equation for Housing Unit Need for Current and Future Population

Housing Unit Need - Healthy Vacancy

Total Housing Unit Need to Maintain Healthy Vacancy is step two of the determination equation. This component calculates the total housing units needed to maintain a healthy functioning housing market. Refer to the figures in this document to help identify the respective values in the online calculator.
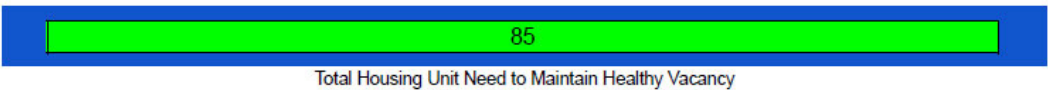

Figure 8: Example of Total Housing Unit Need to Maintain Healthy Vacancy

Total Housing Unit Need to Maintain Healthy Vacancy comprises of two (2) sub-components: **Housing Unit Need for Current Vacancy Maintenance** and **Housing Unit Need to Maintain Healthy Vacancy**.
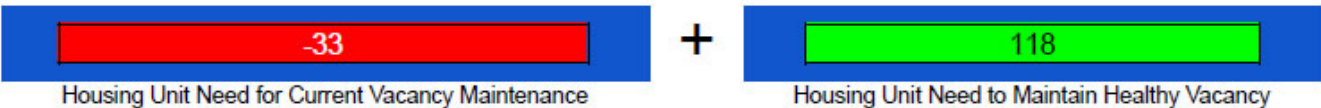
Figure 9: Example of Total Housing Unit Need to Maintain Healthy Vacancy sub-components

Housing Unit Need for Current Vacancy Maintenance is calculated by multiplying the static value for **Total Existing Units** by the calculated value for the **Vacancy Needed Rate**.

Vacancy Needed Rate is calculated by subtracting the static value for **Current Vacancy Rate** from the user selected value for **Healthy Vacancy Rate**.
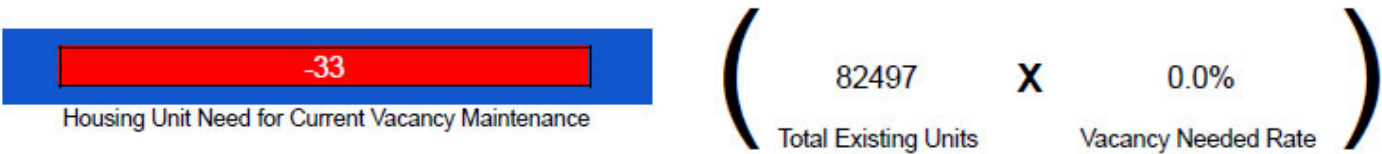

Figure 10: Example of the equation for Housing Unit Need for Current Vacancy Maintenance

Housing Unit Need - Healthy Vacancy

Housing Unit Need to Maintain Healthy Vacancy is calculated by multiplying the calculated value for **Units Needed** by the user selected value for **Healthy Vacancy Rate**.

Units Needed is equal to the calculated value for **Housing Unit Need for Current and Future Population** that was derived in step one of the determination equation. See figure 2 through 7 on pages 5 and 6.

Figure 11: Example of the equation for Housing Unit Need to Maintain Healthy Vacancy

Total Housing Unit Need to Maintain Healthy Vacancy is calculated by adding **Housing Unit Need for Current Vacancy Maintenance** to the **Housing Unit Need to Maintain Healthy Vacancy**.

Figure 12: Example of the equation for Housing Unit Need for Current and Future Population

Complete the Determination Equation

Estimated Future Regional Housing Units is calculated by adding step 1, **Housing Unit Need for Current and Future Population** to step 2, **Total Housing Unit Need to Maintain Healthy Vacancy**.

Figure 13: Example of the equation for Estimated Future Regional Housing Units

The resulting value is displayed at the bottom of the determination section of the online calculator. This figure is then manipulated to determine **Allocation by Town**, **Allocation by Region** and **Allocation by Regional Income Distribution**.

Figure 14: Example of Estimated Future Regional Housing Units

Allocation by Town

The allocation by town section takes the resulting value from the determination section and distributes the **Estimated Future Regional Housing Units** with respect to **Population**, **Jobs** and **Transportation**.

Population accounts for 50% of the total allocation. Using **Total** population estimates from Census Table S0101 of the American Community Survey 5 Year Estimates Subject Tables. The Decennial Census was substituted for the 2020 data as a more comprehensive and statistically significant source.

Methodology

From the Census data each town was assigned a value from **Total**.

Allocation was then calculated by taking percent **Total** population multiplied by a value equal to 50% of the **Estimated Future Regional Housing Units**. The complete data table is available in the **Data** tab of the online calculator.

Jobs accounts for 40% of the total allocation. Using **Where Workers are Employed ("Work")** estimates from the Census LEHD Origin-Destination Employment Statistics (LODES).

Methodology

From the **Area Profile Analysis by All Jobs** focusing on **Where Workers are Employed ("Work")** each town was assigned a value from **Total All Jobs**.

Allocation was then calculated by taking percent **Total All Jobs** multiplied by a value equal to 40% of the **Estimated Future Regional Housing Units**. The complete data table is available in the **Data** tab of the online calculator.

Allocation by Town

Transportation accounts for 10% of the total allocation. Allocation was determined via a mapping exercise that used town area coverage based on proximity to critical transit hubs.

Methodology

A one (1) mile buffer was established around the train station in Clinton, Old Saybrook, Westbrook and the bus terminal in Middletown. That buffer was then weighted at a static value of 5 and converted to a raster with a uniform spatial resolution of 45 feet. Zonal statistics for sum was performed to assign a total coverage value to each town in the region.

Allocation was then calculated by taking percent total area coverage from the zonal statistics table multiplied by a value equal to 10% of the **Estimated Future Regional Housing Units**. The complete data table is available in the **Data** tab of the online calculator.

Allocation by Market Area

The allocation by market area section takes the values from the Allocation by Town Table and groups the figures into market areas as defined in the Housing Market Study of the RiverCOG Regional Housing Plan (Adopted July 2022). This divides the region into the **North Market Area**, **Interior Market Area**, and the **Shoreline Market Area**.

North Market Area is calculated by taking the sum of the values for Cromwell, East Hampton, Middlefield, Middletown and Portland for each corresponding column in the Allocation by Town Table.

Interior Market Area is calculated by taking the sum of the values for Chester, Deep River, Durham, East Haddam, Haddam, Killingworth, and Lyme for each corresponding column in the Allocation by Town Table.

Shoreline Market Area is calculated by taking the sum of the values for Clinton, Essex, Old Lyme, Old Saybrook, and Westbrook for each corresponding column in the Allocation by Town Table.

Allocation by Regional Income Distribution

The allocation by regional income distribution section takes the resulting value from the determination section and distributes the **Estimated Future Regional Housing Units** across five (5) household income categories.

The household income categories are HUD Area Median Family Income (HAMFI) using the custom tabulations in the Comprehensive Housing Affordability Strategy (CHAS) developed from decennial Census data by the U.S. Department of Housing and Urban Development (HUD). These categories can be seen in the below table and are also available in the **Data** tab of the online calculator.

Regional Income Distribution Overview	Regional Households	% Of Total
Household Income <= 30% HAMFI	8,830	12.27 %
Household Income >30% to <=50% HAMFI	7,570	10.52 %
Household Income >50% to <=80% HAMFI	12310	17.11 %
Household Income >80% to <=100% HAMFI	6700	9.31 %
Household Income >100% HAMFI	36,530	50.78 %
Total	71,940	100.00 %

Table 4: Household income categories from CHAS Data for the RiverCOG Region

From the CHAS data the above table was calculated to get a percent total for the entire region. Then the same calculation was performed for each town. Those results are available in the **Data** tab of the online calculator. For each income category the difference between the percent total of the region and the percent total of the town was calculated to get a percent change value.

Disclaimer

This exercise does not suggest a need for specific housing types or to suggest that income categories must adhere to specific housing types. This exercise is intended to show areas of potential need in the context of potential affordability. This may or may not reflect realized development after market and suitability factors are applied.

An ideal distribution of household income cannot be defined. This calculator produces adjustment values that seek to normalize town distribution to regional distribution. The reason for this methodology is to improve the likelihood that an individual of any household income category will have the ability to choose which town in the region they would prefer to live.

Allocation by Regional Income Distribution

A positive value suggests a town would need to prioritize more units desired by individuals in a given household income category to better resemble the regional distribution.

A negative value suggests that a town would need to prioritize less units desired by individuals in a given household income category to better resemble the regional distribution. A negative value will never indicate that a town needs to remove housing to meet an arbitrary standard.

Please note that this section does not change the total units allocated by town.

For each town values were calculated to show how the allocation could be distributed amongst income categories. The tables on the Regional Income Distribution tab of the online calculator show a **Status Quo** value, an **Adjusted** value and a **Change** value.

Income Category	Status Quo	Adjusted	Change
Less than 30%	9	9	0
30% to 50%	4	8	4
50% to 80%	9	13	4
80% to 100%	9	7	-2
Greater than 100%	45	38	-7
Total	75	75	0

Table 5: Sample Regional Income Distribution Table

Status Quo is calculated by taking the **Total Allocation** from the Allocation by Town Table multiplied by the percent of total for each household income category of the associated town. The values indicate the housing need by income category for the estimated future allocation with no change to current household income distribution.

Adjusted is calculated by taking the **Total Allocation** from the Allocation by Town Table multiplied by the percent of total for each household income category of the region. The values indicate the housing need by income category for the estimated future allocation while adjusting to the regional average.

Change* is calculated as the difference of Status Quo and Adjusted.
*Note that some rounding errors may occur, but total units remains unchanged.