2017 REGIONAL ALLOCATION FORMULA METHODOLOGY

Contents

Introduction

Since 2000 the Texas Department of Housing and Community Affairs ("TDHCA" or "the Department") has used a Regional Allocation Formula ("RAF") as required by Tex. Gov't Code §§2306.111 and 2306.1115. The RAF analyzes housing need, availability, and other relevant factors in the State's urban and rural areas. Using formula components created based on this analysis, the RAF has been used to allocate funding for multifamily and single-family activities for the following programs:

- Multifamily Activities:
  - Housing Tax Credit ("HTC") Program
  - HOME Investment Partnerships Program ("HOME") Multifamily ("MF")
- Single Family Activities:
  - Housing Trust Fund ("HTF") Program*
  - HOME Single Family ("SF")

  *It should be noted that based on the current programming activities of the HTF, the RAF is not utilized for HTF as supported in Tex. Gov't Code §2306.111(d-1).

The Methodology presented below explains the use of factors in conformity with the statutory requirements; those include the need for housing assistance, the availability of housing resources, and other factors relevant to the equitable distribution of housing funds in urban and rural areas of the state.

Also provided with the Methodology is a sample allocation spreadsheet for each of the four programs, to show how the methodologies affect each program. The spreadsheets provided are based on the following sample allocations:

Program	Sample Allocation
HTC	$50,000,000
HOME Multifamily	$15,000,000
HTF	$3,000,000
HOME Single Family	$11,000,000

Again, these allocation amounts are only samples. The final allocation amounts are calculated by the program area staff following the RAF Methodology approval by the TDHCA Governing Board. Further, even when final allocation amounts are made available other planning considerations further alter the applicability of the RAF and/or the amounts. For instance, in the HOME Single Family Activity, the funding activity type may further affect how and whether funds are released regionally. In the HTF

Programs, because the programs follow statutory exceptions to utilizing the RAF, the formula-based RAF covered here does not apply to any HTF funds (although other policies are effective in geographically dispersing the funds).

The Draft 2017 RAF Methodology was presented at the Board meeting of June 16, 2016, for approval to be released for public comment. A public comment period was open from Friday, June 17, 2016, through Friday July 1, 2016, with a public hearing on Wednesday, June 29, 2016. One public comment was received expressing support of the 2017 RAF and no changes were made based on this comment. The final 2017 RAF Methodology was presented for approval at the Board meeting of July 28, 2016.

Statutory Requirement

Tex. Gov't Code §§2306.111 and 2306.1115 require that TDHCA use a RAF for HOME, HTF, and HTC Programs.

Tex. Gov't Code §2306.1115 states:

(a) To allocate housing funds under Section 2306.111(d), the department shall develop a formula that:

(1) includes as a factor the need for housing assistance and the availability of housing resources in an urban area or rural area;

(2) provides for allocations that are consistent with applicable federal and state requirements and limitations; and

(3) includes other factors determined by the department to be relevant to the equitable distribution of housing funds under Section 2306.111(d).

(b) The department shall use information contained in its annual state low income housing plan and other appropriate data to develop the formula under this section.

The methodology below outlines the need for housing assistance and the availability of housing in urban and rural areas, in keeping with the statutory requirements for the HOME SF, HOME MF, HTF and HTC programs. The methodology also includes a regional coverage factor for the HOME SF and HTF programs that includes inverse population density for urban and rural areas of TDHCA's 13 Service Regions, in keeping with the statutory requirements to include other factors necessary for equitable distribution of funding.

Urban and Rural Areas

Tex. Gov't Code §2306.004 states:

> 28-a) "Rural area" means an area that is located:
>
> (A) outside the boundaries of a primary metropolitan statistical area or a metropolitan statistical area; or
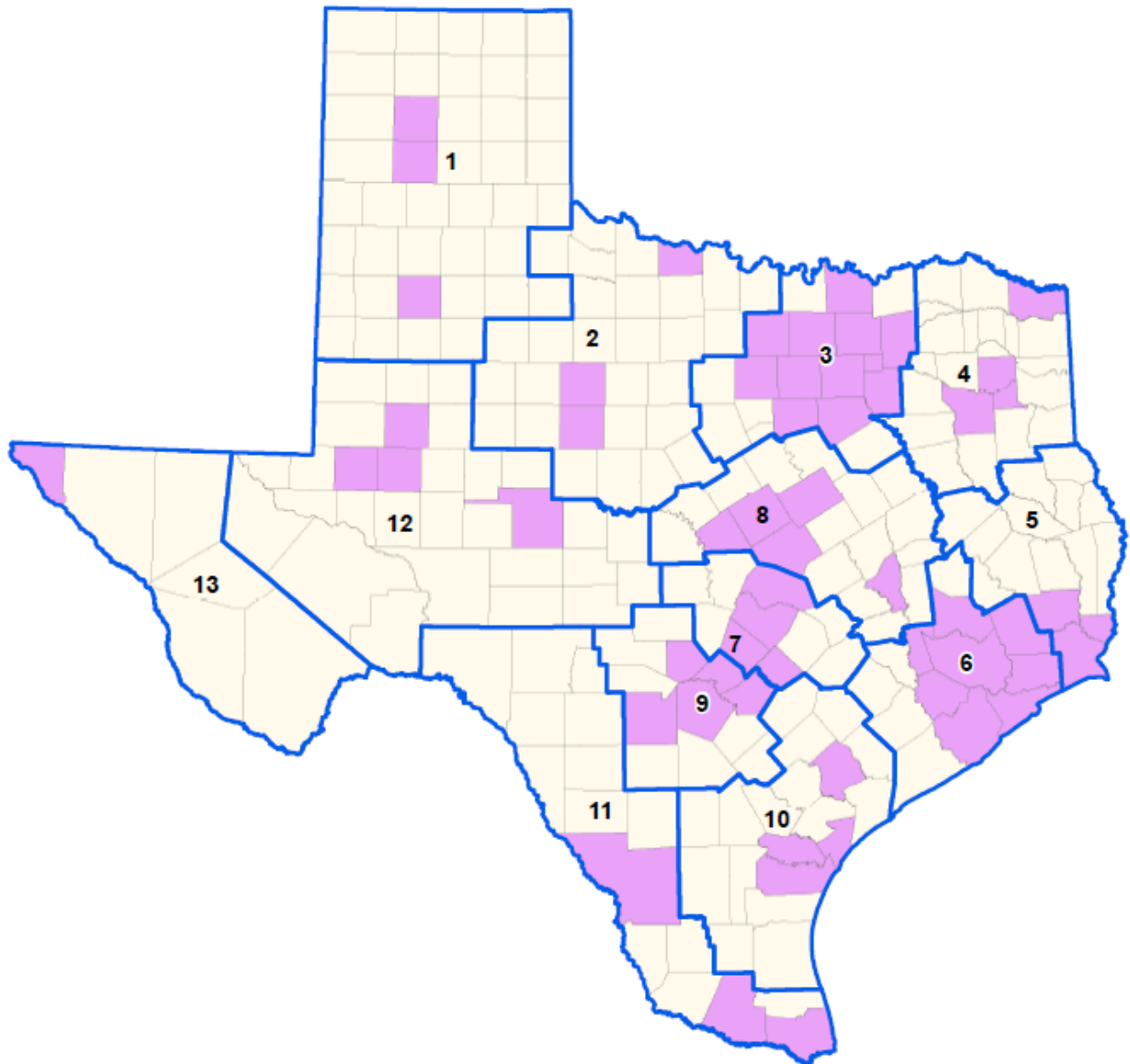>
> (B) within the boundaries of a primary metropolitan statistical area or a metropolitan statistical area, if the statistical area has a population of 25,000 or less and does not share a boundary with an urban area.

Tex. Gov't Code §2306.004(28-a)(B) is applied to "census-designated places" ("places") which correlate to cities, towns, and other areas similar to incorporated cities and towns, as designated by the census. The requirement regarding "population of 25,000" and the requirement regarding boundaries can be applied to places. The RAF is a macro view compared to one city, town, etc.; so data is used from each county. County data is more complete than adding together all the cities, towns, etc. If the RAF only added together the cities, towns, etc., then people who do not live in cities, towns, etc. and units that do not exist in cities, towns, etc. would be excluded. Limiting the data for the RAF to only cities, towns, etc. in each region substantially hinders its utility as an allocation tool. Using the data from counties instead of cities, towns, etc. to allocate for urban and rural areas allows for a more complete picture of the State's demographics. According to Tex. Gov't Code §2306.1115(b), TDHCA must use appropriate data to develop the formula, and for the reasons described above, data from counties is the most appropriate data.

Using Metropolitan Statistical Area ("MSA") data, as provided by the U.S. Office of Management and Budget, the RAF allocation process accounts for the fact that even though a county may be part of an MSA, all of its places may meet the definition of rural per Tex. Gov't Code §2306.004(28-a). If an MSA county has no places designated as urban, the need and availability of the whole county will be counted toward the rural allocation (*i.e.*, the MSA county had no places over 25,000, nor any places touching a boundary of a place with 25,000). Therefore, the allocation process refers to "MSA counties with urban places" and "Non-MSA counties and counties with only rural places." The need and availability of "MSA counties with urban places" directs the allocation toward the urban places, and the need and availability of "Non-MSA counties and counties with only rural places" directs the allocation toward the rural places.

Note that the RAF does not state that all places in an MSA county with urban places are urban for designations of specific sites. The rural and urban designation for site-specific applications is made at the place level.

Map of Urban Counties in Texas by Region

TDHCA Regions

MSA Counties with Urban Places

Non-MSA Counties or Counties with only Rural Places

Source: Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates, Table B1003. TIGER data 2014
Disclaimer: This map is not a survey product; boundaries, distances and scale are approximate only.

Methodology

Affordable Housing Need

Affordable housing need will be measured by variables that relate to the types of assistance available through TDHCA programs. In spite of HTF not currently utilizing the RAF generated through this method, the calculation for HTF is included in this methodology, in the event that funding or programming of the program changes such that the RAF is required to be utilized.

Cost Burden and Overcrowding

HTC and HOME MF both offer assistance for reduced-rent apartments. HOME SF offers Tenant-Based Rental Assistance through which a portion of a recipient's rent is paid to the landlord. HTF offers the Amy Young Barrier Removal Program, which can serve both renters and homeowners. Therefore, renters who need assistance should be included in the analysis. The column on the RAF table for renters with cost burden measures the number of people in Texas that pay more than 30% of their income on rent and are "cost burdened." The column for renters experiencing overcrowding measures the number of units with more than one person per room, including the kitchen and bathroom. Both rent burden and overcrowding for renters will be used as variables in the RAF for all four programs.

Further, HOME SF also offers homebuyer assistance and single family development programs. For single family development, typically the homes are built by nonprofits or units of local government and the homes are purchased by low-income homeowners. HTF offers the Amy Young Barrier Removal Program, which can be used for homeowners as mentioned above, and the Bootstrap Loan Program for potential homeowners who use "sweat equity", along with low-interest loans, to build and become owners of their homes. Therefore, homeowners who need assistance should be included in the analysis. Areas with high numbers of homeowners experiencing cost burden or overcrowding may signify a need for homebuyer assistance or homeowner assistance. Therefore, the factors of homeowner cost burden and homeowner overcrowding are incorporated in the HOME SF RAF and HTF RAF.

Lack of Kitchen and Plumbing Facilities

HOME SF offers homeowner rehabilitation assistance and HTF has many activities that are often paired with rehabilitation, such as the Contract for Deed Program or Amy Young Barrier Removal. Data regarding units lacking kitchen facilities and plumbing were found to be a complete dataset for use in assessing rehabilitation need for single family housing. The data for lack of kitchen facilities and lack of plumbing facilities did not differentiate between owners and renters. Therefore, both owner and renter data will be included for the HOME SF and HTF RAF.

Income

Income is the primary measurement of eligibility for housing assistance through TDHCA. HOME and HTF serve households who earn 0-80% Area Median Family Income ("AMFI") and HTC serves households who earn 0-60% AMFI. While eligibility for housing assistance is measured by Area Median Income

("AMI"), the AMI datasets showing how many households are in each AMI category lag behind by a full year from the datasets used to calculate poverty. In order to use the most up-to-date data, the measurement of people in poverty will be used. The percentage of people at 200% of the poverty level is strongly linked with the percentage of people earning 0-80% AMFI. People at or below 200% of the poverty level will qualify for a majority of the housing assistance options offered through TDHCA's HOME, HTC, and HTF programs. Note that in order for *people* in poverty to be combined with *households* with cost burden and *households* with overcrowding, the number of people in poverty is divided by the average size of a household in Texas: 2.83 per the 2010-2014 American Community Survey five-year estimates.

Summary of Affordable Housing Need for Multifamily and Single Family Activities

The extent of Texans needing affordable housing is measured using three variables for multifamily activities:

1. Cost burden for renters;
2. Overcrowding for renters; and
3. People at or below 200% of the poverty rate.

The extent of Texans needing affordable housing is measured using five variables for single family activities:

1. Cost burden for renters and owners;
2. Overcrowding for renters and owners;
3. Lack of Kitchen for renters and owners;
4. Lack of Plumbing for renters and owners; and
5. People at or below 200% of the poverty rate.

Housing Availability

The extent of additional affordable housing to address Texan's needs is determined by vacant units for rent and homes for sale.

Affordable housing availability will be measured by variables that relate directly to housing resources. In order to take into account both market-rate and subsidized units, vacancies will be used. A high number of vacancies indicate that a market has an adequate supply or possibly an oversupply of housing. Vacancies offer a direct measure of housing availability for single-family non-rental activities.

Regional Coverage Factor

As stated in Tex. Gov't Code §2306.1115(a)(3), TDHCA shall develop a formula that "includes other factors determined by the department to be relevant to the equitable distribution of housing funds…" As such, a Regional Coverage Factor, which measures inverse population density, will be used as a variable for both the HOME SF the HTF programs.

To understand the Regional Coverage Factor, population density is first introduced, 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 given 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. An inverse population density conveys the amount of land per person in each subregion. A higher number indicates greater population dispersion (i.e., fewer people living in a larger space) and hence may at some point indicate an increasing challenge in reaching and serving Texans in that area.

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 have to reach to deliver housing assistance. Unlike TDHCA's multifamily programs which focus development primarily in one project area, single family programs are typically scattered-site predominately in rural areas of the state. The Regional Coverage Factor takes into account the smaller populations of rural areas as well as scattered locations of single family projects, instead of relying solely on population as an absolute.

Accordingly, applying an inverse population density calculation to the 26 Sub-regions (13 State service regions, each with an urban and rural sub-region) considered in the RAF produces the Regional Coverage Factor. 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 Tex. Gov't Code §2306.111, which requires that 95% of HOME funds be allocated for the benefit of those areas of the state that do not receive HOME funds directly from the U.S. Department of Housing and Urban Development ("HUD"), chiefly smaller cities and rural areas.

Summary of Variables

The following chart shows which need, availability, and other variables are used in the RAF Methodology for each of the four programs.

		Multifamily Programs		Single Family Programs	
		HTC	HOME MF	HTF	HOME SF
Need Variables	*Cost Burden for Renters*	✓	✓	✓	✓
	Cost Burden for Owners			✓	✓
	Overcrowding for Renters	✓	✓	✓	✓
	Overcrowding for Owners			✓	✓
	Lack of Kitchen Facilities			✓	✓
	Lack of Plumbing Facilities			✓	✓
	People at or Below 200% of Poverty	✓	✓	✓	✓
Availability Variables	*Vacant Units for Rent*	✓	✓	✓	✓
	Homes for Sale			✓	✓
Other	*Regional Coverage Factor*			✓	✓

Exceptions to the RAF

According to Tex. Gov't Code §2306.111(d-1), there are certain instances in which the RAF does not apply to HOME, HTC, or HTF funds. For instance, specific set-asides will not be subject to the RAF. This includes set-asides for contract-for-deed activities and set-asides mandated by state or federal law, if these set-asides are less than 10% of the total allocation of funds or credits. Set-asides for funds allocated to serve persons with disabilities will not be subject to the RAF. The total amount available through the RAF will not include funds for at-risk development, with instances mentioned in this paragraph. Also pursuant to Tex. Gov't Code §2306.111(d-1), specifically for HTF, programmed activities that do not exceed $3 million are not subject to the RAF. It is through these exceptions that the HTF funds, as currently programmed, do not utilize the RAF.

In Tex. Gov't Code §2306.111(d-2), specifically for HTC, 5% of HTC funds must be allocated to developments that receive federal assistance through USDA. Any developments that receive federal assistance through USDA and HTC for rehabilitation compete for funding separately under the "USDA Set-Aside." This funding is taken from the total tax credit ceiling prior to applying the RAF to allocate funds between each sub-region.

Participating Jurisdictions ("PJs")

In addition, accordance with Tex. Gov't Code §§2306.111(c)(1) and (2), 95% of the funds for HOME must be spent outside PJs. PJs are areas that receive funding directly from HUD. Because 95% of funds cannot be spent within a PJ, the housing need factors, housing availability factors, and Regional Coverage Factor in the PJs are not counted in the HOME MF or HOME SF RAF.

The PJ designations are subject to change yearly depending on HUD funding. According to HUD's 2015 allocation, 33 of the PJs are cities and eight of the PJs are counties. These PJs will be subtracted from the HOME SF and HOME MF versions of the RAF.

The other 5% of State HOME funds must be spent on activities that serve people with disabilities in any area of the State; this portion of HOME is not subject to the RAF because it is set-aside for persons with disabilities (see *Exceptions to the RAF* above).

Data Differences

Because TDHCA programs fund rehabilitation, substandard housing units would ideally be included in the RAF. However, at this time, staff has not identified a data source that would provide an estimate of these units that is accurate at the regional level.

Single Family RAF Example

The example below shows the need, availability and inverse population density variables used in the HOME SF RAF in Tables 1, 2, and 3. The HTF RAF would be very similar to the HOME SF RAF with the exception that the HTF RAF will include PJs. Note that sample numbers are used for clarity.

Table 1: Example of Need Variables Used for Single Family Programs, by Sub-region

Region (MSA Counties with urban places)	Column A: People at or below 200% Poverty without PJs	Column B: Households ("HH") at or below 200% Poverty without PJs	Column C: Cost Burden, Owners without PJs	Column D: Cost Burden, Renters without PJs	Column E: Over-crowded Owners without PJs	Column F: Over-crowded Renters without PJs	Column G: Units Lacking Plumbing without PJs	Column H: Units Lacking Kitchen without PJs	Column I: Compounded Need Variables
1	150,000	53,191	1,500	15,000	3,000	2,000	4,000	6,000	84,691
2	100,000	35,461	2,500	16,000	3,500	2,500	3,000	5,000	67,961
3	150,000	53,191	1,500	15,000	3,000	2,000	4,000	6,000	84,691
4	100,000	35,461	2,500	16,000	3,500	2,500	3,000	5,000	67,961
5	150,000	53,191	1,500	15,000	3,000	2,000	4,000	6,000	84,691
6	100,000	35,461	2,500	16,000	3,500	2,500	3,000	5,000	67,961
7	150,000	53,191	1,500	15,000	3,000	2,000	4,000	6,000	84,691
8	100,000	35,461	2,500	16,000	3,500	2,500	3,000	5,000	67,961
9	150,000	53,191	1,500	15,000	3,000	2,000	4,000	6,000	84,691
10	100,000	35,461	2,500	16,000	3,500	2,500	3,000	5,000	67,961
11	150,000	53,191	1,500	15,000	3,000	2,000	4,000	6,000	84,691
12	100,000	35,461	2,500	16,000	3,500	2,500	3,000	5,000	67,961
13	150,000	53,191	1,500	15,000	3,000	2,000	4,000	6,000	84,691

Region (Non-MSA counties and counties with only rural places)	Column A: People at or below 200% Poverty without PJs	Column B: HH at or below 200% Poverty without PJs	Column C: Cost Burden, Owners without PJs	Column D: Cost Burden, Renters without PJs	Column E: Over-crowded Owners without PJs	Column F: Over-crowded Renters without PJs	Column G: Units Lacking Plumbing without PJs	Column H: Units Lacking Kitchen without PJs	Column I: Compounded Need Variables
1	80,000	28,369	6,000	8,000	2,000	2,000	5,000	5,000	56,369
2	60,000	21,277	9,000	5,000	1,000	1,000	7,000	7,000	51,277
3	80,000	28,369	6,000	8,000	2,000	2,000	5,000	5,000	56,369
4	60,000	21,277	9,000	5,000	1,000	1,000	7,000	7,000	51,277
5	80,000	28,369	6,000	8,000	2,000	2,000	5,000	5,000	56,369
6	60,000	21,277	9,000	5,000	1,000	1,000	7,000	7,000	51,277
7	80,000	28,369	6,000	8,000	2,000	2,000	5,000	5,000	56,369
8	60,000	21,277	9,000	5,000	1,000	1,000	7,000	7,000	51,277
9	80,000	28,369	6,000	8,000	2,000	2,000	5,000	5,000	56,369
10	60,000	21,277	9,000	5,000	1,000	1,000	7,000	7,000	51,277
11	80,000	28,369	6,000	8,000	2,000	2,000	5,000	5,000	56,369
12	60,000	21,277	9,000	5,000	1,000	1,000	7,000	7,000	51,277
13	80,000	28,369	6,000	8,000	2,000	2,000	5,000	5,000	56,369

Regions	Col A Total	Col B Total	Col C Total	Col D Total	Col E Total	Col F Total	Col G Total	Col H Total	Col I Total
Total	2,570,000	911,348	121,500	287,000	62,000	49,000	123,000	149,000	1,702,848

Table 2: Example of Availability Variables Used for Single Family Programs, by Sub-region

Region (MSA Counties with urban places)	Column J: Unoccupied Units, For Sale without PJs	Column K: Unoccupied Units, For Rent without PJs	Column L: Regional Vacancies
1	1,500	2,000	3,500
2	1,000	3,000	4,000
3	1,500	2,000	3,500
4	1,000	3,000	4,000
5	1,500	2,000	3,500
6	1,000	3,000	4,000
7	1,500	2,000	3,500
8	1,000	3,000	4,000
9	1,500	2,000	3,500
10	1,000	3,000	4,000
11	1,500	2,000	3,500
12	1,000	3,000	4,000
13	1,500	2,000	3,500

Region (Non-MSA counties and counties with only rural places)	Column J: Unoccupied Units, For Sale without PJs	Column K: Unoccupied Units, For Rent without PJs	Column L: Regional Vacancies
1	1,500	2,000	3,500
2	2,000	2,500	4,500
3	1,500	2,000	3,500
4	2,000	2,500	4,500
5	1,500	2,000	3,500
6	2,000	2,500	4,500
7	1,500	2,000	3,500
8	2,000	2,500	4,500
9	1,500	2,000	3,500
10	2,000	2,500	4,500
11	1,500	2,000	3,500
12	2,000	2,500	4,500
13	1,500	2,000	3,500

Regions	Column J Total	Column K Total	Column L Total
Total	39,000	61,000	100,000

Table 3: Example of Population Density variables used for Single Family Programs, by Sub-region

Region (MSA Counties with urban places)	Column M: Land area without PJs	Column N: Population without PJs	Column O: Regional Coverage Factor (Land Area/Total Population)
1	3,000	350,000	0.009
2	2,000	250,000	0.008
3	3,000	350,000	0.009
4	2,000	250,000	0.008
5	3,000	350,000	0.009
6	2,000	250,000	0.008
7	3,000	350,000	0.009
8	2,000	250,000	0.008
9	3,000	350,000	0.009
10	2,000	250,000	0.008
11	3,000	350,000	0.009
12	2,000	250,000	0.008
13	3,000	350,000	0.009

Region (Non-MSA counties and counties with only rural places)	Column M: Land area without PJs	Column N: Total Population without PJs	Column O: Regional Coverage Factor (Land Area/Total Population)
1	15,000	200,000	0.075
2	13,000	300,000	0.043
3	15,000	200,000	0.075
4	13,000	300,000	0.043
5	15,000	200,000	0.075
6	13,000	300,000	0.043
7	15,000	200,000	0.075
8	13,000	300,000	0.043
9	15,000	200,000	0.075
10	13,000	300,000	0.043
11	15,000	200,000	0.075
12	13,000	300,000	0.043
13	15,000	200,000	0.075

Regions	Column M Total	Column N Total	Column O Total
Total	216,000	7,150,000	0.893

Compounded Need

To allocate funds, the RAF uses each sub-region's ratios of the State's total. All of the variables that measure need will be added together (i.e., compounded) before taking the percentage of each sub-region's need over the amount of the total need in the State. Table 1, Column I, illustrates how the Compounded Need Variable is derived: Households at 200% of poverty, cost-burdened owners and renters, over-crowded owners and renters, and units lacking kitchen facilities and plumbing facilities are added together, thereby compounding the need.

This compounding balances the relative importance of the variables; variables with very high or very small numbers are combined with the overall total of need, preventing these variables from having a disproportionate or arbitrary amount of weight for their size.

Weights

Building off the usefulness of Tables 1, 2, and 3, which showed the HOME SF Program variables, examples of how the weights work in the RAF are in Tables 4 through 6 on the following pages. Note that the column header letters will also build off the previous table, so if the letters are not in alphabetical order, the column header letter refers to a previous table.

Table 4 (below) shows only Region 1 in MSA counties and the total of all the regions, in order to simplify the example.

In order to apply weights, percentages of need, availability, and population density variables must be taken from the state as a whole. These percentages illustrate the relative need of the sub-region. Table 4 (below) demonstrates how the percentages are derived.

Table 4: Percentages Taken

Area	Column I: Compounded Need Variables	Column P: Percent of State's Total Need	Column L: Regional Vacancies	Column Q: Percent of State's Total Availability	Column O: Regional Coverage Factor Total	Column R: Percent of State's Total Regional Coverage Factor
Region 1 (MSA Counties with urban places)	84,691	5.0%	3,500	3.5%	0.075	8.4%
Total of all Regions	1,702,848		100,000		0.893	

Note: Column I is from Table 1, Column L is from Table 2, and Column O is from Table 3.

A successful allocation formula will provide more funding for areas with high housing need and reduce funding for areas with an abundance of housing resources. In order to get the right relationship between housing and need, the housing availability variable will have negative weight, while the need and regional coverage variables will have positive weight. Because the availability variable should be negative, the need

and inverse population variables are weighted at 20% each and the availability variable is weighted at -20%, giving the appropriate relationship between funding and current availability of resources. The compounded need variable will receive 100% weight (20% per variable). Table 5 shows the application of the weights based on a hypothetical statewide availability of $2,500,000[1].

Table 5: Weight Application

Area	Column P: Percent of State's Total Need	Column S: Weight of Need Variables	Column T: Need Variable Allocation*	Column Q: Percent of State's Total Availability	Column U: Weight of Availability Variable	Column V: Availability Variable Allocation~	Column R: Percent of State's Total Regional Coverage Factor	Column W: Weight of Availability Variable	Column X: Availability Variable Allocation^	Column Y: Total Allocation+
Region 1 (MSA Counties with urban places)	5.0%	100.0%	$ 124,338	3.5%	-20%	$ (17,500)	1.0%	20%	$4,799	$ 111,637

Note: Column P, Q and R taken from Table 4.
*Column T is calculated as follows: Column P x Column S x statewide availability of funds.
~Column V is calculated as follows: Column Q x Column U x statewide availability of funds.
^ Column X is calculated as follows: Column W x Column R x statewide availability of funds.
+Column Y is calculated as follows: Column T + Column V + Column X.

Minimum Sub-regional Allocation Adjustment

For the HOME SF RAF, if the calculated RAF results in a sub-regional funding amount that is less than $100,000, that sub-region's amount of funding is adjusted to provide for at least a minimum of $100,000. This is done as a final adjustment to the sub-regional allocation amounts available for award. The process does not take funds from sub-regions with initial funding amounts in excess of $100,000 and does not reallocate those funds to those sub-regions with initial funding amounts that are less than $100,000. The final adjustment simply adds a supplemental allocation to bring all sub-regions to a minimum of $100,000. The process is complete when each sub-region has at least $100,000.

Table 6 (below) shows the process of supplementing funds to any sub-regions that have initial funding amounts that are less than $100,000. This table builds from the previous tables included in this methodology and, for ease of explanation, Regions 1 and 2 "MSA counties with urban places" are included.

---

[1] Although the *Sample Allocation spreadsheet for the HOME SF Program* is based on a statewide availability of $11,000,000, the Methodology example is based on a statewide availability of $2,500,000 to more clearly emphasize how a Minimum Sub-regional Allocation Adjustment is made when initial HOME SF sub-region allocations fall under $100,000.

Again, the column header letters build off previous tables, so if the letters are not in alphabetical order, the column letter refers to previous tables.

Table 6: Sub-region amount under $100,000

Area	Column Y: Initial Sub-region amount	Column Z: Amount needed to reach $100,000	Column AA: Final Award Amount
Region 1 (MSA Counties with urban places)	$111,637	$-	$111,637
Region 2 (MSA Counties with urban places)	$84,255	$15,745	$100,000
Total	$195,892	$15,745	$211,637

Note: Column Y is from Table 5.

Since the Region 1 "MSA Counties with urban places" initial Sub-region amount exceeds $100,000, no adjustment is made to this sub-award. However, because the Region 2 "MSA counties with urban places" initial Sub-region amount is less than $100,000, a supplemental award amount is added to bring the sub-region up to the final award amount of $100,000.

Multifamily RAF Example

An example of the need and availability variables used in the HOME MF and HTF RAF is in Table 7 below. Note that sample numbers are used for clarity.

Table 7: Example of variables used for Multifamily Programs, by Sub-region

Region (MSA Counties with urban places)	Column BB: People at 200% Poverty	Column CC: HH at 200% Poverty	Column DD: Cost Burden, Renters	Column EE: Overcrowded Renters	Column FF: Vacancies, Rental
1	150,000	53,571	25,000	4,000	6,000
2	100,000	35,714	20,000	2,000	4,000
3	150,000	53,571	25,000	4,000	6,000
4	100,000	35,714	20,000	2,000	4,000
5	150,000	53,571	25,000	4,000	6,000
6	100,000	35,714	20,000	2,000	4,000
7	150,000	53,571	25,000	4,000	6,000
8	100,000	35,714	20,000	2,000	4,000
9	150,000	53,571	25,000	4,000	6,000
10	100,000	35,714	20,000	2,000	4,000
11	150,000	53,571	25,000	4,000	6,000
12	100,000	35,714	20,000	2,000	4,000
13	150,000	53,571	25,000	4,000	6,000

Region (Non-MSA counties and counties with only rural places)	Column BB: People at 200% Poverty	Column CC: HH at 200% Poverty	Column DD: Cost Burden, Renters	Column EE: Overcrowded Renters	Column FF: Vacancies, Rental
1	40,000	14,286	7,000	700	700
2	25,000	8,929	2,000	400	500
3	40,000	14,286	7,000	700	700
4	25,000	8,929	2,000	400	500
5	40,000	14,286	7,000	700	700
6	25,000	8,929	2,000	400	500
7	40,000	14,286	7,000	700	700
8	25,000	8,929	2,000	400	500
9	40,000	14,286	7,000	700	700
10	25,000	8,929	2,000	400	500
11	40,000	14,286	7,000	700	700
12	25,000	8,929	2,000	400	500
13	40,000	14,286	7,000	700	700

Regions	Column BB: People at 200% Poverty	Column CC: HH at 200% Poverty	Column DD: Cost Burden, Renters	Column EE: Overcrowded Renters	Column FF: Vacancies, Rental
Total	2,080,000	742,857	356,000	47,300	73,900

Weights

To allocate funds, the RAF will use each sub-region's ratios of the State's total. In order to account for the amount of population that the variables affect, all the variables that measure need will be added together (i.e., compounded) before taking the percentage of each sub-region's need over the amount of the total need in the State.

Examples of how the weights work in the RAF are in Tables 8 through 10 on the following pages. Building off the usefulness of Table 7, which showed the HTC program, Tables 8 through 10 are also examples of the HTC program RAF. Note that the column header letters will also build off the previous table, so if the letters are not in alphabetical order, the column header letter refers to a previous table.

Table 8 (below) shows only Region 1 in MSA counties and the total of all the regions, in order to simplify the example. Table 8 illustrates how the Compounded Need Variable is derived: Households at 200% of poverty, cost-burdened renters, and over-crowded renters are added together, thereby compounding the need. This compounding balances the relative importance of the variables; variables with very high or very small numbers are combined with the overall total of need, preventing these variables from having a disproportionate or arbitrary amount of weight for their size.

Table 8: Compounded Need Variables

Area	Column CC: HH at 200% Poverty	Column DD: Cost Burden, Renters	Column EE: Overcrowded Renters	Column GG: Compounded Need Variables
Region 1 (MSA Counties with urban places)	53,571	25,000	4,000	82,571
Total of all Regions	742,857	356,000	47,300	1,146,157

Note: Columns CC, DD and EE are from Table 7.

In order to apply weights, percentages of need and availability variables must be taken from the state as a whole. These percentages illustrate the relative need of the sub-region. Table 9 (below) demonstrates how the percentages are derived.

Table 9: Percentages Taken

Area	Column GG: Compounded Need Variables	Column HH: Percent of State's Total Need	Column II: Unoccupied Units, Rental	Column JJ: Percent of State's Total Availability
Region 1 (MSA Counties with urban places)	82,571	7.2%	6,000	8.1%
Total of all Regions	1,146,157		73,900	

Note: Column GG is from Table 8.

A successful allocation formula will provide more funding for areas with high housing need and reduce funding for areas with an abundance of housing resources. In order to get the right relationship between housing and need, the housing availability variable will have negative weight. If the weights were equal, a RAF with four variables would have each variable would receive 50% of the weight. Because the availability variable should be negative, the need variables are weighted at 50% each and the availability variable is weighted at -50%, giving the appropriate relationship between funding and current availability of resources. The compounded need variable will receive 150% weight (50% per variable). Table 10 shows the application of the weights based on a statewide availability of $40,000,000. [2]

Table 10: Weight Application

Area	Column HH: Percent of State's Total Need	Column KK: Weight of Need Variables	Column LL: Need Variable Allocation*	Column JJ: Percent of State's Total Availability	Column MM: Weight of Availability Variable	Column NN: Availability Variable Allocation~	Column OO: Total Allocation[+]
Region 1 (MSA Counties with urban places)	7.2%	150.0%	$ 4,322,519	8.1%	-50%	$ (1,623,816)	$ 2,698,703

Note: Column HH and JJ taken from Table 9.
*Column LL is calculated as follows: Column HH x Column KK x statewide availability of funds.
~Column NN is calculated as follows: Column JJ x Column MM x statewide availability of funds.
[+]Column OO is calculated as follows: Column LL + Column NN.

HTC $500,000 Adjustment

Tex. Gov't Code §2306.111(d-3) is a special requirement regarding funding and the RAF that applies only to HTC. This provision requires that TDHCA allocate at least 20% of credits to rural areas and that $500,000 be available for each urban and rural sub-region, which number 26 in total. The overall state rural percentage of the total tax credit ceiling amount will be adjusted to a minimum of 20% only at the time of actual award, if needed. Usually, the 20% allocation to rural areas occurs naturally, but, if not, one more deal for rural areas will be awarded from the statewide collapse of the RAF to ensure the requirement is met.

For the HTC RAF, the regional amount of rural and urban funding is adjusted to a minimum of $500,000, if needed. This is done as a final adjustment to the sub-regional allocation amounts available for award. The process proportionately takes funds from sub-regions with initial funding amounts in excess of $500,000 and reallocates those funds to those sub-regions with initial funding amounts that are less than $500,000. The process is complete when each sub-region has at least $500,000.

---

[2] Although the *Sample Allocation Spreadsheet for the HTC Program* is based on a statewide availability of $50,000,000, the Methodology example is based on a statewide availability of $40,000,000 to emphasize how a proportional adjustment is made when initial HTC allocations fall under $500,000.

Tables 11 through 12 below show the process of determining the amount to adjust from sub-regions with more than $500,000. These tables build from the previous tables included in this methodology and, for ease of explanation, Region 1 and 2's "MSA counties with urban places" and Region 1 and 2's "Non-MSA counties and counties with no urban places" are included. Again, the column header letters build off previous tables, so if the letters are not in alphabetical order, the column letter refers to previous tables.

These four sub-regions are examined below because the most common movement for funds during the $500,000 adjustment is from MSA counties to Non-MSA counties. The first step in the $500,000 adjustment process is illustrated in Table 11: the amount over or under $500,000 is determined for each sub-region.

Table 11: Sub-region amount over/under $500,000

Area	Column OO: Initial Sub-region amount	Column PP: Amount needed to reach $500,000	Column QQ: Amount over $500,000 that can be reallocated
Region 1 (MSA Counties with urban places)	$2,698,703	$-	$2,198,703
Region 1 (Non-MSA Counties or Counties with only rural places)	$961,482	$-	$461,482
Region 2 (MSA Counties with urban places)	$1,938,732	$-	$1,438,732
Region 2 (Non-MSA Counties or Counties with only rural places)	$457,720	$42,280	$-

Note: Column OO is from Table 10.

Note that Column QQ above is the amount in Column OO (if the amount in Column OO is over $500,000) minus $500,000; at least $500,000 is maintained in each sub-region before the adjustment process. Next the amounts in Column PP are totaled for the entire state and the amounts in Column QQ are totaled for the entire state. In this simplified example, the Column PP's total would be $42,280. The Column QQ total would be $4,098,917.

The subsequent step in the adjustment process is to determine the percentage to be reallocated. Following the example in Table 11, if only Region 1 and 2 were used in the RAF, the percentages would be seen in Column RR in Table 12 below. The proportion of the total amount to be reallocated is in Column SS. Finally, Column OO is adjusted by Column SS to equal the final Sub-Amount in Column TT.

Table 12: Proportional adjustment

Area	Column RR: Proportion of amount available to be reallocated*	Column SS: Amount to be reallocated~	Column TT: Final Sub-Amount for Compounded Need[+]
Region 1 (MSA Counties with urban places)	54%	$ (22,679)	$ 2,676,024
Region 1 (Non-MSA Counties or Counties with only rural places)	11%	$ (4,760)	$ 956,722
Region 2 (MSA Counties with urban places)	35%	$ (14,840)	$ 1,923,892
Region 2 (Non-MSA Counties or Counties with only rural places)	n/a	$ 42,280	$ 500,000

*Column RR is calculated as follows: if Column OO is over $500,000, then ((Column OO-$500,000)/$4,098,917)

~Column SS is calculated as followed: if Column RR is a percentage, then (Column RR*$42,280); if Column RR is n/a, then Column SS equals Column PP.

[+]Column TT is calculated as follows: Column OO + Column SS.