Regional Coverage Factor 101

Introduction

On Wednesday, June 10, 2015, TDHCA staff hosted a roundtable discussion to review the Staff Draft of the 2016 Single Family ("SF") Regional Allocation Factor ("RAF"), which includes in the formula a new factor called the Regional Coverage Factor. This document is presented to address some of the questions asked by roundtable attendees and to explain the Regional Coverage Factor.

The addition of the Regional Coverage Factor to the SF RAF complements the existing factors that measure the need for housing assistance and the availability of housing resources, which are listed in the methodology portion of Attachment F and remain unchanged from last year's RAF, in urban and rural areas of the state.

Unlike TDHCA's multifamily programs which focus development primarily in one project area, single family programs are typically across scattered sites in typically rural parts of the state. The Regional Coverage Factor takes into account the widespread populations of rural areas as well as geographically scattered use of funds for single family activities.

What is the Regional Coverage Factor?

The Regional Coverage Factor provides a relative measure of the amount of land per person in each subregion.

- Basically, the larger an area is and the fewer people there are in that area, the larger the Regional Coverage Factor will be and the impact on the formula would lead to a larger allocation for that area.

- Further, the smaller an area is and the larger the number of people there are in that area, the smaller the Regional Coverage Factor will be and the impact on the formula would lead to a smaller allocation for that area.

In effect, the Regional Coverage Factor assists in redistributing funding from urban areas to more rural parts of the state, thus better aligning funding goals with §2306.111 of the Texas Government Code, which requires that 95 percent of HOME funds be allocated for the benefit of small cities and rural areas of the state.

How is the Regional Coverage Factor calculated?

To understand the Regional Coverage Factor, we first introduce Population Density, which is the number of people divided by the land in which they live. A high Population density means that more people are living in a smaller land area. Next, the Population Density formula is reversed to calculate Inverse Population Density, which divides the land area by the number of people that live in that area. This calculation shows the number of square miles per person.

$$Inverse\ Population\ Density = \frac{Land\ Area\ in\ Square\ Miles}{Population}$$
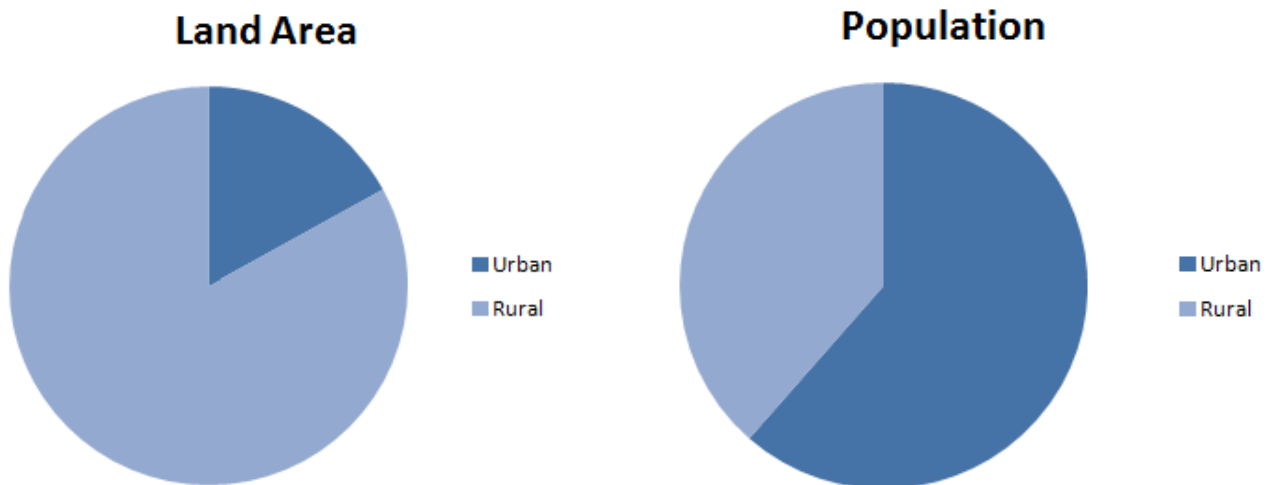
The purpose of the Inverse Population Density calculation is to provide a consideration for the land area, including a sense of the distance that occurs between scattered site SF activities, and the widespread population within a region that the SF administrators reach to deliver housing assistance.

Applying an inverse population density calculation to the 26 Sub-regions considered in the RAF produces the Regional Coverage Factor. Data for Participating Jurisdictions ("PJs") is not included in the HOME SF RAF since the PJs receive funding directly from HUD. All examples and calculations that follow in this document do not include PJ data for land area or population.

$$Regional\ Coverage\ Factor\ for\ HOME\ SF = \frac{Land\ Area\ in\ Square\ Miles\ in\ a\ Sub\text{-}region\ without\ PJs}{Population\ of\ a\ Sub\text{-}region\ without\ PJs}$$

What does this look like statewide? (Remember, PJ data has been removed)

- Urban[1] areas of the state contain 17% of the land area and 61% of the population. The total population of urban areas is 5,418,816 people and the total land area of urban areas is 42,353 square miles. The Regional Coverage Factor of the state's urban areas would be 0.008 square miles per person.

- Rural areas of the state contain 83% of the land area and 39% of the population. The total population of rural areas is 3,394,543 people and the total land area of rural areas is 207,166 square miles. The Regional Coverage Factor of the state's rural areas would be 0.061 square miles per person.
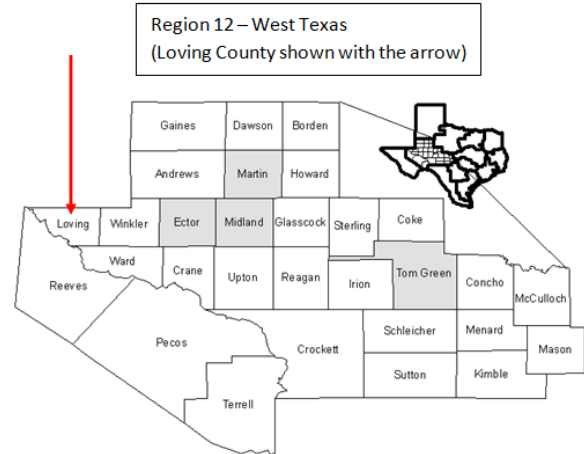

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[1] For the RAF, *Rural* means Non-MSA Counties and counties with only rural places and *Urban* means MSA Counties with urban places. For the HOME SF RAF, areas that are urban and are not PJ's are included (for instance, Victoria is an urban area but is not a PJ because it does not receive funds directly from HUD).

Examples around the state:

At the June 10th roundtable discussion, one attendee asked "How does the Regional Coverage Factor affect an area like Loving, TX, where the eligible population is so small?"

Loving County, Texas

According to the U.S. Census' 2009-2013 American Community Survey, the total population of Loving County is 87 people and the total land area of Loving County is 669 square miles. The Regional Coverage Factor of Loving would be 7.7 square miles per person.
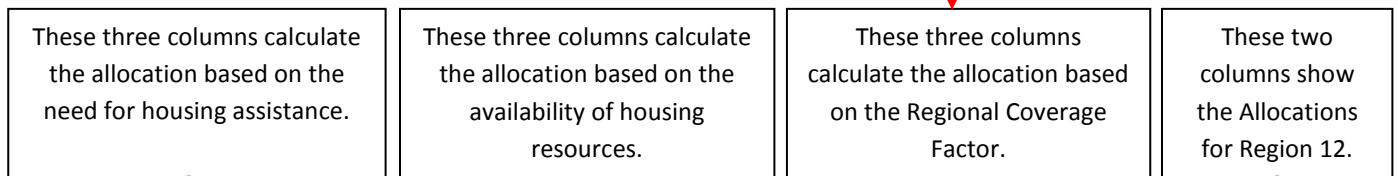

Region 12 – West Texas
(Loving County shown with the arrow)

However, because the RAF allocates funding by Sub-region, not by individual county, Loving County's population and land area is considered with all of Region 12's rural counties. Region 12 is made up of 30 counties in West Texas; 26 are considered rural and 4 are considered urban for the RAF. The figures from the following tables have been taken from Attachment C: SAMPLE Staff Draft 2016 HOME SF Allocations Tables (PDF), as presented at the June 10th roundtable.

Table 1 shows the calculation for the Regional Coverage Factor in the Urban and Rural parts of Region 12. These factors are carried forward into Table 2, where the allocations for each Sub-Region are calculated.

Region 12	Land area without PJs	Total Population without PJs	Regional Coverage Factor (Land Area/Total Population)
Urban	4,141	201,721	0.021
Rural	35,496	184,730	0.192

Table 1: Regional Coverage Factor for Region 12

These three columns calculate the allocation based on the need for housing assistance.	These three columns calculate the allocation based on the availability of housing resources.	These three columns calculate the allocation based on the Regional Coverage Factor.	These two columns show the Allocations for Region 12.

Region 12	Need Variables	Percentage of Statewide Need Variables	Allocation for Need Weight is 100%	Regional Vacancies	Percentage of Statewide Vacancies	Allocation for Vacancies Weight is -20%	Regional Coverage Factor	Percentage of Statewide Regional Coverage Factor	Weight is 20%	Sub-region amount	Part of total award
Urban	44,456	2.1%	$ 206,035	2,006	1.7%	$(33,886)	0.021	1.2%	$23,609	$195,758	1.96%
Rural	47,538	2.2%	$ 220,319	1,947	1.6%	$(32,889)	0.192	11.0%	$220,994	$408,424	4.08%

Table 2: Region 12 Allocation Calculations

Notice that Region 12's Urban and Rural areas both have similar need and vacancy percentages and similar allocations. However, since Region 12's rural sub-region has a greater Regional Coverage Factor than Region 12's urban sub-region, the rural sub-region award is greater.

Galveston County, Texas

Building on the Loving County example, let's look at an area with a very large population, Galveston County, without its PJ, the City of Galveston. According to the U.S. Census' 2009-2013 American Community Survey, the total population of Galveston County with the PJ excluded, is 248,491 people and the total land area minus the PJ in Galveston County is 337 square miles. The Regional Coverage Factor of Galveston County would be 0.001 square miles per person.

However, because the RAF allocates funding by Sub-region, not by individual county, Galveston County's population and land area is considered with all of Region 6's urban counties. Region 6 is made up of 13 counties; 5 are considered rural and 8 are considered urban for the RAF.

Region 6	Land area without PJs	Total Population without PJs	Regional Coverage Factor (Land Area/Total Population)
Urban	2,606	403,910	0.006
Rural	4,578	195,283	0.023

Table 3: Regional Coverage Factor for Region 6

These three columns calculate the allocation based on the need for housing assistance.	These three columns calculate the allocation based on the Availability of housing resources.	These three columns calculate the allocation based on the Regional Coverage Factor.	These two columns show the Allocations for Region 6.

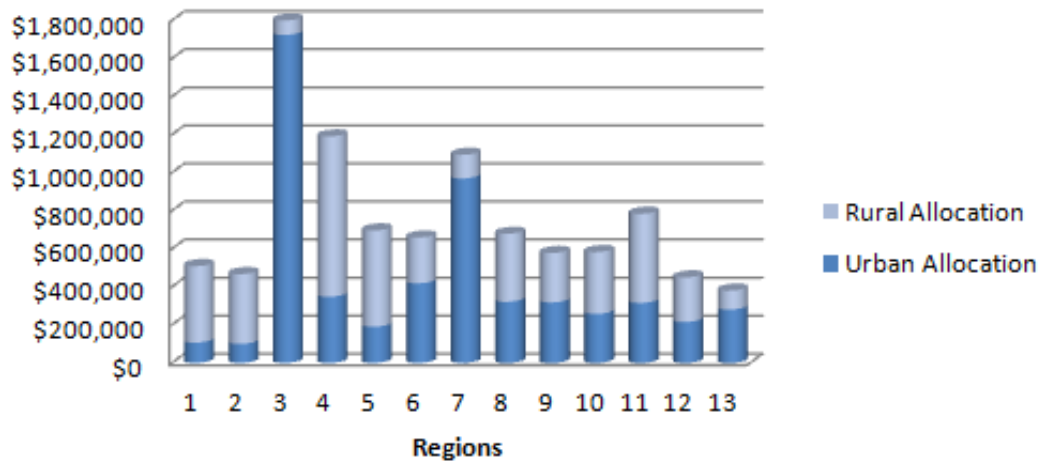| Region 6	Need Variables	Percentage of total need variables	Allocation for Statewide Need Weight is 100%	Regional Vacancies	Percentage of Statewide Vacancies	Allocation for Vacancies Weight is -20%	Regional Coverage Factor	Percentage of Statewide Regional Coverage Factor	Weight is 20%	Sub-region amount	Part of total award
Urban	90,187	4.2%	$417,982	4,910	4.1%	$(82,941)	0.006	0.4%	$7,420	$342,461	3.42%
Rural	52,382	2.4%	$242,770	2,979	2.5%	$(50,322)	0.023	1.3%	$26,959	$219,406	2.19%

Table 4: Region 6 Allocation Calculations

Notice that Region 6's urban areas have greater need and vacancy percentages compared to the rural areas so more funding is shifted to the urban areas to address these factors. However, since Region 6's rural sub-region has a greater Regional Coverage Factor than the urban sub-region, more funding is shifted to the rural part of the region to deliver single family programs to areas outside of the urban areas.

What does this look like for each sub-region? (Remember, PJ data has been removed)

The following charts show that, by using a Regional Coverage Factor, allocations are distributed between urban and rural sub-regions to account for the fact that single family programs are typically scattered site activities in typically rural parts of the state, consistent with statute indicating that TDHCA's HOME funds are intended to primarily benefit small cities and rural areas.
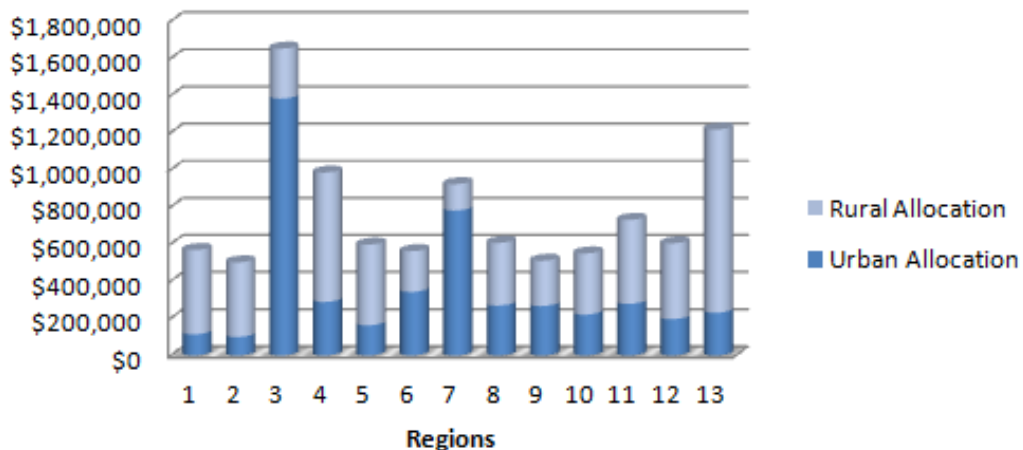
Without the Regional Coverage Factor, urban sub-regions would receive 55% of the statewide allocation and rural sub-regions would receive 45% of the statewide allocation.

With the Regional Coverage Factor, urban sub-regions will receive 46% of the statewide allocation and rural sub-regions will receive 54% of the statewide allocation.

13 Uniform State Service Regions of Texas

Region 1 - High Plains

Region 2 - Northwest Texas

Region 3 - Metroplex

Region 8 - Central Texas

Region 4 - Upper East Texas

Region 12 - West Texas

Region 13 - Upper Rio Grande

Region 7 - Capital

Region 9 - San Antonio

Region 11 - South Texas Border

Region 5 - Southeast Texas

Region 6 - Gulf Coast

Region 10 - Coastal Bend