



# **Regional Housing Needs Analysis**

**June 2006**

## Introduction

This report summarizes the results from an initial run of the Housing Needs Model developed by Richard Bjelland, housing analyst with the Oregon Housing and Community Services Department. In order to maintain a regional outlook, the decision was made to run the Housing Needs Model as a single compilation for all 10 cities in the Regional Growth Concept area. Additional work can be undertaken using the model to produce more specific data for individual communities, if desired (as described in Next Steps section).

The first several pages describe how the regional inputs were derived, and what assumptions were used. Following that, we've attached Mr. Bjelland's description of the model, beginning on page 6. And lastly, a number of the tables and graphs from the model itself are attached, which will be referred to throughout the narrative portion.

But first, it's important to understand that this model is fundamentally different from the traditional "market trends" approach commonly used to predict future housing "demand". As described more fully in Mr. Bjelland's attached paper, this housing needs model is based on the assumption that housing should be "affordable" (i.e., "no more than 30% of a household's income should be spent on housing costs"). The model uses household-income brackets to establish corresponding categories of affordable housing values. It is important to remember that these categories are not intended to reflect market prices or availability, but simply to reflect what is deemed affordable to households within the different income brackets.

The model also allows these categories to be adjusted up or down to reflect the effect of high or low mortgage rates, which have a strong influence on housing affordability. A middle set of value classes is based on historical average mortgage rates. These "price points" are as follows (expressed in thousands of dollars):

<u>High (mortgage rates are low)</u>	<u>Historical</u>	<u>Low (mortgage rates are high)</u>
<60k	<56.7k	<50k
60k <90k	56.7k <85k	50k <75k
90k <120k	85k <113.3k	75k <100k
120k <150k	113.3k <141.7k	100k <125k
150k <225k	141.7k <212.5k	125k <187.5k
225k+	212.5k+	187.5k+

For the regional model run described here, we used the historical average set of value classes.

For this model run, we used a base year of 2000 and a future year of 2025. The total UGB populations for those two years (shown on Templates 1 and 2 of the model) were taken directly from the table of Proposed Coordinated Population Allocations. Using these Regional Growth Concept assumptions for total population and for future household size, the model was run to develop an approximation of housing needs in the region for the year 2025. The 2025 timeframe is in response to the state requirement for a 20-year land supply within UGBs.

## **Model Inputs for the Region**

### *Base-Year Demographic Distribution*

The model assigns all households (HHs) in the study area into 7 age brackets, each of which is further broken down into 7 income brackets, resulting in 49 Age-Income “cohorts”. For the regional compilation, the HH-distribution factors for these cohorts (which appear on Template 3 of the model) were calculated as weighted averages (weighted by population) from the individual city templates provided by Mr. Bjelland. These distributions, combined with the tendency of each cohort to own or rent (see attached paper for more information on those factors), result in the calculated needs shown on Templates 4 and 5 and on Graphs 1 and 2. Again, these “indicated” housing needs are based strictly on income and affordability.

### *Out Factors*

The model uses Out Factors on Template 5 to represent the percentage of households in each income bracket who will choose to live in a lower cost level than the higher level they could afford. The instructions for the model state that these estimates should not be based on supply-side constraints, i.e. not enough housing in a given price range, but should be based solely on preference.

Approximate numbers were generated for this variable by doing a comparison of the total population in a given income bracket to the total population living in units at a given price range, as reflected in Census data. 30% of annual income was used to determine what would be affordable to each income bracket. At the low end of rental and mortgage rates, none of the population “prefers” to live in a lower-cost unit because no lower categories are available. The percentages of those households choosing to live in a lower cost unit increase as income increases and additional lower-cost categories become available.

### *Tenant Vouchers*

Another adjustment that appears on Template 5, these numbers were drawn from the Eugene-Springfield Consolidated Plan 2005: Housing, Homeless, and Community Development. Because the voucher totals cited in that Plan are county-wide, they were reduced somewhat to reflect the fact that this model run does not include the entire county.

### *Current Housing Inventory*

The input housing inventory (Template 6) was compiled using regional GIS data. The total numbers of dwelling units and the various breakdowns needed for model input, as described below, were based on the numbers of units according to GIS data in mid-2000, along with their assessed values on record and owners on record in mid-2000. The model requires the current inventory of housing to be categorized by both unit type and value class.

### *Dwelling Unit Values*

Data from the Lane County Assessment and Taxation, carried on the regional GIS, were used to determine the total assessed value (land value plus improvement value) for each taxlot (as of mid-2000). The total assessed value was divided by the total number of units on each taxlot to derive value per unit for each dwelling unit. Based on those unit values, each dwelling unit was assigned to one of the six value classes needed for model input. Maps showing distributions of value classes

were generated to visually confirm the results of this approach. These maps are themselves a useful by-product of the analysis.

In addition to the tenant voucher adjustments describe above, 1000 multi-family (5+) rental units were moved into the lowest rent category to reflect the housing units actually owned by various housing agencies in the local area, where rents are kept low through subsidy programs other than tenant vouchers.

### *Dwelling Unit Types*

The regional GIS data used for the Current Housing Inventory provide information about dwelling-unit type, e.g. Single Family, Duplex, Multi-Family, Mobile or Manufactured Home in a park (Mobile/Mfg in park), and Mobile or Manufactured Home on an individual lot (Mobile/Mfg. on lot). Those types were assigned to the five dwelling-unit types used in the housing needs model as follows:

- **Single Family Units** = Single Family plus Mobile/Mfg. on lot
- **Manufactured Dwelling Park Units** = Mobile/Mfg in park
- **Duplex Units** = Duplex
- **Tri-Quadplex Units** = Multi-family units were broken out into the model's "Tri-Quadplex" and "5+ Multi-Family Units" categories based on more detailed GIS use codes. Condos/Townhouses were assumed to fall into the Tri-Quadplex category.
- **5+ Multi-Family Units** = Multi-family units were broken out into the model's "Tri-Quadplex" and "5+ Multi-Family Units" categories based on more detailed GIS use codes.

### *Rental vs. Ownership Status (Tenure)*

As described more fully in the attached paper, the model uses a set of factors to predict the tendency of households in each of the 49 age-income cohorts to choose between owning vs. renting (also known as tenure choice). Likewise, the model requires that the input housing inventory be segregated into owner-occupied units and rental units. The determination of rental vs owner-occupancy is a very time-consuming and somewhat uncertain process. We used a parcel-by-parcel comparison between GIS site addresses and the owner addresses from the assessment records for each taxlot to make these determinations.

Owner house numbers and street names were parsed from assessment and taxation owner addresses. On taxlots where both of these fields matched the corresponding fields from the site address, dwelling units were flagged as owner-occupied. Units with owner addresses from other states or other cities in Oregon outside of Lane County were flagged as rentals. All multi-family units in structures with five or more units were assumed to be rentals. Addresses that included post office (P.O.) boxes and others that could not be determined were flagged as unknowns. This can be problematic in small communities where a large proportion of residents use P.O. boxes.

Units with a clearly definable tenure status (owner-occupied or rental) were summarized into separate value-by-type matrices. Owner/rental ratios established from these units with known tenure were then used to allocate units with unknown tenure in each value/type category into one matrix or the other. Again, maps were generated displaying unit value-classes for rentals vs. owner-occupied units to provide visual confirmation. The resulting owner-occupied matrix was used to populate that input table in the model (the lower half of Template 6).

### *Rental Rates*

The determination of rental rates was based on a very simplistic assumption that monthly rents are equal to 1% of unit value, *i.e.*, a unit valued at \$75,000 would rent for \$750 a month. Based on that assumption, dwelling units were assigned to the six rent-rate classes needed for the model input, again based on the affordability assumption that no more than 30% of a household's income should go to housing costs. Known rental units, as determined according to the methodology described above, were divided into the rent-class-by-unit-type matrix needed as model input. Units with unknown tenure that had been allocated to the rental inventory, as described above, were then allocated into the matrix based on the proportions of known rentals of each type and rent class, and then loaded into the top half of Template 6 of the model.

### *Future-Year Demographic Distribution*

The future HH-distribution factors for the 49 Age-Income cohorts (which appear on Template 9 of the model) were based on expected changes within each age bracket, reflecting overall aging of the population and other changes due to in-migration, births, and deaths. These projections were developed by the Oregon Office of Economic Analysis. Changes within each age bracket were allocated across the income sub-brackets based on current shares of those income sub-brackets within each age bracket.

### *Future Housing Units Planned by Housing Type*

For this initial run of the model, the future mix of housing types in each value category (Template 12) was simply based on the same percentages as the current inventory. Additional work can be done with each community to investigate the effects of assuming different mixes of type and price point.

## **Results**

The attached tables and graphs display inputs and results from our initial model run for the 10 combined UGBs. Two of the most useful outputs are perhaps the Current Unmet Housing Needs table (Template 7, also referred to as the Current Supply Gap) and the Future Housing Needs graphs (Graphs 4 and 5).

The Current Supply Gap (Template 7) shows the existing un-met demand for (or surplus of) dwelling units by tenure and value class. The table indicates that there is a significant under-supply at the most-affordable end of the spectrum for both rental units and home ownership, and a corresponding over-supply (surplus) in the next-higher price ranges, which may reflect the market's tendency to force households to "stretch" themselves into a price level that cost-burdens them to some degree. Remember that the price-point classifications used in this model are not meant to be predictors of what is available on the market, but are based strictly on the affordability of housing for households in the various income brackets.

Like the current supply information, the Future Needs data are organized by tenure, value, and type. Templates 10 and 11 and Graphs 4 and 5 display the future housing-unit needs calculated directly from the future household age-income distribution factors (just like Templates 4 and 5 and Graphs 1 and 2 did for current-year households). Graphs 6 and 7 show the future needs for additional (new) units by tenure and price category.

## **Next Steps**

The model also contains a number of additional templates and graphs related to land supply and future land needs, which we have not yet utilized. Communities can work with the model, in conjunction with their land supply information, to determine the mix of housing types and prices that would best meet the predicted needs of their own future households.

# The Housing/Land Needs Model

## A Housing and Land Needs Analysis Methodology and Model<sup>®</sup>

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### Synopsis

This article describes a methodology and resultant model for determining housing and land needed for that housing in accordance with Oregon’s Land Use Planning Goals. A study area’s current and projected demographics, existing housing inventory, and regional tenure choices drive the model’s results. The model’s output includes needed housing units by tenure (owning versus renting), price point, and housing type as well as the acreage needed by land use zone. It generates current unmet needs as well as future housing needs and will automatically produce tables and graphs of model results for presentation and report uses.

### Background

Oregon has been in the forefront of land use planning in the United States and was the first state to employ the concept of an urban growth boundary to direct growth patterns around cities. Since 1973, Oregon has maintained a strong statewide program for land use planning. The foundation of that program is a set of 19 statewide planning goals. The goals express the state’s policies on land use and on related topics, such as citizen involvement, housing, and natural resources.

Oregon’s State Land Use Planning Goal 10—the Housing goal—provides direction and guidance to the state and its city governments about how to plan for balanced housing opportunities in Oregon communities. A key part of Goal 10 links a community’s income characteristics to determining the need for various housing types by price, density, and location throughout the community.<sup>1</sup> A good data base and statistical methodology is essential for conducting a community’s Goal 10 housing needs analysis. However, over the years many communities have had difficulty developing and maintaining the data needed to conduct a complete housing needs analysis. Furthermore, methodologies have varied widely as to their capabilities and capacities to incorporate Goal 10’s requirement to factor household income into a housing needs analysis. The consequence has been that many cities’ acknowledged Goal 10 work is based on past market demand and trend lines, instead of current and projected need as called for under Goal 10.

Oregon Housing and Community Services (OHCS) and the Department of Land Conservation and Development (DLCD)—the administrative arm of the Land Conservation and Development Commission (LCDC)—began discussing the various data and methodology gaps in implementing Goal 10 several years ago when it became apparent that many Willamette Valley cities undergoing periodic review would benefit by an improved methodology. The Community Solutions Team—a cabinet level group formed by Governor John Kitzhaber from the five primary infrastructure state

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<sup>1</sup> Goal 10 states that “plans shall encourage the availability of adequate numbers of needed housing units at price ranges and rent levels which are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type and density.”

agencies in Oregon—joined with 12 Linn and Benton County jurisdictions to study the region’s housing and economic development patterns as part of an enhanced periodic review project. This project produced an extensive housing and economic development database for the region and each of its participating cities. However, it did not provide an easy solution to the Goal 10 link between household income and housing cost. In response, OHCS and DLCD staffs began work in early 2000 to develop a methodology and model for determining housing needs.

### **Methodology Development and Model Design Approach**

A guiding principle in the development of The Housing Needs Model was that the methodology for calculating housing needs was to be driven by the demographics of the study area as opposed to the past trends in housing production. The standard practice in Oregon has been to extrapolate forward the past 5 or more years in housing production as the basis for determining a region’s future housing requirements. “Demand” or market supply was assumed to be equivalent to “need”.

While this market or demand driven approach was commonly used to define the housing “needs” for an area, the true housing “needs” of that area’s population may not have been addressed. Tenure, price, and housing type choices are used in determining housing “needs” in this model. Local housing markets are frequently not a “perfect” market where the “demand” or supply is in equilibrium and balance with the “need”. In many regions, the new housing supply is a function of what the local builders are inclined or able to produce, which may not be what the households in the region actually need or desire and can afford, *i.e.*, not be cost burdened.<sup>2</sup>

Goals for the model design included the following:

- The model structure should be built around individual modules for each analytical component through the use of Excel templates.
- Model modules should handle all calculations and require minimum input by user.
- Data needed to drive the model must be available.
- Data gathering requirements for each locality should be minimized.
- Parameters in the model should be easy to update and modify.
- The model should be a user-friendly tool for city staff or interested parties.
- The model should allow users to easily test out different growth scenarios.
- The model should automatically produce tables and graphs that can be used as printed material for public dissemination of model results.
- The model should reflect local conditions and characteristics.
- The model should work for any size city and location.
- The model should accommodate interaction with other planning goals.
- The model should be flexible and have a variety of uses beyond satisfying Goal 10.

### **Summary of Methodology and Model**

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<sup>2</sup> A housing affordability rule of thumb is that the proportion of a household’s income spent on rent or mortgage payments and other housing expenses should not exceed 30%; if it is, the household is classified as “cost burdened”.

The Housing Needs Analysis model and its templates are based on a methodology that uses the demographics of a study area in conjunction with current regional housing tenure data to calculate the housing needs for that study area. For purposes of Goal 10, a study area typically includes the city's incorporated territory (for the current year projection) and all territory within the urban growth boundary (for the future year projection). Demographic information for potential Oregon study areas have been compiled from several sources including the U.S. Bureau of Census Census 2000 data, Portland State University Population Research Center projections, and Claritas, Inc data. The model was designed to use Census 2000 and other updated data, as it becomes available.

A critical step in the development of this model was the identification of those demographic variables that would be highly correlated with housing needs. After researching various demographic variables and their usefulness in predicting housing tenure, two variables—age of head of household (*Age—A*) and household income (*Income—I*)—demonstrated significantly stronger correlation with housing tenure than other variables including household size and were selected as the primary demographic variables for the model. In addition, household income is the key variable in determining the affordability component of housing needs. These two variables also met an important requirement—there must be a source for this data for each potential study area.

Data gathered during research on model development verified that dissimilar Age/Income (AI) cohorts make significantly different housing tenure choices. Analysis of the data established that the use of seven Age and seven Income ranges would enhance the sensitivity and accuracy of the model. The seven *Age* ranges are under 25, 25-34, 35-44, 45-54, 55-64, 65-74, and 75 and older and when combined with seven *Income* ranges create 49 *AI* cohorts.

A major assumption in the model is that housing need is defined by cohort tenure choices and is equivalent to the actual cohort tenure data found within a large regional area. While the local supply of rental versus ownership housing may not be in equilibrium with tenure need in some markets, it is assumed that on a larger regional basis it is in equilibrium. The initial version of the model used all of Oregon as the regional area for parameter calculation and assignment. An examination of the Census 2000 data demonstrated that significantly different housing choice decisions were being made in urban oriented communities as compared to rural communities and these differences were also correlated with the size of the community. After research on this issue, three categories of Oregon communities were defined and model parameters were calculated for each of the categories. There are now three versions of the model—Version U for communities that are either urban, college oriented, or resort oriented; Version M for rural communities between the size of 6,750 and 22,500; and Version S for rural communities under 6,750 in population.

Table 1 contains the Homeownership percentages derived from Census 2000 data that is currently used in the Version U and Version S models. This table illustrates the strong correlation between age and income in determining tenure choice that is found in all three models and the different tenure choices made by same cohort households in these communities.

**Table 1**  
**Homeowner Percentage Tenure Parameters**  
**by Age of Head of Household and Household Income**

Version U							
	15-24	25-34	35-44	45-54	55-64	65-74	75+
<10k	2.9%	7.9%	16.0%	25.0%	43.0%	46.1%	40.0%
10<20k	3.6%	12.7%	25.0%	37.0%	47.0%	61.0%	56.2%
20<30k	6.0%	16.6%	36.0%	45.0%	54.0%	73.2%	67.1%
30<40k	7.9%	23.9%	48.0%	53.7%	60.0%	74.4%	70.1%
40<50k	10.8%	32.9%	58.1%	62.4%	80.0%	91.0%	84.0%
50<75k	22.5%	49.9%	72.0%	82.9%	88.6%	92.1%	91.2%
75k+	32.0%	75.0%	83.0%	92.0%	96.0%	97.0%	93.0%

Version S							
	15-24	25-34	35-44	45-54	55-64	65-74	75+
<10k	7.4%	30.9%	32.1%	40.4%	59.2%	64.9%	63.2%
10<20k	17.0%	36.4%	40.1%	55.7%	66.4%	74.9%	73.9%
20<30k	24.9%	40.1%	52.0%	70.1%	73.0%	89.9%	83.9%
30<40k	35.1%	48.2%	64.1%	75.1%	83.1%	91.9%	86.9%
40<50k	40.9%	57.0%	73.0%	80.1%	89.1%	93.0%	87.9%
50<75k	44.8%	75.0%	84.0%	86.1%	92.1%	94.5%	88.0%
75k+	49.2%	86.0%	87.9%	91.1%	94.1%	95.0%	88.0%

Parameters derived from Census 2000 data taken from Summary File 3

The other principal assumption is that housing that is at “price ranges and rent levels commensurate with the financial capabilities of Oregon households” means that no more than 30% of a household’s income should be spent on housing costs, *i.e.*, is affordable. The seven **Income** ranges in conjunction with the 30% limit on housing costs established the price ranges and rent levels used in the model to calculate the housing units needed at each price point. The price ranges for ownership units in the model can be automatically adjusted to reflect projected levels of mortgage interest rates during the study period. Interest usually constitutes a significant portion of ownership costs and the price one can afford to pay for a housing unit is inversely related to the mortgage interest rate on that unit. Thus the model’s ownership price points reflect the potential variation in housing prices that would be affordable for each **Income** range as a result of three possible scenarios of mortgage interest rates—low, historical average, or high—corresponding to rates of 6% to 12% over a planning time frame.

### **Model Structure**

The design of the model involved creating a series of modules (Excel templates), each reflecting the different steps needed to conduct a housing and land needs analysis that is based on the previous criteria. The resulting model resides in an Excel file that has up to 21 worksheets containing 19 templates, 11 graphs, and miscellaneous tables. The model examines housing and land needs for two time periods—an analysis of current housing needs and an analysis of estimated needs based on a planning period end date.

## Current Housing Status Analysis

The model first calculates the total number of housing units needed for the planning period by utilizing:

- population estimates,
- number of people in group quarters,
- number of occupied housing units and/or number of households,
- average household size, and
- desired vacancy rate for the study area.

The population estimate, people in group quarters, and occupied housing units or number of households (which equal each other) are taken from Census data for the current year and drive the *Description of Current Housing Status* template. Vacancy data for this template may be derived from the Census or from local sources.

The number of households in each **AI** cohort for the study area is calculated in the model by utilizing Census data to calculate the percentages of households in each city that are in the 49 **AI** cohorts. The model uses percentages to reflect the **AI** cohorts of each city as opposed to raw numbers as percentages allows easier adjustments for projections of different time frames within that city and for comparisons to other communities. Users can quickly test different scenarios of the future by varying the estimated population and/or the percentage distribution of the 49 **AI** cohorts. The **AI** cohort percentages have been calculated for every Oregon city and are entered into the model before being delivered to a user.

The Census generated tenure parameters used in the model represent the probabilities of either being a renter or homeowner for each of the 49 **AI** cohorts. Based on these tenure parameters, the model allocates those households in each **AI** cohort to an indicated number of rental and ownership units at the price point that is affordable for the **Income** range for that cohort. The model then adjusts each of the 49 cohort numbers of ownership units to reflect that many homeowners have paid off their mortgages and therefore can “afford” a higher priced unit than their income would otherwise indicate. Census data was used to determine the percentage of homeowner households in each cohort that owned their homes free and clear. The model then aggregates the units for each different price point to show the total units that could be afforded at each price point by tenure.

Price points for housing units were calculated on the basis that housing costs should take no more than 30% of the household’s income, *i.e.*, a household with \$30,000 in income could afford to pay  $\$30,000 \times .3 / 12 = \$750$  per month for housing. This assumption resulted in a range of monthly housing costs that would be ‘affordable’ for each **AI** cohort. Monthly rent ranges were calculated for each **Income** category after subtracting out estimated costs for utilities. Ownership price points were calculated for each **Income** category as discussed earlier and were based on examining the typical housing costs associated with owning a home with mortgage rates that varied from 6% to 12%. These rates resulted in affordable price ranges that were approximately 2.5-3 times annual household income. Thus 2.5 and 3 times annual income factors are used to determine two of the three affordable ownership price ranges for ownership units. The average historical interest rate was used to arrive at a third ownership price range.

The next step in the model attempts to simulate the real world where some households choose to live in a unit at a lower price point than the price point that they could afford. When they do, they remove that unit from the supply of units needed for those households who could only afford that price point. Therefore, adjustment factors to the indicated number of housing units that could be afforded at each price point are utilized in this part of the model to arrive at the final estimate of needed housing units. These adjustment factors represent the percentage of households who could afford that cost level but choose a lower cost unit (***Out Factor***) offset by households who could afford a higher cost unit but choose this cost level (***In Factor***). The determination of localized adjustment factors for each price point is left to the user in each study area although base line adjustment factors are being developed through input from various sources.

An additional off-setting variable to the Out Factor is the estimated number of units which are rented to households who could only afford to live in those units and not be cost burdened due to tenant-based subsidies that the household receives such as a Section 8 voucher that pays the difference between the market rent and what the tenant could afford. The total units inputted for this factor at each relevant price point represents the estimated number of households who pay only that amount of rent out of their own funds with the balance of the market rent coming from the tenant subsidy.

The last step in the current housing status part of the model utilizes information on the existing housing inventory in conjunction with the current housing units needed by tenure and price point to determine whether current needs are being met, and if not, where and how large are the gaps. Each community will need to develop data on their current housing inventory for input into the *Current Inventory of Dwelling Units* template. The existing inventory of units would be placed into the five housing types that have been established for use in the model. Each of these housing types can be owner occupied or renter occupied.

The five classifications of dwelling units are:

- Single Family Units—either site built or manufactured single family dwellings on their own lot
- Manufactured Dwelling Park Unit—a single family dwelling unit located in a rental park
- Duplex Unit—a two-family dwelling unit located on its own lot
- Tri-plex or Quad-plex Unit—a three or four-family dwelling unit
- 5+ Multi-family Unit—dwelling units in buildings with 5 or more units per building

These five classifications were selected to facilitate the use of the model output for both land use planning purposes and housing needs assessments by housing type. The future need for housing units by housing type drive the determination of land needed based on the planned density of the land use zones associated with each housing type.

### **Future Housing Status Analysis**

In order to determine the future housing needs for a projected population, users of the model must estimate the demographic composition of that population and make some assumptions regarding their housing type choices by price point. Entering the future ***AI*** cohort percentages will automatically produce the number of future total units indicated by price point and tenure. After the future ***Out***

*Factors* are entered, the model calculates the future total units needed by price point and tenure. **These numbers are the basis for the principal planning effort involved in using the model—determining the appropriate allocation of housing types to meet the identified housing needs for that community.** This allocation process will take place by completing the *Future Housing Units Planned by Housing Type* template. This template uses percentages of the five housing types as the means to allocate the needed units.

If the *Current Inventory of Dwelling Units* template has been completed and the Housing Units Planned allocation data entered, the model will calculate the number of new units needed by price point, tenure, and housing type to bring the market into balance with the projected need at the end of the planning period. The model summarizes the new needs by housing type, which can then be used by the community to drive their land use planning and housing policy decisions.

The land use module can utilize the buildable lands inventory cities are required to gather to input the data needed for the *Buildable Lands Inventory for Housing* Template. The *Existing Housing Units by Land Use Type* template calculates the percent of the housing inventory that exists by housing type and land use type. The *Projected Distribution of New Housing by Land Use Type* template is used to allocate the new housing units needed to the land use zones that accept that housing type. Based on the planned density for each land use zone, the model calculates the land needed for the new housing and determines whether additional land is needed for each land use zone.

### **Uses of the Methodology and Model**

Different scenarios can be run on the model to test out various assumptions about the study area and its future economic development and/or demographic composition. For each scenario run for the study area, the model and its underlying methodology will generate a series of tables and graphs that represent the model's outputs.

A city in Periodic Review would use the model to determine its Goal 10 housing and associated land needs by comparing the model projections to its existing housing stock or inventory. Current information about the city's housing price structure by location, type and density should be matched against the model data to determine what actions should take place to meet needed housing requirements. Actions include making applicable changes to the comprehensive plan's text, policies, and land use diagram including the Urban Growth Boundary; the zoning ordinance; housing programs; implementation strategies; and timetables.

Besides benefiting state agencies and city governments who work directly to implement Goal 10 and housing programs, results of the model should assist a number of other public, private and non-profit organizations as they deal with housing in Oregon. Results of the model will help OHCS and the non-metro entitlement areas in implementing the state's Consolidated Plan. The model can be a tool for housing developers and sponsors to identify unmet housing needs. Lending institutions, non-profit and for-profit housing developers and homebuilders, and housing advocates should all benefit by using information that results from the model. The model design allows for easy modification of its parameters for use in other regions of the United States by incorporating tenure choices appropriate to their area.

**Housing Needs ©**  
**For Regional Growth Concept Area**  
**Scenario Combined UGBs**  
**Template 1**  
**Current Housing Status**  
**as of April 2000**

CA Current Population	CB Persons in Group Quarters	CC Occupied Dwelling Units* / Households	CD Persons per Household	CE Vacant Units	CF Current Total Dwelling Units**	CG Current Vacancy Rate
Actual or estimated	Actual or estimated	Actual or estimated	(CA-CB)/CC	Actual or estimated	CC+CE	CE/CF
249,321	7,418	107,296	2.255	5,000	112,296	4.45%

\* Number of non-Group Quarter Occupied Dwelling Units = Number of Households

\*\* Excludes Group Quarter Dwelling Units

x,xxx	Actual or estimated data for this planning area that is used as input to the Housing Needs Analysis model formulas
###	A number produced by the Housing Needs Analysis model templates reflecting the data, assumptions, and estimates used for this scenario's time frame

**Template 2**  
**Projected Future Housing Status**  
**as of 2025**

FA Future Population	FB Future Persons in Group Quarters	FC Future Persons per Household	FD Future Occupied Dwelling Units*	FE Current Total Dwelling Units	FF Dwelling Units Removed	FG New Dwelling Units Needed**
Estimated	Estimated	Estimated	(FA-FB)/FC	CF	Estimated	FD-FE+FF
337,082	10,236	2.24	145,913	112,296	2,500	36,117

\* Number of non-Group Quarter Occupied Dwelling Units

\*\* Excludes Group Quarter Dwelling Units

**Template 3**  
**Dwelling Unit Needs Indicated by Tenure Choice and Affordable Cost ©**  
**For Regional Growth Concept Area as of April 2000**  
**Scenario Combined UGBs**

Cohort		Tenure		HHs in Cohort as % of all HHs	AI Cohort HHs	Units Indicated by Housing Tenure		Rent Range (Note 1)	Price Range (Note 1)	Units Indicated Adjustment for HHs Without Mortgages		
Age	Income (Note 1)	Renter %	Homeowner %	107,296	Number	Rental	Owned			% of HHs (Note 2)	Owned Units Out	Remaining Units
<25	<10k	97.1%	2.9%	4.0401%	4,335	4209.2	125.7	0 - 199	<28.3k	20%	25.1	100.6
	10k <20k	96.4%	3.6%	2.8815%	3,092	2980.4	111.3	200 - 429	28.3k <56.7k	20%	22.3	89.0
	20k <30k	94.0%	6.0%	2.1536%	2,311	2172.1	138.6	430 - 664	56.7k <85k	15%	20.8	117.8
	30k <40k	92.1%	7.9%	1.2432%	1,334	1228.5	105.4	665 - 909	85k <113.3k	15%	15.8	89.6
	40k <50k	89.2%	10.8%	0.8944%	960	856.0	103.6	910 - 1149	113.3k <141.7k	8%	8.3	95.3
	50k <75k	77.5%	22.5%	0.6933%	744	576.5	167.4	1150 - 1764	141.7k <212.5k	5%	8.4	159.0
	75k+	68.0%	32.0%	0.1870%	201	136.4	64.2	1765+	212.5k+	5%	3.2	61.0
25 <35	<10k	92.1%	7.9%	2.1641%	2,322	2138.5	183.4	0 - 199	<28.3k	20%	36.7	146.7
	10k <20k	87.3%	12.7%	2.8062%	3,011	2628.6	382.4	200 - 429	28.3k <56.7k	20%	76.5	305.9
	20k <30k	83.4%	16.6%	2.8828%	3,093	2579.7	513.5	430 - 664	56.7k <85k	15%	77.0	436.4
	30k <40k	76.1%	23.9%	3.0483%	3,271	2489.0	781.7	665 - 909	85k <113.3k	15%	117.3	664.5
	40k <50k	67.1%	32.9%	2.4540%	2,633	1766.8	866.3	910 - 1149	113.3k <141.7k	8%	69.3	797.0
	50k <75k	50.1%	49.9%	3.3220%	3,564	1785.8	1778.6	1150 - 1764	141.7k <212.5k	5%	88.9	1689.7
	75k+	25.0%	75.0%	1.4620%	1,569	392.2	1176.5	1765+	212.5k+	5%	58.8	1117.6
35 <45	<10k	84.0%	16.0%	1.6420%	1,762	1479.9	281.9	0 - 199	<28.3k	20%	56.4	225.5
	10k <20k	75.0%	25.0%	2.1556%	2,313	1734.6	578.2	200 - 429	28.3k <56.7k	20%	115.6	462.6
	20k <30k	64.0%	36.0%	2.4665%	2,646	1693.7	952.7	430 - 664	56.7k <85k	15%	142.9	809.8
	30k <40k	52.0%	48.0%	2.8285%	3,035	1578.1	1456.7	665 - 909	85k <113.3k	15%	218.5	1238.2
	40k <50k	41.9%	58.1%	2.5401%	2,725	1142.0	1583.5	910 - 1149	113.3k <141.7k	8%	126.7	1456.8
	50k <75k	28.0%	72.0%	4.4900%	4,818	1348.9	3468.7	1150 - 1764	141.7k <212.5k	5%	173.4	3295.3
	75k+	17.0%	83.0%	3.2962%	3,537	601.2	2935.5	1765+	212.5k+	5%	146.8	2788.7
45 <55	<10k	75.0%	25.0%	1.5611%	1,675	1256.3	418.8	0 - 199	<28.3k	30%	125.6	293.1
	10k <20k	63.0%	37.0%	1.8723%	2,009	1265.6	743.3	200 - 429	28.3k <56.7k	30%	223.0	520.3
	20k <30k	55.0%	45.0%	2.0189%	2,166	1191.4	974.8	430 - 664	56.7k <85k	20%	195.0	779.8
	30k <40k	46.3%	53.7%	2.4405%	2,619	1212.4	1406.1	665 - 909	85k <113.3k	15%	210.9	1195.2
	40k <50k	37.6%	62.4%	2.4404%	2,618	984.5	1633.9	910 - 1149	113.3k <141.7k	15%	245.1	1388.8
	50k <75k	17.1%	82.9%	4.5167%	4,846	828.7	4017.5	1150 - 1764	141.7k <212.5k	15%	602.6	3414.9
	75k+	8.0%	92.0%	5.3444%	5,734	458.7	5275.6	1765+	212.5k+	10%	527.6	4748.0
55 <65	<10k	57.0%	43.0%	0.9165%	983	560.5	422.8	0 - 199	<28.3k	70%	296.0	126.9
	10k <20k	53.0%	47.0%	1.2493%	1,340	710.4	630.0	200 - 429	28.3k <56.7k	50%	315.0	315.0
	20k <30k	46.0%	54.0%	1.3174%	1,414	650.2	763.3	430 - 664	56.7k <85k	35%	267.2	496.2
	30k <40k	40.0%	60.0%	1.3913%	1,493	597.1	895.7	665 - 909	85k <113.3k	35%	313.5	582.2
	40k <50k	20.0%	80.0%	1.4590%	1,565	313.1	1252.3	910 - 1149	113.3k <141.7k	30%	375.7	876.6
	50k <75k	11.4%	88.6%	2.0492%	2,199	250.7	1948.1	1150 - 1764	141.7k <212.5k	30%	584.4	1363.6
	75k+	4.0%	96.0%	2.6349%	2,827	113.1	2714.0	1765+	212.5k+	15%	407.1	2306.9
65 <75	<10k	53.9%	46.1%	1.0696%	1,148	618.6	529.0	0 - 199	<28.3k	80%	423.2	105.8
	10k <20k	39.0%	61.0%	1.6483%	1,769	689.8	1078.8	200 - 429	28.3k <56.7k	60%	647.3	431.5
	20k <30k	26.8%	73.2%	1.5608%	1,675	448.8	1225.9	430 - 664	56.7k <85k	75%	919.4	306.5
	30k <40k	25.6%	74.4%	1.2293%	1,319	337.7	981.3	665 - 909	85k <113.3k	60%	588.8	392.5
	40k <50k	9.0%	91.0%	0.8271%	887	79.9	807.6	910 - 1149	113.3k <141.7k	55%	444.2	363.4
	50k <75k	7.9%	92.1%	1.0509%	1,128	89.1	1038.5	1150 - 1764	141.7k <212.5k	45%	467.3	571.2
	75k+	3.0%	97.0%	1.1945%	1,282	38.4	1243.2	1765+	212.5k+	45%	559.4	683.7
75 +	<10k	60.0%	40.0%	1.6691%	1,791	1074.5	716.4	0 - 199	<28.3k	80%	573.1	143.3
	10k <20k	43.8%	56.2%	2.8733%	3,083	1350.3	1732.6	200 - 429	28.3k <56.7k	80%	1386.1	346.5
	20k <30k	32.9%	67.1%	2.0151%	2,162	711.3	1450.8	430 - 664	56.7k <85k	85%	1233.2	217.6
	30k <40k	29.9%	70.1%	1.3772%	1,478	441.8	1035.9	665 - 909	85k <113.3k	90%	932.3	103.6
	40k <50k	16.0%	84.0%	0.7812%	838	134.1	704.1	910 - 1149	113.3k <141.7k	80%	563.3	140.8
	50k <75k	8.8%	91.2%	0.9795%	1,051	92.5	958.5	1150 - 1764	141.7k <212.5k	80%	766.8	191.7
	75k+	7.0%	93.0%	0.8607%	923	64.6	858.8	1765+	212.5k+	70%	601.2	257.6
<b>Totals</b>				<b>100.0%</b>	<b>107,296</b>	<b>52,083</b>	<b>55,213</b>					

Note 1-Income, Rent, and Price are stated in 1999 dollars. Rent and Price Ranges for each Income cohort represent the upper limits for affordable housing for that cohort, i.e., housing that is non-cost burdened where no more than 30% of the household income is spent on housing.

Note 2 - % of HHs is the percent of owner households in this cohort who live in a housing unit at a higher price point and can afford that unit due to no or low mortgage payments.

	Label or data descriptor for data element
	The percentage of Households in this Age / Income cohort that will own or rent - Census 2000 Summary File 3 - Sample Data
	The percentage of Households that are in this Age / Income cohort - Census 2000 Summary File 3 - Sample Data
	A number produced by the Housing Needs Analysis template reflecting the data, assumptions, and estimates used in this scenario

**Current Housing Units Needed by Tenure and Cost ©**  
**For Regional Growth Concept Area as of April 2000**  
**Scenario Combined UGBs**

**Template 4**  
**Housing Units Indicated by Tenure & Cost\*\***

Rental				Ownership				
Rent*	# Units	% of Units	Cum %	Price*	# Units	% of Units	Cum %	
0 - 199	12,061	21.8%	21.8%	<28.3k	1,165	2.1%	2.1%	
200 - 429	12,085	21.8%	43.6%	28.3k <56.7k	2,521	4.5%	6.5%	
430 - 664	10,050	18.1%	61.7%	56.7k <85k	7,639	13.6%	20.1%	
665 - 909	8,388	15.1%	76.9%	85k <113.3k	7,267	12.9%	33.0%	
910 - 1149	5,613	10.1%	87.0%	113.3k <141.7k	7,669	13.6%	46.6%	
1150 - 1764	5,289	9.5%	96.5%	141.7k <212.5k	12,773	22.7%	69.3%	
1765+	1,920	3.5%	100.0%	212.5k+	17,306	30.7%	100.0%	All Units
<b>Totals</b>	55,407	<b>% of All</b>	49.6%	<b>Totals</b>	56,340	<b>% of All</b>	50.4%	111,747

\* Housing Units Indicated is based on the 'Calculation of Dwelling Unit Needs Indicated by Tenure Choice and Affordable Cost' template and incorporates the inclusion of a vacancy factor. The numbers represent the units that could be afforded at that cost.

\*\* Rent and Price Ranges are stated in 1999 dollars and are the upper limits for affordable housing (housing that is non-cost burdened)

**Template 5**  
**Housing Units Needed by Tenure & Cost\* ©**

Rental						Ownership				
Rent	Out Factor**	Tenant Vouchers***	Needed Units	% of Units	Cum %	Price	Out Factor**	Needed Units	% of Units	Cum %
0 - 199	0%	1870	10,191	18.4%	18.4%	<56.7k	0%	3,687	6.5%	6.5%
200 - 429	0%	450	11,836	21.4%	39.8%	56.7k <85k	0%	7,784	13.8%	20.4%
430 - 664	2%	120	12,385	22.4%	62.1%	85k <113.3k	2%	7,505	13.3%	33.7%
665 - 909	4%	0	8,958	16.2%	78.3%	113.3k <141.7k	5%	9,840	17.5%	51.1%
910 - 1149	14%	0	6,269	11.3%	89.6%	141.7k <212.5k	20%	15,410	27.4%	78.5%
1150 +	20%	0	5,768	10.4%	100.0%	212.5k+	30%	12,114	21.5%	100.0%
<b>Totals</b>		2,440	55,407	<b>% of All</b>	49.6%			56,340	<b>% of All</b>	50.4%

\* Housing Units Needed is based on the 'Housing Units Indicated by Tenure and Cost' table and incorporates an adjustment factor to reflect that some households will choose to occupy a housing unit in a lower cost category than the one they could afford.

\*\* The adjustment factor represents the percentage adjustments needed to reflect households who could afford that cost level but chose a lower cost unit (Out Factor).

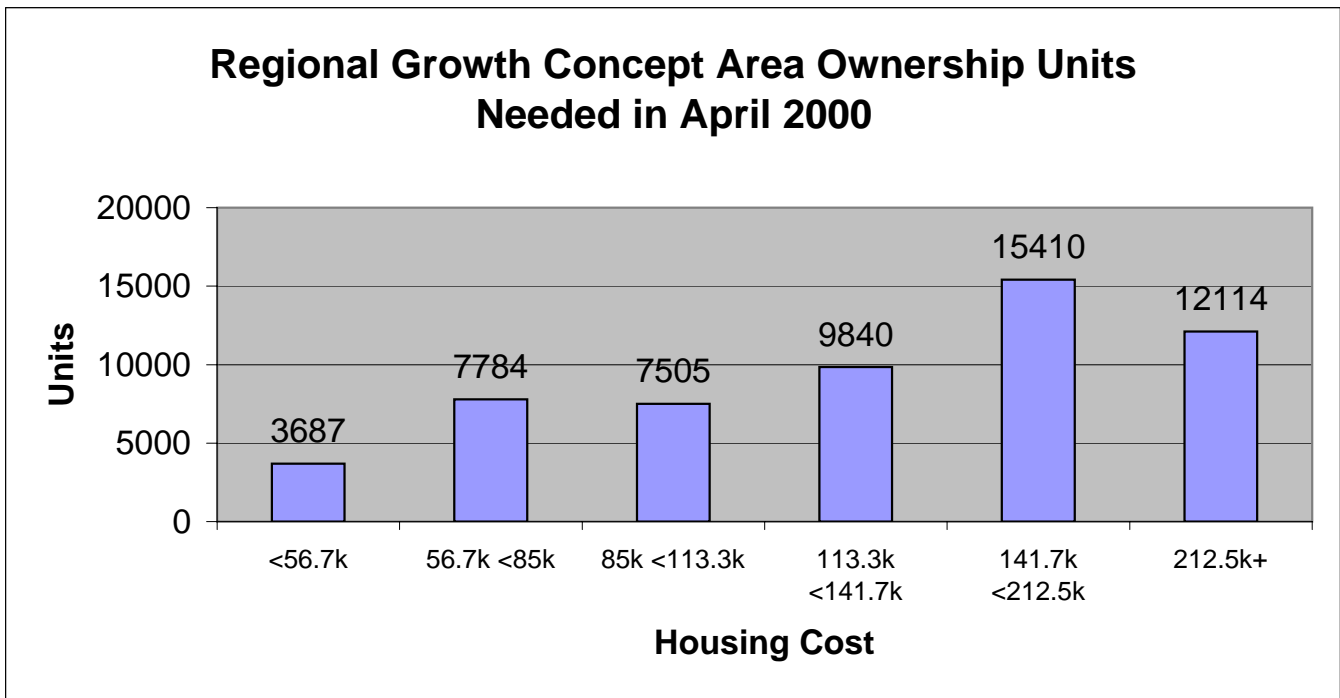
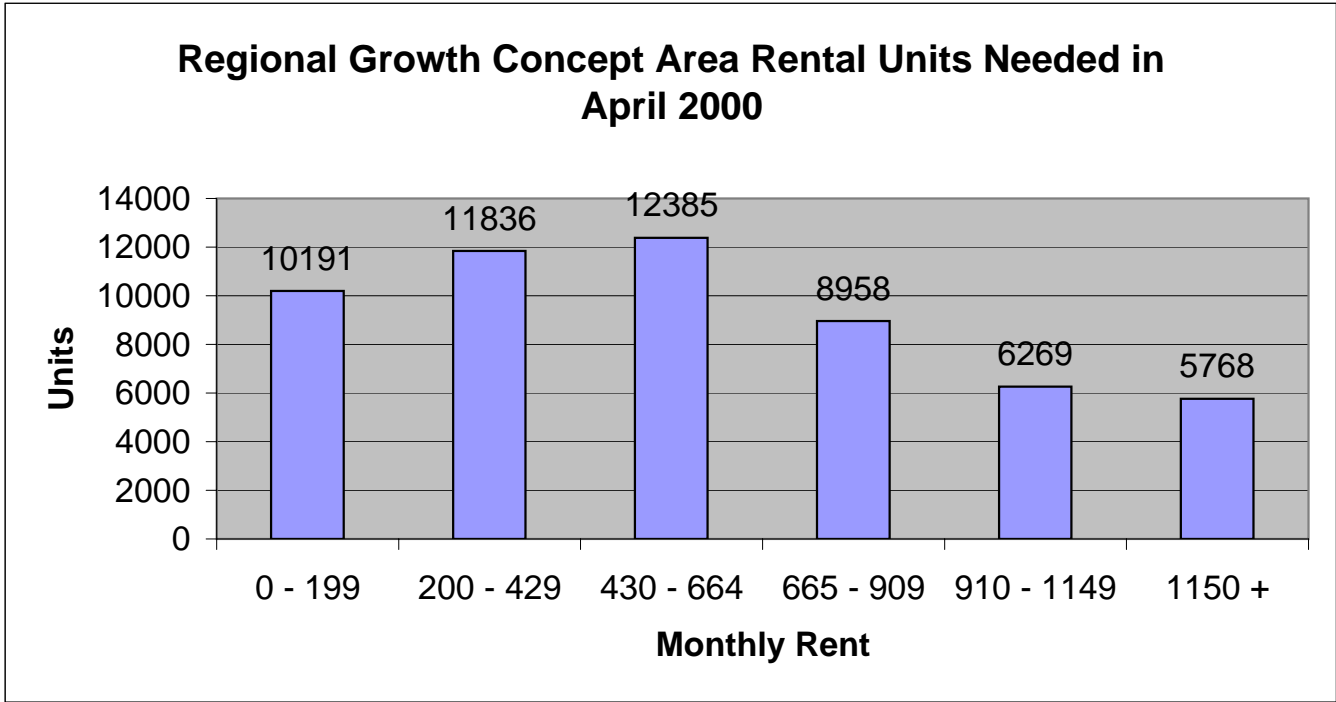
\*\*\* Estimated number of Section 8 Vouchers/Certificates or similar subsidies used to lower tenant paid rents to this price point

	Label or data descriptor for data element
	The percentage of Households that could afford a unit at this housing cost but chose a lower cost unit
	A number produced by the Housing Needs Analysis template reflecting the data, assumptions, and estimates used in this scenario

## Graphs 1 & 2

### Current Total Housing Needs ©

Scenario Combined UGBs



**Template 6**  
**Current Inventory of Dwelling Units ©**  
**For Regional Growth Concept Area as of April 2000**  
**Scenario Combined UGBs**

Rental								
Rent	Single Family Units	Manufactd Dwelling Park Units	Duplex Units	Tri-Quadplex Units	5+ Multi-Family Units	Total Units	% of Units	Cumulative %
0 - 199	142	2,982	36	407	3,366	6,933	12.5%	12.5%
	2.0%	43.0%	0.5%	5.9%	48.6%	100.0%		
200 - 429	945	2,232	702	2,346	10,451	16,676	30.2%	42.7%
	5.7%	13.4%	4.2%	14.1%	62.7%	100.0%		
430 - 664	1,554	267	3,259	1,849	5,703	12,632	22.9%	65.6%
	12.3%	2.1%	25.8%	14.6%	45.1%	100.0%		
665 - 909	2,866	113	3,124	1,109	908	8,120	14.7%	80.3%
	35.3%	1.4%	38.5%	13.7%	11.2%	100.0%		
910 - 1149	3,488	2	756	406	156	4,808	8.7%	89.0%
	72.5%	0.0%	15.7%	8.4%	3.2%	100.0%		
1150 +	5,248	8	398	313	112	6,079	11.0%	100.0%
	86.3%	0.1%	6.5%	5.1%	1.8%	100.0%		
<b>Totals</b>	14,243	5,604	8,275	6,430	20,696	55,248	<b>% of All</b>	49.2%
<b>Percentage</b>	25.8%	10.1%	15.0%	11.6%	37.5%	100.0%		

Ownership								
Price *	Single Family Units	Manufactd Dwelling Park Units	Duplex Units	Tri-Quadplex Units	5+ Multi-Family Units	Total Units	% of Units	Cumulative %
<56.7k	2,072	319	258	342	0	2,991	5.2%	5.2%
	69.3%	10.7%	8.6%	11.4%	0.0%	100.0%		
56.7k <85k	5,043	0	600	294	0	5,937	10.4%	15.6%
	84.9%	0.0%	10.1%	5.0%	0.0%	100.0%		
85k <113.3k	13,686	0	229	231	0	14,146	24.8%	40.4%
	96.7%	0.0%	1.6%	1.6%	0.0%	100.0%		
113.3k <141.7k	13,851	0	94	115	0	14,060	24.6%	65.1%
	98.5%	0.0%	0.7%	0.8%	0.0%	100.0%		
141.7k <212.5k	14,562	0	26	73	0	14,661	25.7%	90.8%
	99.3%	0.0%	0.2%	0.5%	0.0%	100.0%		
212.5k+	5,175	1	10	67	0	5,253	9.2%	100.0%
	98.5%	0.0%	0.2%	1.3%	0.0%	100.0%		
<b>Totals</b>	54,389	320	1,217	1,122	0	57,048	<b>% of All</b>	50.8%
<b>Percentage</b>	95.3%	0.6%	2.1%	2.0%	0.0%	100.0%		

	Single Family Units	Manufactd Dwelling Park Units	Duplex Units	Tri-Quadplex Units	5+ Multi-Family Units	Total Units**	Total Dwelling Units**	Inventory Check
<b>Totals</b>	68,632	5,924	9,492	7,552	20,696	112,296	112,296	<b>Correct</b>
<b>Percentage</b>	61.1%	5.3%	8.5%	6.7%	18.4%	100.0%		

Price \* - Reminder - The allocation of ownership units into price points will change if a different mortgage scenario is selected  
 \*\*Total Units should equal Total Dwelling Units which is from the Current Housing Status template on Unit Calculations worksheet

**Template 7**  
**Current Unmet Housing Needs ©**  
**Housing Units Needed less Current Inventory**

Rental				Ownership			
Rent	Current Unmet Need / (Surplus)	% of Need Met	Cumulative Units Needed	Price	Current Unmet Need / (Surplus)	% of Need Met	Cumulative Units Needed
0 - 199	3,258	68.0%	3,258	<56.7k	696	81.1%	696
200 - 429	(4,840)	140.9%	(1,582)	56.7k <85k	1,847	76.3%	2,543
430 - 664	(247)	102.0%	(1,829)	85k <113.3k	(6,641)	188.5%	(4,099)
665 - 909	838	90.6%	(991)	113.3k <141.7k	(4,220)	142.9%	(8,318)
910 - 1149	1,461	76.7%	470	141.7k <212.5k	749	95.1%	(7,569)
1150 +	(311)	105.4%	159	212.5k+	6,861	43.4%	(708)

Current Unmet Need = Needed Units (Housing Units Needed by Tenure & Cost template) - Current Units

% of Need Met = Percentage that Current Units are of Needed Units - goal is 100 %

Cumulative Units Needed measures relative need both by cumulative price point and by tenure

	Label or data descriptor for data element
	The actual or estimated number of dwelling units of this housing type at this price point in the region
	A number produced by the model reflecting the data, assumptions, and estimates used in this scenario

**Template 9**  
**Future Dwelling Unit Needs Indicated by Tenure Choice and Affordable Cost ©**  
**For Regional Growth Concept Area as of 2025**  
**Scenario Combined UGBs**

Cohort		Tenure		HHs in Cohort as % of all HHs	AI Cohort HHs	Units Indicated by Housing Tenure		Rent Range (Note 1)	Price Range (Note 1)	Units Indicated Adjustment for HHs Without Mortgages		
Age	Income (Note 1)	Renter %	Homeowner %	145,913	Number	Rental	Owned			% of HHs (Note 2)	Owned Units Out	Remaining Units
<25	<10k	97.1%	2.9%	3.3386%	4,871	4730.1	141.3	0 - 199	<28.3k	20%	28.3	113.0
	10k <20k	96.4%	3.6%	2.3811%	3,474	3349.3	125.1	200 - 429	28.3k <56.7k	20%	25.0	100.1
	20k <30k	94.0%	6.0%	1.7796%	2,597	2440.9	155.8	430 - 664	56.7k <85k	15%	23.4	132.4
	30k <40k	92.1%	7.9%	1.0273%	1,499	1380.6	118.4	665 - 909	85k <113.3k	15%	17.8	100.7
	40k <50k	89.2%	10.8%	0.7391%	1,078	961.9	116.5	910 - 1149	113.3k <141.7k	8%	9.3	107.1
	50k <75k	77.5%	22.5%	0.5729%	836	647.8	188.1	1150 - 1764	141.7k <212.5k	5%	9.4	178.7
	75k+	68.0%	32.0%	0.1545%	225	153.3	72.1	1765+	212.5k+	5%	3.6	68.5
25 <35	<10k	92.1%	7.9%	2.0686%	3,018	2779.9	238.5	0 - 199	<28.3k	20%	47.7	190.8
	10k <20k	87.3%	12.7%	2.6825%	3,914	3417.0	497.1	200 - 429	28.3k <56.7k	20%	99.4	397.7
	20k <30k	83.4%	16.6%	2.7557%	4,021	3353.5	667.5	430 - 664	56.7k <85k	15%	100.1	567.4
	30k <40k	76.1%	23.9%	2.9139%	4,252	3235.6	1016.2	665 - 909	85k <113.3k	15%	152.4	863.7
	40k <50k	67.1%	32.9%	2.3458%	3,423	2296.7	1126.1	910 - 1149	113.3k <141.7k	8%	90.1	1036.0
	50k <75k	50.1%	49.9%	3.1755%	4,634	2321.4	2312.1	1150 - 1764	141.7k <212.5k	5%	115.6	2196.5
	75k+	25.0%	75.0%	1.3975%	2,039	509.8	1529.3	1765+	212.5k+	5%	76.5	1452.9
35 <45	<10k	84.0%	16.0%	1.4983%	2,186	1836.4	349.8	0 - 199	<28.3k	20%	70.0	279.8
	10k <20k	75.0%	25.0%	1.9669%	2,870	2152.5	717.5	200 - 429	28.3k <56.7k	20%	143.5	574.0
	20k <30k	64.0%	36.0%	2.2506%	3,284	2101.7	1182.2	430 - 664	56.7k <85k	15%	177.3	1004.9
	30k <40k	52.0%	48.0%	2.5808%	3,766	1958.2	1807.6	665 - 909	85k <113.3k	15%	271.1	1536.4
	40k <50k	41.9%	58.1%	2.3178%	3,382	1417.0	1964.9	910 - 1149	113.3k <141.7k	8%	157.2	1807.7
	50k <75k	28.0%	72.0%	4.0970%	5,978	1673.8	4304.2	1150 - 1764	141.7k <212.5k	5%	215.2	4089.0
	75k+	17.0%	83.0%	3.0077%	4,389	746.1	3642.5	1765+	212.5k+	5%	182.1	3460.4
45 <55	<10k	75.0%	25.0%	1.1746%	1,714	1285.4	428.5	0 - 199	<28.3k	30%	128.5	299.9
	10k <20k	63.0%	37.0%	1.4087%	2,056	1295.0	760.6	200 - 429	28.3k <56.7k	30%	228.2	532.4
	20k <30k	55.0%	45.0%	1.5190%	2,216	1219.1	997.4	430 - 664	56.7k <85k	20%	199.5	797.9
	30k <40k	46.3%	53.7%	1.8362%	2,679	1240.5	1438.8	665 - 909	85k <113.3k	15%	215.8	1223.0
	40k <50k	37.6%	62.4%	1.8362%	2,679	1007.4	1671.8	910 - 1149	113.3k <141.7k	15%	250.8	1421.1
	50k <75k	17.1%	82.9%	3.3984%	4,959	847.9	4110.7	1150 - 1764	141.7k <212.5k	15%	616.6	3494.1
	75k+	8.0%	92.0%	4.0212%	5,867	469.4	5398.0	1765+	212.5k+	10%	539.8	4858.2
55 <65	<10k	57.0%	43.0%	1.0496%	1,531	872.9	658.5	0 - 199	<28.3k	70%	461.0	197.6
	10k <20k	53.0%	47.0%	1.4307%	2,088	1106.4	981.2	200 - 429	28.3k <56.7k	50%	490.6	490.6
	20k <30k	46.0%	54.0%	1.5088%	2,201	1012.7	1188.8	430 - 664	56.7k <85k	35%	416.1	772.7
	30k <40k	40.0%	60.0%	1.5934%	2,325	930.0	1395.0	665 - 909	85k <113.3k	35%	488.2	906.7
	40k <50k	20.0%	80.0%	1.6708%	2,438	487.6	1950.4	910 - 1149	113.3k <141.7k	30%	585.1	1365.3
	50k <75k	11.4%	88.6%	2.3468%	3,424	390.4	3033.9	1150 - 1764	141.7k <212.5k	30%	910.2	2123.7
	75k+	4.0%	96.0%	3.0175%	4,403	176.1	4226.8	1765+	212.5k+	15%	634.0	3592.8
65 <75	<10k	53.9%	46.1%	1.7427%	2,543	1370.6	1172.2	0 - 199	<28.3k	80%	937.8	234.4
	10k <20k	39.0%	61.0%	2.6857%	3,919	1528.3	2390.5	200 - 429	28.3k <56.7k	60%	1434.3	956.2
	20k <30k	26.8%	73.2%	2.5431%	3,711	994.5	2716.3	430 - 664	56.7k <85k	75%	2037.2	679.1
	30k <40k	25.6%	74.4%	2.0029%	2,923	748.2	2174.3	665 - 909	85k <113.3k	60%	1304.6	869.7
	40k <50k	9.0%	91.0%	1.3476%	1,966	177.0	1789.4	910 - 1149	113.3k <141.7k	55%	984.1	805.2
	50k <75k	7.9%	92.1%	1.7123%	2,498	197.4	2301.1	1150 - 1764	141.7k <212.5k	45%	1035.5	1265.6
	75k+	3.0%	97.0%	1.9462%	2,840	85.2	2754.5	1765+	212.5k+	45%	1239.5	1515.0
75 +	<10k	60.0%	40.0%	2.0802%	3,035	1821.2	1214.1	0 - 199	<28.3k	80%	971.3	242.8
	10k <20k	43.8%	56.2%	3.5811%	5,225	2288.7	2936.6	200 - 429	28.3k <56.7k	80%	2349.3	587.3
	20k <30k	32.9%	67.1%	2.5114%	3,665	1205.6	2458.9	430 - 664	56.7k <85k	85%	2090.1	368.8
	30k <40k	29.9%	70.1%	1.7164%	2,504	748.8	1755.6	665 - 909	85k <113.3k	90%	1580.1	175.6
	40k <50k	16.0%	84.0%	0.9736%	1,421	227.3	1193.3	910 - 1149	113.3k <141.7k	80%	954.7	238.7
	50k <75k	8.8%	91.2%	1.2208%	1,781	156.7	1624.5	1150 - 1764	141.7k <212.5k	80%	1299.6	324.9
	75k+	7.0%	93.0%	1.0727%	1,565	109.6	1455.6	1765+	212.5k+	70%	1018.9	436.7
<b>Totals</b>				<b>100.00%</b>	<b>145,913</b>	<b>67,463</b>	<b>78,450</b>					

Note 1-Income, Rent, and Price are stated in 1999 dollars. Rent and Price Ranges for each Income cohort represent the upper limits for affordable housing for that cohort, i.e., housing that is non-cost burdened where no more than 30% of the household income is spent on housing.

Note 2 - % of HHs is the percent of owner households in this cohort who live in a housing unit at a higher price point and can afford that unit due to no or low mortgage payments.

	Label or data descriptor for data element
	The percentage of Households in this Age / Income cohort that will own or rent
	The percentage of Households that are in this Age / Income cohort as of the scenario's time frame
	A number produced by the Housing Needs Analysis template reflecting the data, assumptions, and estimates used in this scenario

## Future Housing Units Needed by Tenure and Cost ©

For Regional Growth Concept Area as of 2025

Scenario Combined UGBs

### Template 10

#### Future Housing Units Indicated by Tenure Choice and at an Affordable Cost\*\* ©

Rental				Ownership			
Rent*	# Units	% of Units	Cum %	Price*	# Units	% of Units	Cum %
0 - 199	15,635	21.8%	21.8%	<28.3k	4,289	5.4%	5.4%
200 - 429	16,103	22.4%	44.2%	28.3k <56.7k	8,580	10.7%	16.1%
430 - 664	13,115	18.3%	62.5%	56.7k <85k	9,558	11.9%	28.0%
665 - 909	10,896	15.2%	77.7%	85k <113.3k	9,904	12.4%	40.4%
910 - 1149	6,995	9.7%	87.4%	113.3k <141.7k	10,013	12.5%	52.9%
1150 - 1764	6,634	9.2%	96.7%	141.7k <212.5k	18,239	22.8%	75.7%
1765+	2,393	3.3%	100.0%	212.5k+	19,468	24.3%	100.0%
Totals	71,770	% of All	47.3%	Totals	80,051	% of All	52.7%

\* Housing Units Indicated is based on the 'Calculation of Current Dwelling Units Indicated by Tenure Choice and Affordable Cost' template and incorporates the inclusion of a vacancy factor. The numbers represent the units that could be afforded at that cost.

\*\* Rent and Price Ranges are stated in 1999 dollars and represent affordable housing cost needs (housing that is non-cost burdened)

### Template 11

#### Future Housing Units Needed by Tenure & Cost\* ©

Rental						Ownership				
Rent	Out Factor**	Tenant Vouchers***	Needed Units	% of Units	Cum %	Price	Out Factor**	Needed Units	% of Units	Cum %
0 - 199	0%	2200	13,435	18.7%	18.7%	<56.7k	0%	12,869	16.1%	16.1%
200 - 429	0%	550	15,816	22.0%	40.8%	56.7k <85k	0%	9,855	12.3%	28.4%
430 - 664	2%	160	15,878	22.1%	62.9%	85k <113.3k	3%	10,108	12.6%	41.0%
665 - 909	4%	0	11,599	16.2%	79.0%	113.3k <141.7k	5%	12,065	15.1%	56.1%
910 - 1149	14%	0	7,821	10.9%	89.9%	141.7k <212.5k	14%	19,580	24.5%	80.5%
1150 +	20%	0	7,221	10.1%	100.0%	212.5k+	20%	15,575	19.5%	100.0%
Totals			71,770	% of All	47.3%	Totals		80,051	% of All	52.7%

\* Housing Units Needed is based on the 'Housing Units Indicated by Tenure and Cost' table and incorporates an adjustment factor to reflect that some households will choose to occupy a housing unit in a lower cost category than the one they could afford.

\*\* The adjustment factor represents the percentage adjustments needed to reflect households who could afford that cost level but chose a lower cost unit (Out Factor).

\*\*\* Estimated number of Section 8 Vouchers/Certificates or similar subsidies used to lower tenant paid rents to this price point

	Label or data descriptor for data element
	The percentage of Households that could afford a unit at this housing cost but chose a lower cost unit
	A number produced by the Housing Needs Analysis template reflecting the data, assumptions, and estimates used in this scenario

**Template 12**  
**Future Housing Units Planned by Housing Type ©**  
**Existing Units plus New Units Added**  
**For Regional Growth Concept Area as of 2025**  
**Scenario Combined UGBs**

<b>Rental</b>							
<b>Rent</b>	<b>Needed Units</b>	<b>Single Family Units</b>	<b>Manufactd Dwelling Park Units</b>	<b>Duplex Units</b>	<b>Tri-Quadplex Units</b>	<b>5+ Multi-Family Units</b>	<b>Total Units</b>
<b>0 - 199</b>	13,435	<b>2.0%</b>	<b>43.0%</b>	<b>1.0%</b>	<b>6.0%</b>	<b>48.0%</b>	100.0%
		269	5,777	134	806	6,449	13,435
<b>200 - 429</b>	15,816	<b>6.0%</b>	<b>13.0%</b>	<b>4.0%</b>	<b>14.0%</b>	<b>63.0%</b>	100.0%
		949	2,056	633	2,214	9,964	15,816
<b>430 - 664</b>	15,878	<b>12.0%</b>	<b>2.0%</b>	<b>26.0%</b>	<b>15.0%</b>	<b>45.0%</b>	100.0%
		1,905	318	4,128	2,382	7,145	15,878
<b>665 - 909</b>	11,599	<b>35.0%</b>	<b>1.0%</b>	<b>38.0%</b>	<b>14.0%</b>	<b>12.0%</b>	100.0%
		4,060	116	4,408	1,624	1,392	11,599
<b>910 - 1149</b>	7,821	<b>73.0%</b>		<b>16.0%</b>	<b>8.0%</b>	<b>3.0%</b>	100.0%
		5,709	0	1,251	626	235	7,821
<b>1150 +</b>	7,221	<b>86.0%</b>		<b>7.0%</b>	<b>5.0%</b>	<b>2.0%</b>	100.0%
		6,210	0	505	361	144	7,221
<b>Totals</b>	71,770	19,102	8,266	11,060	8,013	25,329	71,770
<b>Percentage</b>		26.6%	11.5%	15.4%	11.2%	35.3%	100.0%

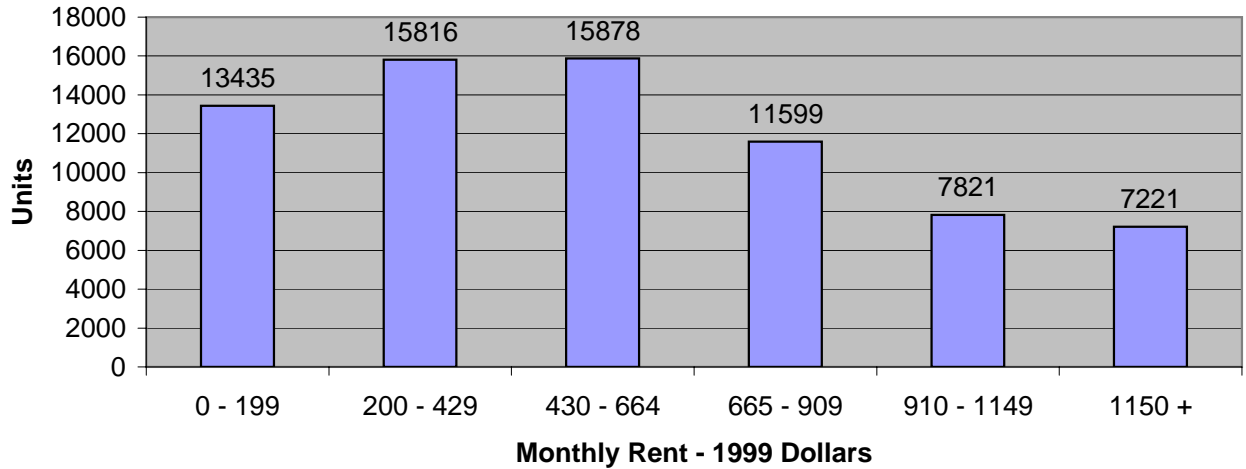
<b>Ownership</b>							
<b>Price</b>	<b>Needed Units</b>	<b>Single Family Units</b>	<b>Manufactd Dwelling Park Units</b>	<b>Duplex Units</b>	<b>Tri-Quadplex Units</b>	<b>5+ Multi-Family Units</b>	<b>Total Units</b>
<b>&lt;56.7k</b>	12,869	<b>69.0%</b>	<b>11.0%</b>	<b>9.0%</b>	<b>11.0%</b>		100.0%
		8,879	1,416	1,158	1,416	0	12,869
<b>56.7k &lt;85k</b>	9,855	<b>85.0%</b>		<b>10.0%</b>	<b>5.0%</b>		100.0%
		8,377	0	986	493	0	9,855
<b>85k &lt;113.3k</b>	10,108	<b>97.0%</b>		<b>1.5%</b>	<b>1.5%</b>		100.0%
		9,804	0	152	152	0	10,108
<b>113.3k &lt;141.7k</b>	12,065	<b>98.0%</b>		<b>1.0%</b>	<b>1.0%</b>		100.0%
		11,824	0	121	121	0	12,065
<b>141.7k &lt;212.5k</b>	19,580	<b>99.0%</b>		<b>0.5%</b>	<b>0.5%</b>		100.0%
		19,384	0	98	98	0	19,580
<b>212.5k+</b>	15,575	<b>98.5%</b>		<b>0.5%</b>	<b>1.0%</b>		100.0%
		15,341	0	78	156	0	15,575
<b>Totals</b>	80,051	73,610	1,416	2,592	2,434	0	80,051
<b>Percentage</b>		92.0%	1.8%	3.2%	3.0%	0.0%	100.0%

<b>Total Rental and Ownership Units</b>							
	<b>Needed Units</b>	<b>Single Family Units</b>	<b>Manufactd Dwelling Park Units</b>	<b>Duplex Units</b>	<b>Tri-Quadplex Units</b>	<b>5+ Multi-Family Units</b>	<b>Total Units</b>
<b>Totals</b>	151,821	92,712	9,682	13,651	10,447	25,329	151,821
<b>% of Total Units</b>		61.1%	6.4%	9.0%	6.9%	16.7%	100.0%

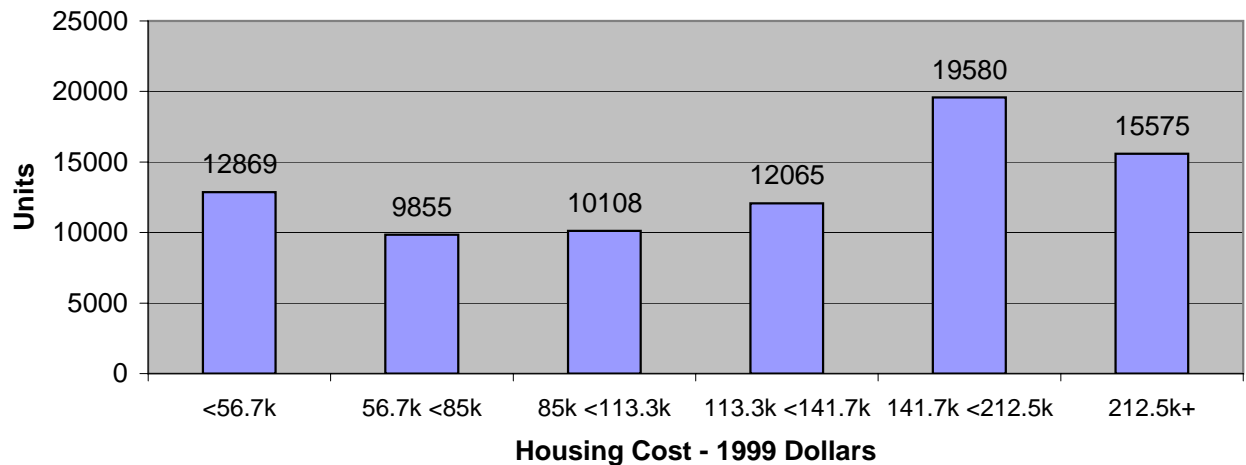
	Label or data descriptor for data element
	The planned percentage of dwelling units needed of this housing type at this price point in the region
	A number produced by the model reflecting the data, assumptions, and estimates used in this scenario

**Graphs 4 & 5**  
**Future Total Housing Needs ©**  
**Scenario Combined UGBs**

**Regional Growth Concept Area Rental Units Needed in 2025**



**Regional Growth Concept Area Ownership Units Needed in 2025**



# Graphs 6 & 7 New Housing Needs ©

Scenario Combined UGBs

