

[REDACTED]

From: Holly Osborne <[REDACTED]>
Sent: Thursday, December 24, 2020 3:15 PM
To: [REDACTED]; Regional Housing <Housing@scag.ca.gov>
Cc: Peggy Huang <[REDACTED]>
Subject: Letter for Rex Richardson on RHNA (final version)

Honorable Rex Richardson
SCAG President

Dear Mr. Richardson,

I have been thinking about the methodology for RHNA, and the reasons so many cities are unhappy with it. I am going to go through a number of pie charts, so you can see yourself. I hope you find this useful.

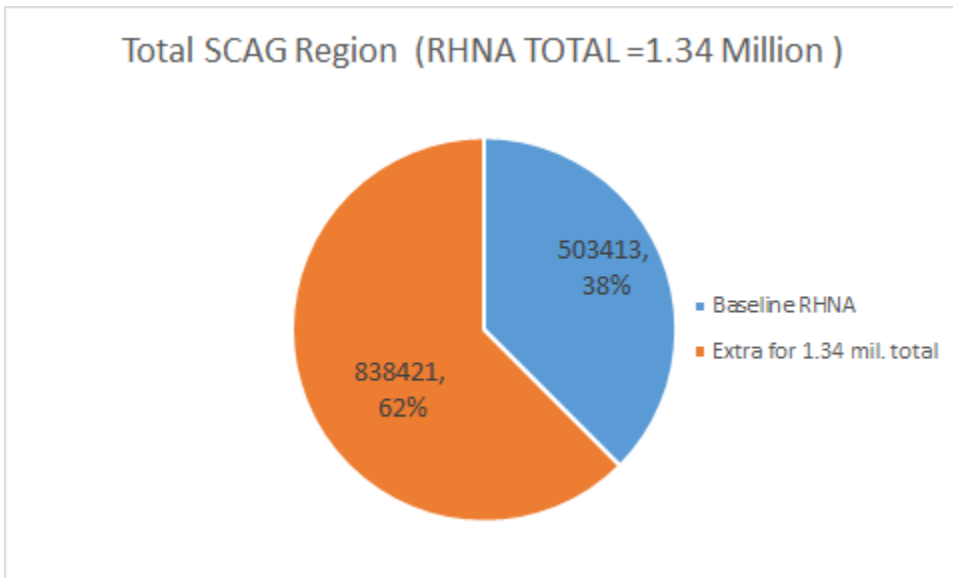
The underlying problem with the methodology is that it does not extrapolate well to "super large" RHNA numbers, which is what we ended up with (1.34 million). When the algorithms were first studied, we were examining total RHNAs on the order of 650,000 to 850,000 (when the baseline number due to **growth alone** was in the 500,000 range). The algorithms that were studied, and the new parameters that were introduced (HQTA and jobs) work reasonably well when the additional RHNA is small compared to 500,000, but not so well when the additional RHNA is large compared to 500,000. You will see this yourself.

I am going to arrange this as follows:

- 1) **Algorithm basics** and pie charts comparing the two major portions of the RHNA methodology: that due to growth, and that due to the "extra"
- 2) **Bar graphs** showing number of appeals per county, as well as total number of cities/regions in county
- 3) **Expanded pie charts**, showing the fraction that is the RHNA "distribution" to each county, also called residual. (This is initially included in the HQTA and jobs.)

1) **Algorithm Basics:** The 1.34 million RHNA allocation primarily consists of two parts: a "baseline" based on growth over the 6th RHNA cycle (2021-2028) and the "extra" based on other parameters (HQTA and jobs) to increase the allocated housing, as shown in the chart below. The sum of the "baselines" of the 197 regions in SCAG is approximately 500,000, and this was what the COGs had originally submitted to SCAG. The 800,000 is the "extra", to make 1.34 million. So, SCAG as a whole, has to build roughly 1.6 times more houses in addition to what it originally had planned, or **2.6 times total** that due to the "basic" RHNA.

Here is the first plot. (The baseline is BLUE) [See Note 1]



Since the BLUE area is based on cities on input data, there should not be any surprises for the cities there.

The "shock" value to SCAG as a whole is the orange. That is what cities had not originally planned. And in fact, when the RHNA committee first started meeting, the "Orange" extra value was only 150,000. (The committee studied a total RHNA of 650,000 [later increased to 700,000, even up to 800,000], not 1.34 million. During the first RHNA meetings, the committee had not yet been given an allocation by HCD, and it was just testing several algorithms with what were thought to be reasonable numbers.)

Then came the HCD allocation of 1.34 million, and the resulting "orange shock."

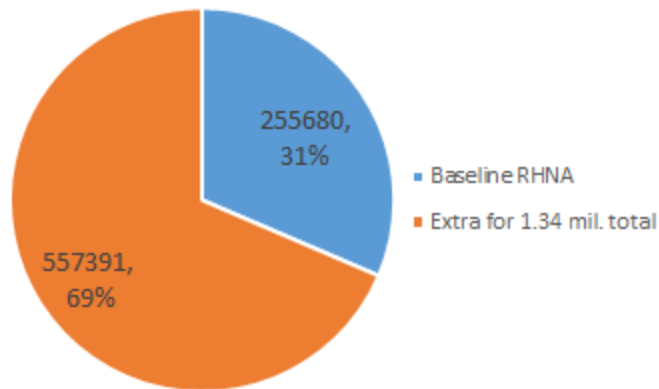
The above plot is for all six SCAG counties as a whole. Different methods of allocation down to the different 6 counties were studied, which would yield different ratios of orange and blue for each county. The plots below are for the methodology adopted in Nov. 2019.

By looking at the pie charts for individual counties, it can be seen which counties were "orange shocked" the most. (The counties that were "shocked" the most had the most appeals, which I will also show.)

First, look at the chart for LA county, below.

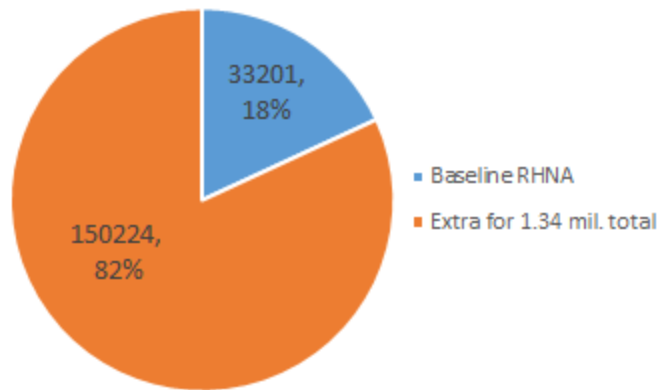
LA County has to build roughly two more homes for every one it planned initially; **or 3 times the baseline. (LA County has 24 appeals, out of 89 regions)** This is proportionally a little more "shock" than SCAG as a whole, and some of the COGs in the region have seen an even greater impact..

LA County (RHNA = 813,071 Total)

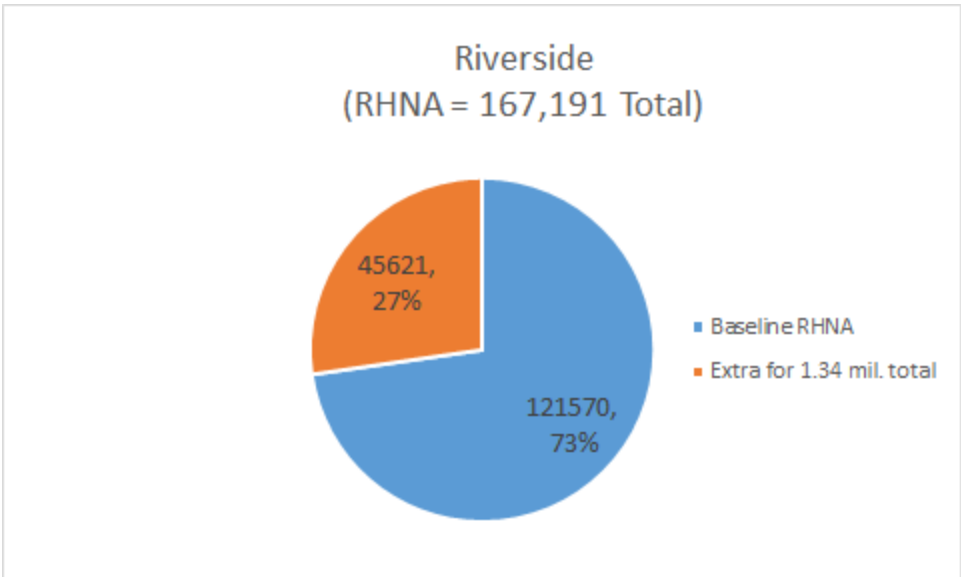


And now consider Orange County. Looking at the following plot, there is roughly a 4:1 ratio of "extra" orange to baseline blue, meaning **Orange County has to build more than 5 times what they originally planned**. Thinking of "orange" as the shock value, Orange County was in total shock. And, they have the most appeals, proportionately. (**17 cities filed appeals out of 35 regions**) The wonder is that they don't have MORE appeals.

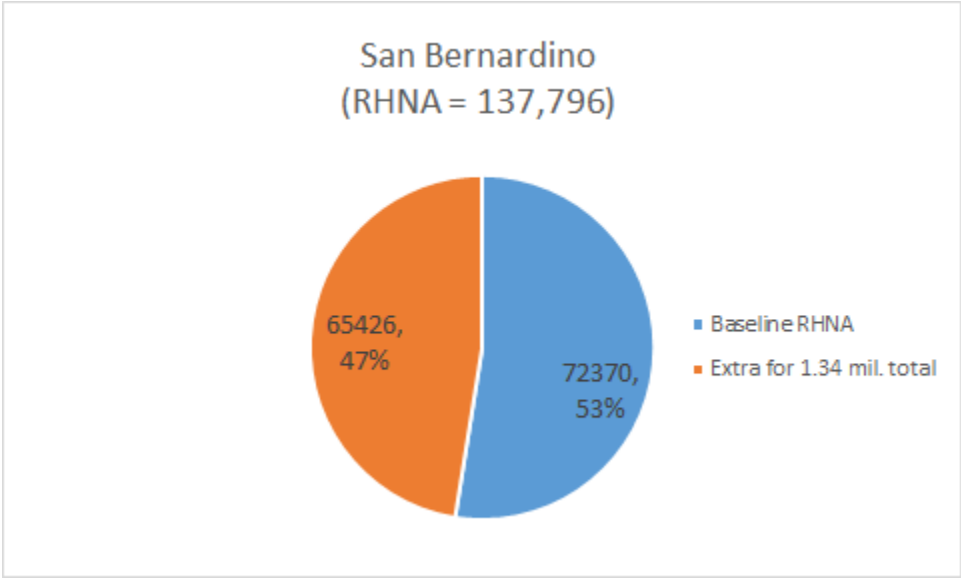
Orange County (RHNA = 183,425 Total)



Now consider Riverside county. Here, the "blue" dominates, i.e. the basic RHNA numbers based on growth that the cities computed themselves. [This algorithm that was adopted at the last minute, in Nov 2019, was dubbed the **Riverside Algorithm**.] **They have only two appeals (out of 29 regions)**, and those two regions have unique situations. Apparently, Riverside County is satisfied with the Riverside Algorithm. **Riverside County** has been allocated RHNA roughly **1.35 times the baseline for its area**. [The two appealing cities are appealing on the "Blue" region RHNA, which depends on data supplied by the cities.]

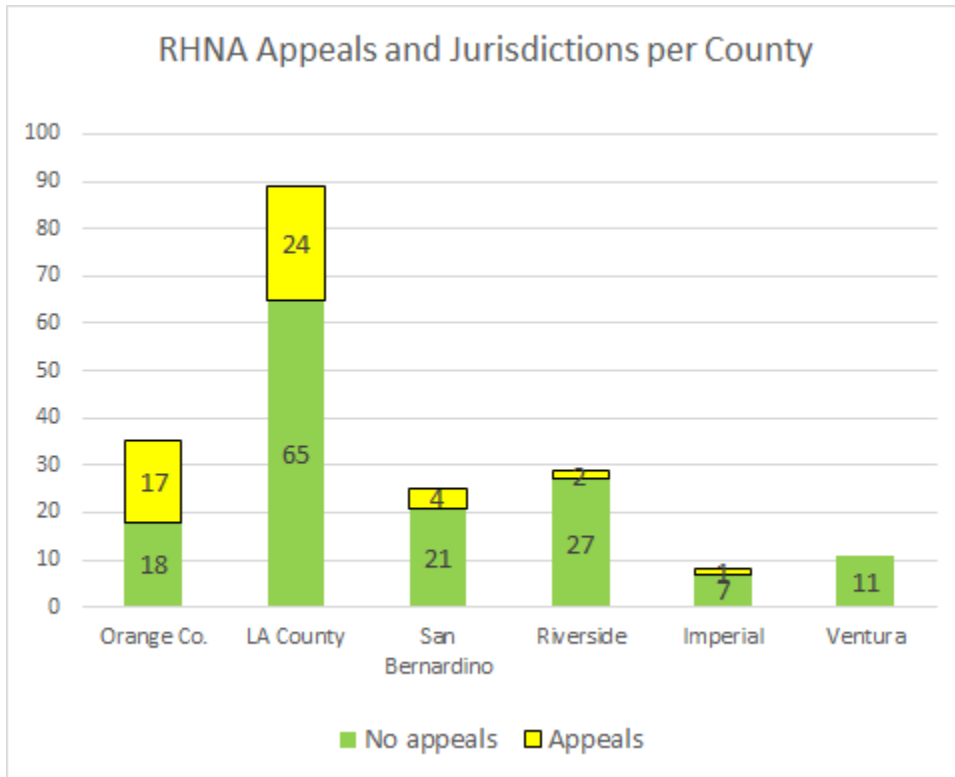


For reference, I also include San Bernardino County here. (The smaller counties, Ventura and Imperial, are at the end in Note 2.) San Bernardino is split roughly equal between "blue" baseline based on growth, and orange. It had 4 appeals (out of 25 regions/cities).



2.) Bar graph showing Regions where appeals are greatest.

Here is a chart, below, comparing the number of regions in each county and the appeals per region. LA county and Orange County have the most appeals, not surprisingly, based on the amount of "extra orange" to "basic RHNA blue" in the pie charts already presented, above. The height of the bars corresponds to the number of regions, or jurisdictions in the county, e.g. 35 for Orange County, and 89 for LA county. The yellow portion signifies the number of appeals. The bars are roughly arranged in order of proportion of greatest appeals, out of total number of cities, so that Orange County is first.

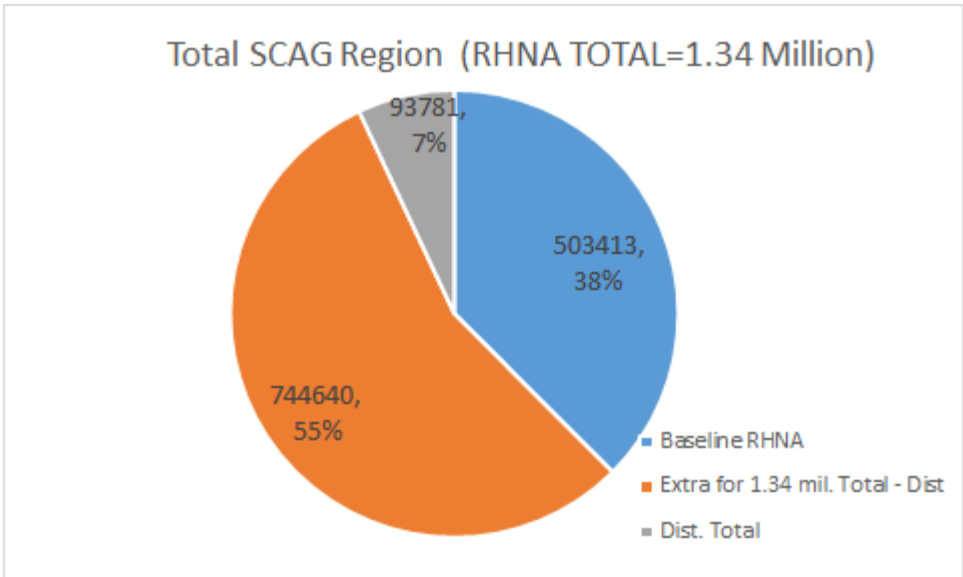


San Bernardino (25 regions) , Imperial (8 regions) and Ventura (11 regions) county each have roughly a 50/50 split of blue to orange, i.e. they have to build twice as much housing as originally planned. Those 3 counties had a total of 5 appeals combined: See pie charts for Imperial and Ventura under Note 2 at end.]

3) The "distribution" factor.

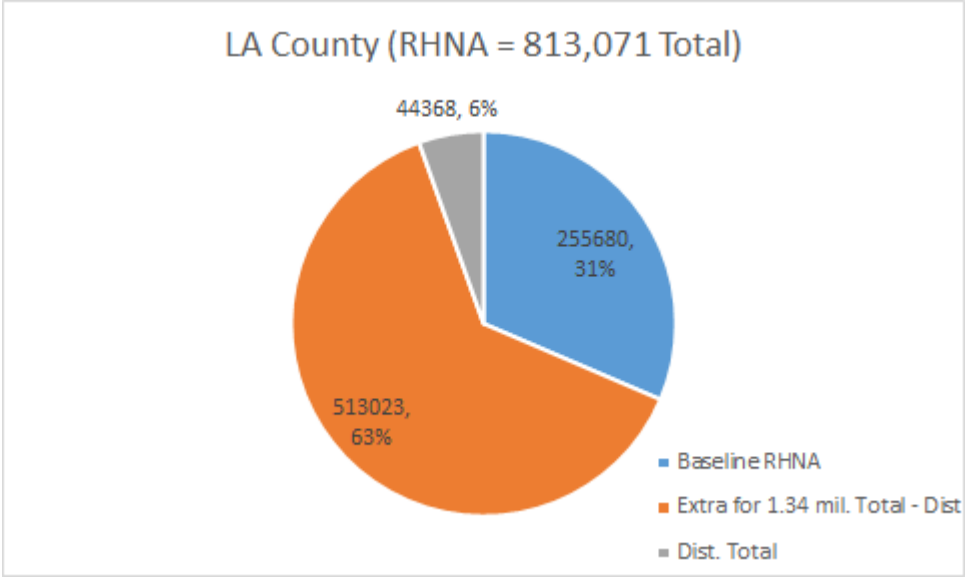
The "extra" orange portion is not just consisting of a city's proximity to HQTAs or jobs. From a "equity justice" point of view, **cities that have greater than 50% of their population in the lower income, are considered "disadvantaged, or "DAC. "** In some cases, a portion of their "share" of HQTAs and jobs RHNA is re-distributed to cities that are not considered disadvantaged, i.e. to those that have **less** than 50% of their population in low income areas..

It is instructive to redo the pie charts, and show how much of the "orange" extra RHNA is actually due to the DAC cities re-allocating a portion of their RHNA away. Here is the pie chart for the SCAG region as a whole. The Blue area is the same as before, but now a portion of the orange area has been colored "gray", to represent the redistributed RHNA.



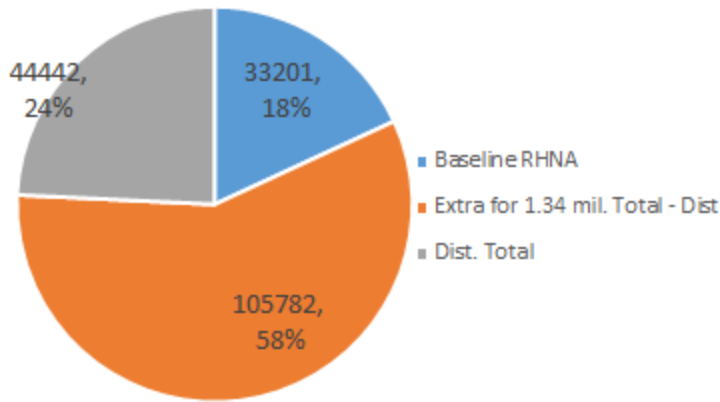
Mr. Richardson, I hope you have followed everything up to this point, because I am now going to present the other pie charts, showing the "gray region" on a county basis.

Below is LA County. The amount of "distributed" RHNA is 6% for the county (44,368). The RHNA comes from DACs within LA county only; it is a similar percentage to the SCAG region as a whole.



But *now* look at Orange County. The "distributed" portion of the RHNA makes up 24% of their total RHNA, although the actual number in gray (44,442) is roughly the same as LA County

Orange County (RHNA = 183, 425 Total)



Why am I emphasizing this? Because, Mr. Richardson, **this was a change from the original SCAG approved algorithm from October.** The October algorithm had all the distributions from the DACs **spread out to the SCAG regions as a whole**, and not done on a county by county basis. When the new "surprise" algorithm was introduced in November, most people thought it was just a change in the proportion of the "extra" computed from HQTAs and jobs. Not so. That was not the only change. A change that significantly affected Orange County **was the allocation of the "distribution" RHNA on a county by county basis.** (At the time, I did not understand the significance of this second change. I live in LA County.)

The method of allocating the distribution can have a severe, unintentional effect on the neighboring cities **if the city "shedding" RHNA is much larger than the neighboring cities to which it is shedding in its county.** **The smaller cities in the county can be overwhelmed.**

Here is a chart comparing the 5 DACs of Orange County, and listing the amount of RHNA they are "shedding." (Recall, a city is a DAC city if the low income population is > 50%,)

DACs cities in Orange County		
City	Low income %	Redistrib RHNA
Anaheim	82.93	11236
La Habra	87.95	1883
Orange	56.88	5616
Santa Ana	88.81	23167
Stanton	99.46	2540
Total		44442

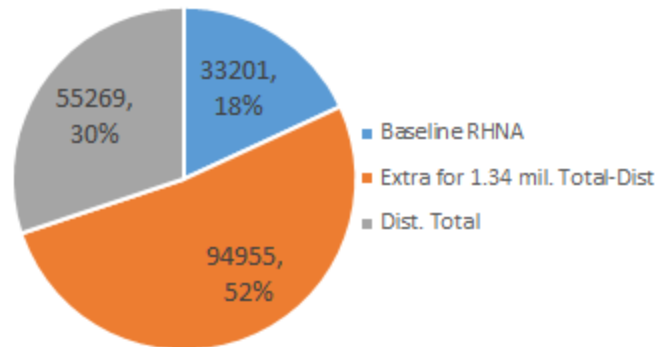
In glancing at the appeals, I realized the significant effect of the "shedding" of one of the largest cities in Orange County, Santa Ana, on the smaller cities in Orange County. If the redistributed RHNA had been "shed" across the entire SCAG region, as it was in the October. algorithm, the effect on each city would have been manageable.

In looking again at some of the appeals, I realized that another Orange County city, Garden Grove, was appealing its RHNA, because while its low income population percentage was "only" 47.92%, when the data was initially taken, it is probably over the 50% mark now due to the pandemic. Had this new data been in effect when the algorithm was run back in Nov. 2019, its RHNA would have been reduced from **19124** to **2421**. which would have resulted in **effectively spreading another 16,703 RHNA to the other cities in Orange County**. (In the unique way that SCAG has for computing the "gray" area, its size is increased by 10,827, so that the distributed RHNA = 44,442+10,827 = 55,269, See Note 3 at end)

DACs cities in Orange County		
<i>(Garden Grove added, for study)</i>		
City	Low income %	Redistrib RHNA
Anaheim	82.93	11236
La Habra	87.95	1883
Orange	56.88	5616
Santa Ana	88.81	23167
Stanton	99.46	2540
Total		44442
<i>Garden Grove</i>	<i>47.75</i>	<i>10827</i>
Total inc. G.G.		55269

The pie chart below shows the distribution of the gray, relative to the blue and orange, with Garden Grove now considered a DAC.. It must be stressed that the "gray" flows back only to **the non-DAC areas within the county**. (*I am going to say more about this later; this is not logical and is a mathematical convenience only.*)

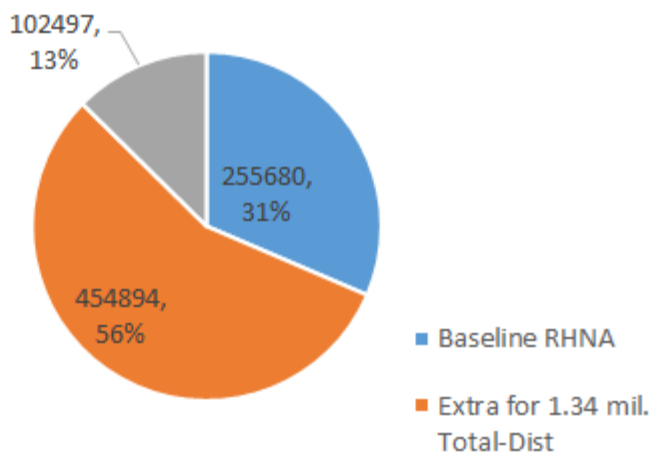
Orange County (RHNA = 183, 425 Total)
(Study if Garden Grove also a DAC)



I provide this illustration to show what the methodology would do. I do not think the originators of the RHNA methodology ever intended for the re-distributed RHNA to be such a large portion of the RHNA in a county, but that is what happens with the Riverside Algorithm. .

This got me to thinking: What if this same thing had happened in LA county? Although LA county is roughly 3 times the population of Orange County, (10 million to 3.1 million) they both originally had the same re-distributed RHNA. (about 44,400). This did not overwhelm the 89 cities in LA County, as a similar distributed RHNA did overwhelm the much smaller Orange County. But what if the largest city in LA county (LA city) had also been a DAC? LA city's lower income proportion is not that far off from 50%: it is 42.89%. LA city's RHNA is now **455,565**. Had it been a DAC, with the lower income population being 50.01%, its RHNA would have been reduced to **369,703**. The difference is **85,862**. (In the complicated method by which the algorithm computes the "gray area", the gray area increased from 44368 by only 58129, for a total of 102497. See Note 4 at end.) The pie chart for LA county, with **LA city being a DAC**, is shown below; The gray area is now 13% of the total county RHNA, compared to 6% originally.

LA County (RHNA = 813,071 Total)
(Study if LA city assumed a DAC city)

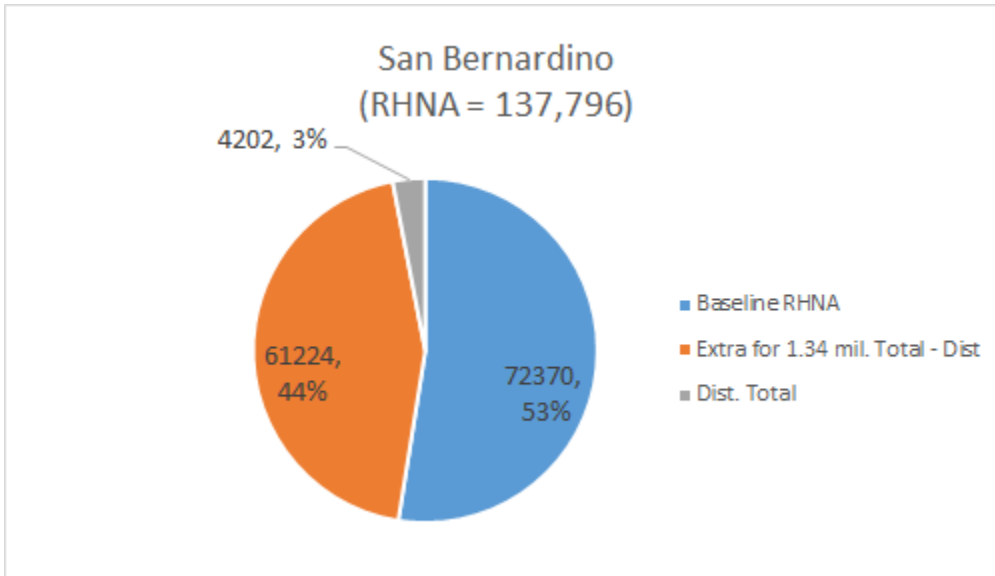


Mr. Richardson, the impact of the Riverside Algorithm's change to the implementation of the re-distribution algorithm was definitely not made clear when the Riverside Algorithm was adopted. **If LA City had been a DAC, you would have had**

many more appeals from LA county than you did have. The amount of increase for four LA County cities is shown under Note 4 at end.

Additional notes on Riverside and San Bernardino counties.

Riverside County has no "gray" areas. The plot for San Bernardino is shown below; at 3% the "gray area" is smaller than the SCAG region as a whole.



4) What can be done?

The methodology, as adopted, is inherently flawed, when it is used to allocate a very large total RHNA to the cities, when this total RHNA is large compared with the "baseline" RHNA due to growth. One effect of this large RHNA is the large "step discontinuities" that occur in assigned RHNA to cities that transition the low income population boundary (the DACs), and thus "shed" part of their share of the RHNA. We have already discussed the effect of this on other non- DAC cities in the same county. A related problem is that to get the algorithm to "total out" to 1.34 million RHNA, the algorithm's developer's "forced" it to extrapolate to 2045. This is an artificial device, and growth projections are not accurate over a 25 year period for many cities. The developers try to pretend it is accurate in projecting transportation and jobs at this level, but in fact, transportation and jobs predictions will probably change drastically because of the pandemic. When lower RHNA numbers were postulated at first, the algorithm's developers could achieve that total RHNA by projecting to 2035. That makes more sense. Also, lower RHNA totals would reduce the size of the step discontinuities, and make the current algorithm's methodology more acceptable.

And, as many cities have written to you, the total RHNA should NOT be 1.34 million. The Embarcadero report shows it should be at least 500,000 to 600,000 less. In this case the algorithm would be adequate; and the nearer long term projections could be used. Mr. Richardson, you yourself are quoted in the article below as saying the total RHNA should be about 800,000. Please stand up for the cities in the 6 southern counties and get a reasonable allocation from HCD. I do not accept that you "can't." It does neither you nor the cities any good to set them up for failure, using an algorithm in a flawed manner. And, Mr. Richardson, by using the algorithm in a way it was not originally intended, you negate the hard work of the algorithm's developers, who were trying to incorporate new parameters in a fair way. It is a disservice to the algorithm developers to have to see it applied inappropriately.

[Long Beach City Councilmember Richardson criticizes new regional housing plan for Southern California](#)



Long Beach City Councilmember Richardson criticizes new regional housing...


City News Service

City Council members and mayors from across Southern California voted Thursday, March 5 to adopt an eight-year r...

Mr. Richardson, I spent 40 years of my career at TRW/Northrop Grumman as a Systems Engineer/Sr, Scientist. My job often entailed analyzing data from satellites, missiles, ground communication equipment, test sets, etc. especially when the data did not behave as expected. I analyzed algorithms which I could never have written myself, but, when presented with data, could track down anomalies (and fixes!). (My first assignment at the age of 21 was on such a project.) In this respect, it is not that different from analyzing RHNA algorithms. I could NEVER have written your methodologies myself, being totally unfamiliar with all the parameters you use, and I admire and respect the people that have done those algorithms. But when I examine them closely, and examine cities outside my own, it is possible to see where the algorithm is not behaving "fairly." It is no different from the rockets, in that respect.

Please do not hesitate to call if you have questions, or if you want the charts run for a different total RHNA.

Sincerely,

Holly Osborne, PhD, PE.


Appendix

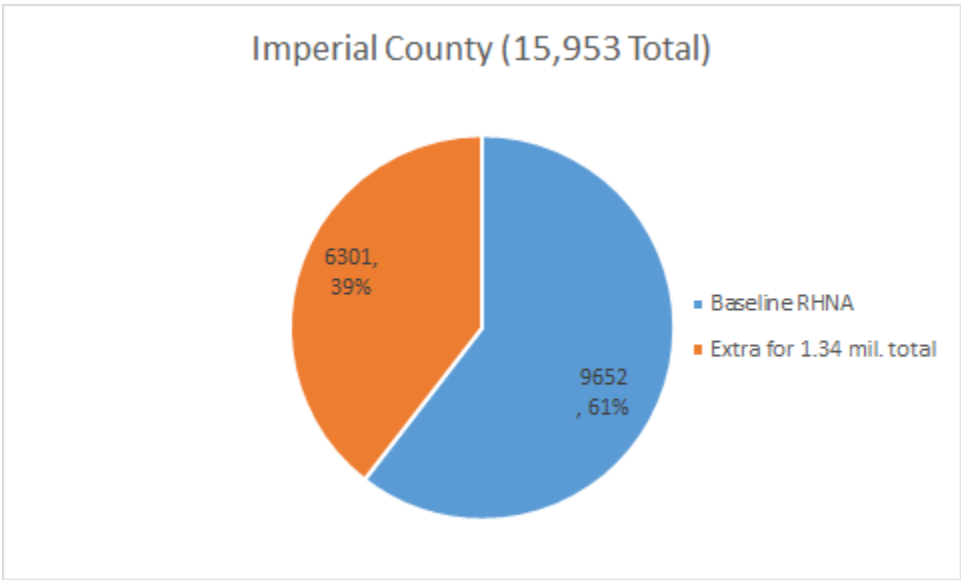
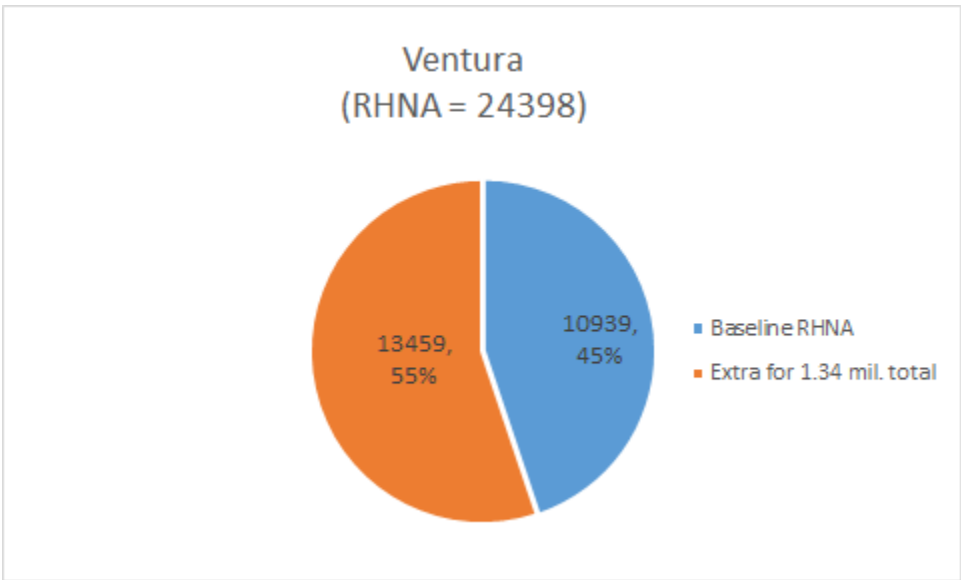
The following are extra notes and calculations, and spreadsheets.

Supplement: Notes and Comments

Note 1. I used the February 2020 algorithm to compute the RHNAs. There were some very minor changes after that due to data inputs, (not the methodology) but they do not affect the argument. *(Also, the current RHNA algorithm on the website is totally broken, and falls apart if the input is changed. I notified a SCAG member of this about a month ago, but the Sept algorithm is still on the website, and it is broken.)* For some of my last screen shots, I was able to obtain a correct later version that enabled me to get the formal spreadsheet outputs; these reflect the minor changes.

Note 2:Ventura and Imperial Counties. :The pie charts for Ventura and imperial counties are shown below. There, the baseline and the extra are about equal, which means the counties have to build twice as much as they originally planned: (but not more than that)

Ventura County had no appeals out of its 11 regions, there was 1 appeal out of Imperial's eight regions.



Note 3: Spreadsheets for the Orange County, showing effect if Garden Grove had been a DAC.

Below is the output spreadsheet for Garden Grove. With its low income population at 47.92%, **the RHNA is 19,124**. If the low income population had been >50%, the RHNA would have defaulted to **2421**, as shown in the left hand column. (The extrapolation to 2045 is the default RHNA for most DACs. In any event, I have submitted a second spreadsheet, showing the lower RHNA explicitly.)

In the Byzantine way the algorithm works, there is the residual that would then have to be spread to the other OC cities. It is **not** the "obvious" $19124 - 2421 = 16403$. No, it is $6172 + 5563 + 1512 - 2421 = 10826$, as shown in the second spread sheet. (small errors due to rounding)

Garden Grove Spreadsheet; as currently exists. (Garden Grove is not a DAC.) RHNA = 19124

			RHNA Allocation inputs for Garden Grove c
Select Jurisdiction (drop-down menu)			Forecasted household (HH) growth, RHNA p
Garden Grove city			Vacancy Adjustment
Total regional housing need			Replacement Need
	1,341,827		TOTAL PROJECTED NEED:
Garden Grove city statistics:		<i>Regional</i>	Existing need due to job accessibility (50
		<i>Percentile:</i>	Existing need due to HQTA pop. share (50
Forecasted household (HH) growth, RHNA period:	1221	66%	Net residual factor for existing need^
Percent of households who are renting:	46%	63%	TOTAL EXISTING NEED
Housing unit loss from demolition (2009-18):	253	95%	TOTAL RHNA FOR GARDEN GROVE CITY
Adj. forecasted household growth, 2020-2045:*	2,421	-	Very-low income (
Pct. of regional jobs accessible in 30 mins (2045):**	21.64%	98%	Low income (50
Share of region's job accessibility (pop-weighted):	1.48%	97%	Moderate income (80-
Share of region's HQTA population (2045)	1.33%	96%	Above moderate income (>
Share of pop. in low/very low-resource tracts:	47.92%	-	
Share of pop. In very high-resource tracts:	0.00%	-	
Social equity adjustment:	150%	-	

Garden Grove, modified spreadsheet, if low income population had been > 50% : RHNA =2421.

(The RHNA now shows up in the Right Hand column as well, since the low income population variable was changed to something greater than 50% Also note the calculation of the re-distributed RHNA = 10825.)

Select Jurisdiction (drop-down menu)			RHNA Allocation inputs for Garden Grove c	
Garden Grove city			Forecasted household (HH) growth, RHNA p	
Total regional housing need			Vacancy Adjustment	
1,341,827			Replacement Need	
Garden Grove city statistics:			TOTAL PROJECTED NEED:	
Forecasted household (HH) growth, RHNA period:	1221	Regional Percentile: 66%	Existing need due to job accessibility (50	
Percent of households who are renting:	46%	63%	Existing need due to HQTAs pop. share (50	
Housing unit loss from demolition (2009-18):	253	95%	Net residual factor for existing need^	
Adj. forecasted household growth, 2020-2045:*	2,421	-	TOTAL EXISTING NEED	
Pct. of regional jobs accessible in 30 mins (2045):**	21.64%	98%	TOTAL RHNA FOR GARDEN GROVE CITY	
Share of region's job accessibility (pop-weighted):	1.48%	97%	Very-low income (
Share of region's HQTAs population (2045)	1.33%	96%	Low income (50	
Share of pop. in low/very low-resource tracts:	51.00%	-	Moderate income (80-	
Share of pop. in very high-resource tracts:	0.00%	-	Above moderate income (>	
Social equity adjustment:	150%	-		

So what would be the effect on other Orange County cities, if Garden Grove became a DAC?

Here is an example of two spreadsheets for the city of Newport Beach: The first with Garden Grove NOT a DAC: Look at the "residual". This is the amount flowing in from the DACs: 1506.

Example: Newport Beach Spread sheet, with Garden Grove a "regular" city" : "residual" = 1506, and Newport RHNA = 4832

			RHNA Allocation inputs for Newport Beach city
Select Jurisdiction (drop-down menu)			Forecasted household (HH) growth, RHNA period
Newport Beach city			Vacancy Adjustment
Total regional housing need			Replacement Need
	1,341,827		TOTAL PROJECTED NEED:
Newport Beach city statistics:		<i>Regional Percentile:</i>	Existing need due to job accessibility (50%)
Forecasted household (HH) growth, RHNA period:	238	34%	Existing need due to HQTa pop. share (50%)
Percent of households who are renting:	43%	54%	Net residual factor for existing need^
Housing unit loss from demolition (2009-18):	75	84%	TOTAL EXISTING NEED
Adj. forecasted household growth, 2020-2045:*	1,944	-	TOTAL RHNA FOR NEWPORT BEACH CITY
Pct. of regional jobs accessible in 30 mins (2045):**	16.63%	74%	Very-low income (<10%)
Share of region's job accessibility (pop-weighted):	0.56%	82%	Low income (10-20%)
Share of region's HQTa population (2045)	0.16%	57%	Moderate income (20-40%)
Share of pop. in low/very low-resource tracts:	4.25%	-	Above moderate income (>40%)
Share of pop. in very high-resource tracts:	85.62%	-	
Social equity adjustment:	170%	-	

Newport Beach Spread sheet, with Garden Grove a DAC city. It caused residual to increase to 2159. This is a factor of $2159/1506 = 1.433$ increase. This factor was observed for all OC cities due to Garden Grove becoming a "DAC", so any OC city can compute its new RHNA due to this. **The resulting Newport RHNA is 5486.**

Select Jurisdiction (drop-down menu)				RHNA Allocation inputs for Newport Beach
Newport Beach city				Forecasted household (HH) growth, RHNA p
Total regional housing need				Vacancy Adjustment
1,341,827				Replacement Need
Newport Beach city statistics:			<i>Regional</i>	TOTAL PROJECTED NEED:
			<i>Percentile:</i>	Existing need due to job accessibility (50'
Forecasted household (HH) growth, RHNA period:	238	34%		Existing need due to HQTA pop. share (50'
Percent of households who are renting:	43%	54%		Net residual factor for existing need^
Housing unit loss from demolition (2009-18):	75	84%		TOTAL EXISTING NEED
Adj. forecasted household growth, 2020-2045:*	1,944	-		TOTAL RHNA FOR NEWPORT BEACH CITY
Pct. of regional jobs accessible in 30 mins (2045):**	16.63%	74%		Very-low income (<
Share of region's job accessibility (pop-weighted):	0.56%	82%		Low income (50
Share of region's HQTA population (2045)	0.16%	57%		Moderate income (80-1
Share of pop. in low/very low-resource tracts:	4.25%	-		Above moderate income (>1
Share of pop. In very high-resource tracts:	85.62%	-		
Social equity adjustment:	170%	-		

Here is a Table for several OC cities, comparing the RHNA before and after Garden Grove becoming a DAC. In the right hand side of the tables, I show the residual RHNAs flowing to the cities, before and after Garden Grove becoming a DAC. The ratio is the same in every case.

O.C. City	RHNA			Residual Factor		Ratio of residuals
	current RHNA	RHNA if G.G. were a DAC	Delta	current	if GG were a DAC	
(Gar. Grove)	19124	2421		5877	-	
Newport	4832	5484	652	1506	2158	1.433127
Seal Beach	1240	1403	163	376	540	1.433127
Tustin	6777	7750	973	2245	3217	1.433127
Yorba Linda	2410	2753	343	793	1136	1.433127

Note 4: Let us now look at LA County, and see what happens if LA City were to become a "super spreader"

Below is the output spreadsheet for Los Angeles County. With its low income population at 42.89%, the RHNA is **455,565**. If the low income population had been >50%, the RHNA would have defaulted to **369,703**, as shown in the left hand column of this sheet..

In the Byzantine way the algorithm works the difference in RHNA would then have to be spread to the other LA county cities. The distribution factor is **not** the "obvious" $455565 - 369703 = 85862$. No, it is $128012 + 165505^* + 134316 - 369703 = 58130$ (*An updated spreadsheet from a later program, got 58142, due to HQTa factor being 165517. This factor is on the right hand side of the second spreadsheet.)

LA City Spreadsheet, LA not a DAC; RHNA = 455,565. (This is the current situation)

			RHNA Allocation inputs for Los Angeles city
Select Jurisdiction (drop-down menu)			Forecasted household (HH) growth, RHNA p
Los Angeles city			Vacancy Adjustment
Total regional housing need			Replacement Need
1,341,827			TOTAL PROJECTED NEED:
Los Angeles city statistics:			Existing need due to job accessibility (50'
		<i>Regional Percentile:</i>	Existing need due to HQTa pop. share (50'
Forecasted household (HH) growth, RHNA period:	116832	100%	Net residual factor for existing need^
Percent of households who are renting:	63%	92%	TOTAL EXISTING NEED
Housing unit loss from demolition (2009-18):	13,148	100%	TOTAL RHNA FOR LOS ANGELES CITY
Adj. forecasted household growth, 2020-2045:*	369,703	-	Very-low income (<
Pct. of regional jobs accessible in 30 mins (2045):**	17.48%	78%	Low income (50
Share of region's job accessibility (pop-weighted):	30.59%	100%	Moderate income (80-1
Share of region's HQTa population (2045)	39.55%	100%	Above moderate income (>1
Share of pop. in low/very low-resource tracts:	42.89%	-	
Share of pop. In very high-resource tracts:	16.81%	-	
Social equity adjustment:	150%	-	
			<i>^Negative values represent a lower-resourced c</i>

And here is the LA city spreadsheet, if LA city were a DAC: RHNA = 369,703. (Low income portion changed 50.01% to force the computation)

RHNA Allocation inputs for Los Angeles city		
Select Jurisdiction (drop-down menu)		
Los Angeles city		
Total regional housing need		
	1,341,827	
Los Angeles city statistics:		<i>Regional Percentile:</i>
Forecasted household (HH) growth, RHNA period:	116832	100%
Percent of households who are renting:	63%	92%
Housing unit loss from demolition (2009-18):	13,148	100%
Adj. forecasted household growth, 2020-2045:*	369,703	-
Pct. of regional jobs accessible in 30 mins (2045):**	17.48%	78%
Share of region's job accessibility (pop-weighted):	30.59%	100%
Share of region's HQTa population (2045)	39.56%	100%
Share of pop. in low/very low-resource tracts:	50.01%	-
Share of pop. In very high-resource tracts:	16.81%	-
Social equity adjustment:	150%	-
TOTAL PROJECTED NEED: Forecasted household (HH) growth, RHNA period Vacancy Adjustment Replacement Need TOTAL EXISTING NEED: Existing need due to job accessibility (50%) Existing need due to HQTa pop. share (50%) Net residual factor for existing need^ TOTAL RHNA FOR LOS ANGELES CITY Very-low income (<50%) Low income (50-75%) Moderate income (75-80%) Above moderate income (>80%)		
^Negative values represent a lower-resourced city		

So, how does this affect the other cities' RHNA in LA County that are non-DAC? See the Table below for some randomly selected cities. Their distribution factor turns out to be 6.16 times their original distribution factor.

LA County City	RHNA			Residual Factor		
	RHNA (current)	RHNA with LA city a DAC	Delta	current	If LA city were a DAC	Ratio of residuals
LA city	455565	369703	-85862	27732		
Redondo	2483	3343	860	167	1027	6.16
Torrance	4929	6866	1937	375	2312	6.16
Pasadena	9409	12387	2978	577	3555	6.16
Whittier	3431	4509	1078	209	1286	6.16

There would be a considerable increase in RHNA for all cities. . No LA county city would be happy. with this.

Mr Richardson, this was the last table I put together, on the final draft of this letter to you. Perhaps I should have done it first, because it sums up many of the problems I have stated throughout the report:

- 1) The algorithm does not work well in terms of "spreading" RHNA, if the cities are vastly different in size. For one thing, a city that is huge probably has wealthier areas that could absorb some of its own RHNA that is being shed because of the disadvantaged part of the cities.
- 2) The problems with the algorithm would be much less apparent if the total RHNA was less to begin with; which is how the algorithm originally started.

I am going to quit now!

Merry Christmas
Holly Osborne (Dec. 24)