Do the Math: The state has ordered more than 350 cities to prepare the way for more than 2 million homes by 2030. But what if the math is wrong?

Senate Bill 828, co-sponsored by the Bay Area Council and Silicon Valley Leadership Group, and authored by state Sen. Scott Wiener in 2018, has inadvertently doubled the "Regional Housing Needs Assessment" in California.

Use of an incorrect vacancy rate and double counting, inspired by SB-828, caused the state's Department of Housing and Community Development (HCD) to exaggerate by more than 900,000 the units needed in SoCal, the Bay Area, and the Sacramento area.

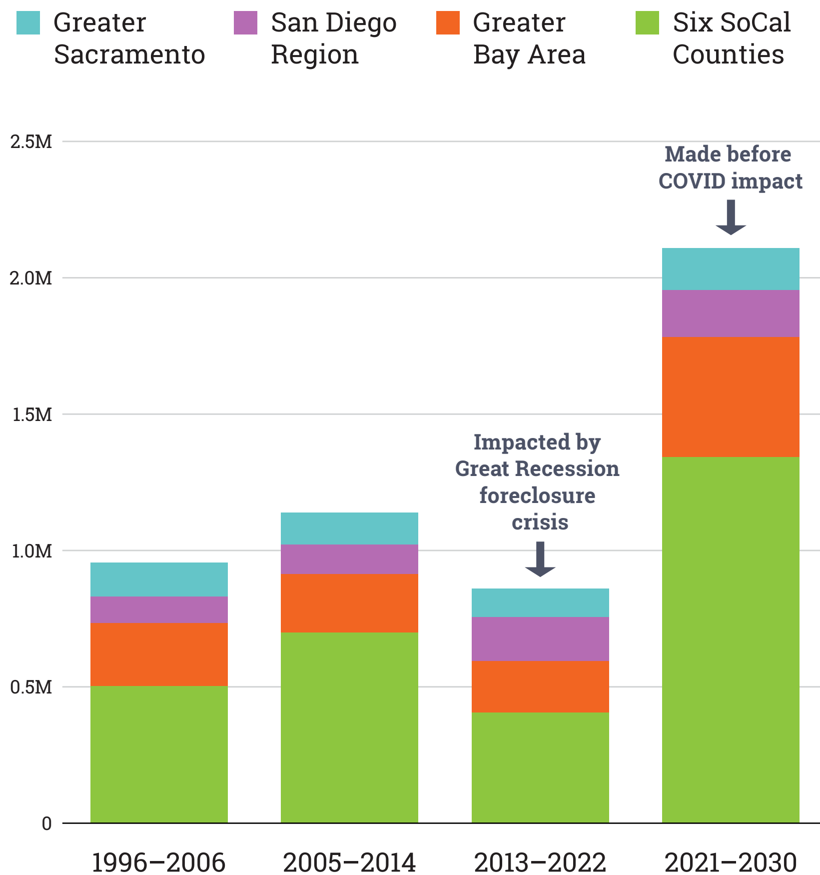
The state's approach to determining the housing need must be defensible and reproducible if cities are to be held accountable. Inaccuracies on this scale mask the fact that cities and counties are surpassing the state's market-rate housing targets but falling far short in meeting affordable housing targets. The inaccuracies obscure the real problem and the associated solution to the housing crisis—the funding of affordable housing.

Author : Gab Layton PhD, President of the Embarcadero Institute

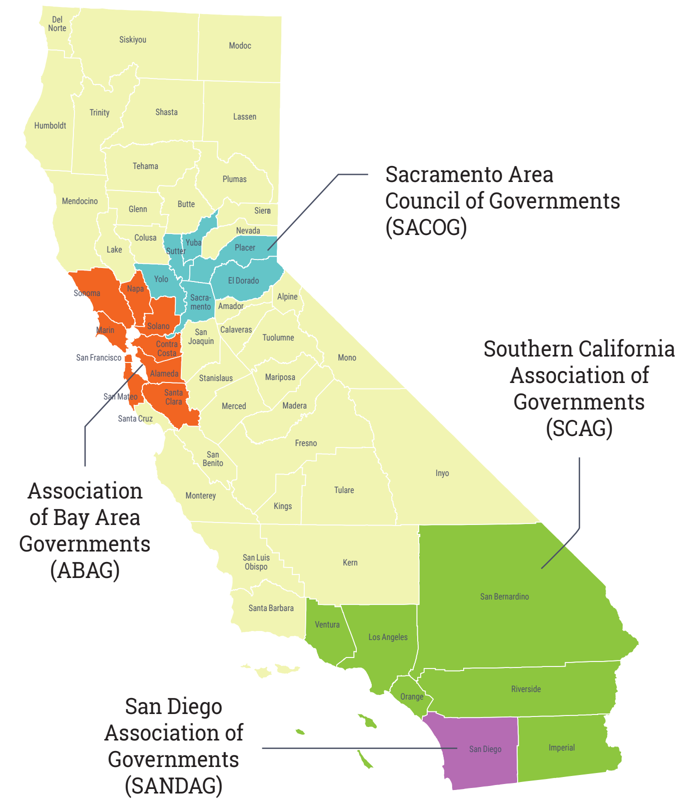
Double counting (not surprisingly) doubled the assessed housing need for the four major planning regions.

Every five to eight years the Department of Housing and Community Development (HCD) supervises and publishes the results of a process referred to as the Regional Housing Needs Assessment (RHNA). Four regional planning agencies cover the 21 most urban counties and account for 80% of California's housing. All four regions saw a significant jump in the state's assessment of their housing need for the years 2021 to 2030.

Housing Units Needed According to the State, (1996–2030)

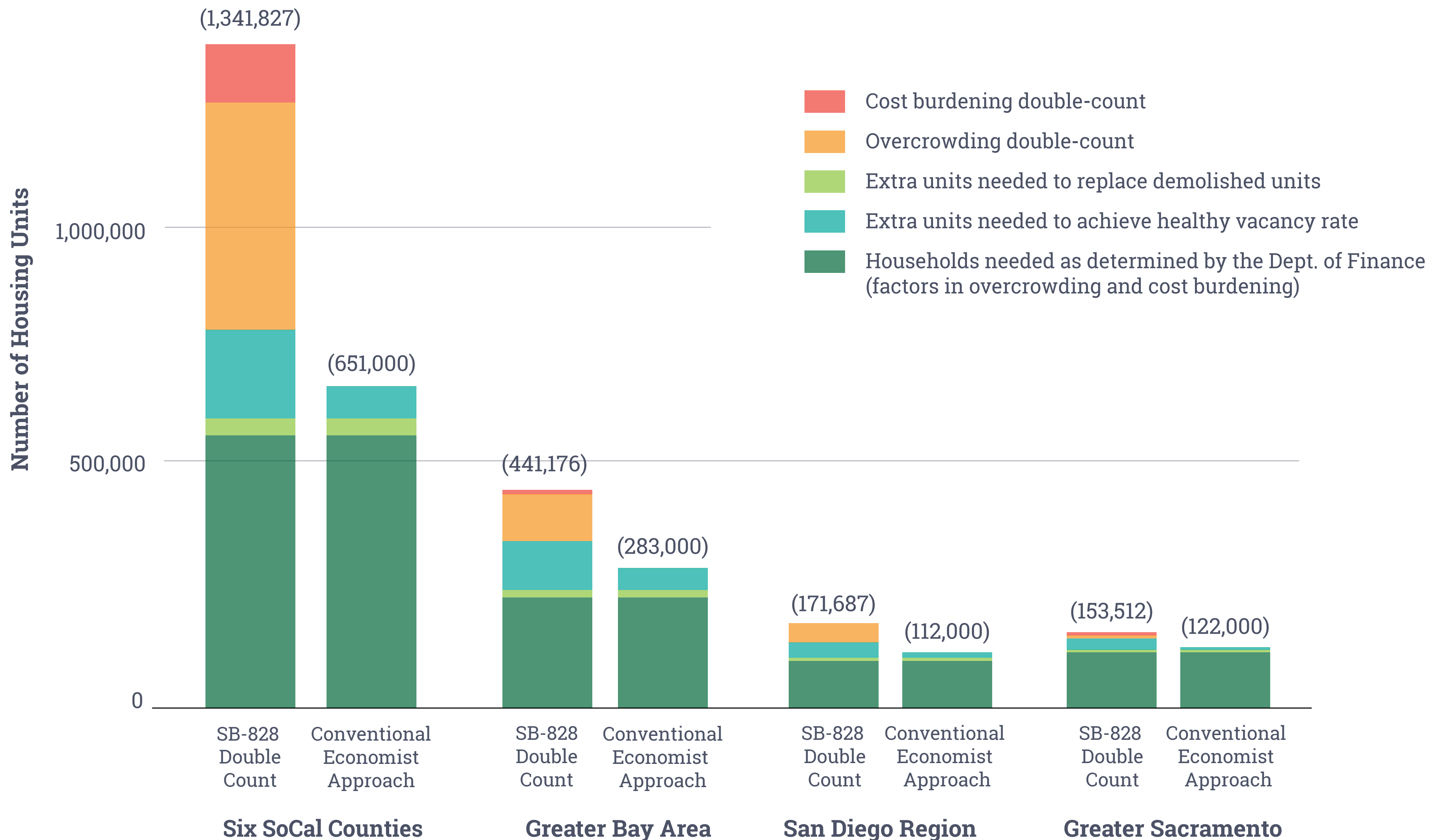


Four Regions Contain 80% of the State's Housing



The double count, an unintended consequence of Senate Bill 828, has exaggerated the housing need by more than 900,000 units in the four regions below.

California plans for its housing needs in "cycles." The four regions are on cycles that last roughly eight years with staggered start dates. In the 2021–2030 housing cycle, errors introduced by language in SB-828 nearly equal the entire 1.15M units of new housing required during the 2013–2022 "cycle." As illustrated, Southern California and the Bay Area are the most impacted by the state's methodology errors.



Senate Bill 828 was drafted absent a detailed understanding of the Department of Finance's methodology for developing household forecasts, and absent an understanding of the difference between rental and home-owner vacancies. These misunderstandings have unwittingly ensured a series of double counts.

SB-828 MISTAKENLY ASSUMED:

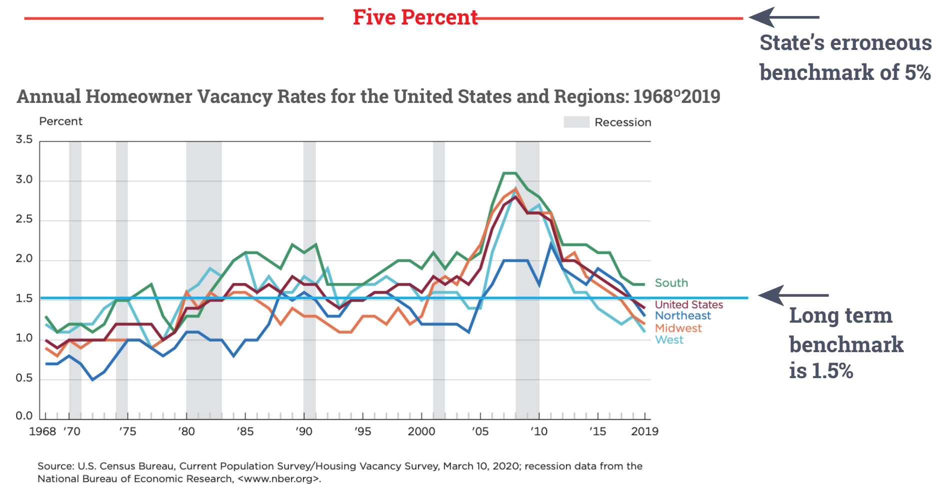
THE REALITY IS:

1. SB-828 wrongly assumed 'existing housing need' was not evaluated as part of California's previous Regional Housing Need Assessments, or RHNA. There was an assumption that only future need had been taken into account in past assessments. (In fact, as detailed in The Reality section, the state's existing housing need was fully evaluated in previous RHNA assessment cycles).

1. Existing housing need has long been incorporated in California's planning cycles. It has been evaluated by comparing existing vacancy rates with widely accepted benchmarks for healthy market vacancies (rental and owner-occupied). The difference between actual and benchmark is the measure of housing need/surplus in a housing market. Confusion about the inclusion of "existing need" may have arisen because vacancy rates at the time of the last assessment of housing need ("the 5th cycle") were unusually high (higher than the healthy benchmarks) due to the foreclosure crisis of 2007–2010, and in fact, the vacancy rates suggested a surplus of housing. So, in the 5th cycle, the vacancy adjustment had the effect of lowering the total housing need. Correctly seeing the foreclosure crisis as temporary, the state Department of Finance did not apply the full weight of the surplus but instead assumed a percentage of the vacant housing would be absorbed by the time the 5th cycle began. The adjustment appears in the 5th cycle determinations, not as 'Existing Housing Need' but rather as "Adjustment for Absorption of Existing Excess Vacant Units."

2. SB-828 wrongly assumed a 5% vacancy rate in owner-occupied housing is healthy (as explained in the column on the right, 5% vacancy in owner-occupied homes is never desirable, and contradicts Government Code 65584.01(b)(1)(E) which specifies that a 5% vacancy rate applies only to the rental housing market).

2. While 5% is a healthy benchmark for rental vacancies, it is unhealthy for owner-occupied housing (which typically represents half of existing housing). In the U.S. homeowner vacancy has hovered around 1.5% since the '70s, briefly reaching 3% during the foreclosure crisis. However, 5% is well outside any healthy norm, and thus does not appear on the Census chart (to the right) showing Annual Homeowner Vacancy Rates for the United States and Regions: 1968–2019.



Source: U.S. Census Bureau, Current Population Survey/Housing Vacancy Survey, March 10, 2020; recession data from the National Bureau of Economic Research, <www.nber.org>.

3. SB-828 wrongly assumed overcrowding and cost-burdening had not been considered in Department of Finance projections of housing need. The bill sought to redress what it mistakenly thought had been left out by requiring regional planning agencies to report overcrowding and cost-burdening data to the Dept. of Housing and Community Development (as explained in the right column).

3. Unknown to the authors of SB-828, the Department of Finance (DOF) has for years factored overcrowding and cost-burdening into their household projections. These projections are developed by multiplying the estimated population by the headship rate (the proportion of the population who will be head of a household). The Department of Finance (DOF), in conjunction with the Department of Housing and Community Development (HCD), has documented its deliberate decision to use higher headship rates to reflect optimal conditions and intentionally "alleviate the burdens of high housing cost and overcrowding." Unfortunately, SB-828 has caused the state to double count these important numbers.

The forced double-counting errors are significant.*

1. Incorrect use of a 5% benchmark vacancy rate for owner-occupied housing.
The vacancy rate was incorrectly used for both existing and projected owner-occupied households.

+ 229,000 housing units

2. Current vacancies were assumed to exist in household projections.
This error is unrelated to SB-828, but is an accounting error introduced by HCD methodology.

– 22,000 housing units

3. Overcrowding and cost-burdening were double counted.**

In addition to the household projection methodology outlined by the Department of Finance (shown to account for overcrowding and cost-burdening), the matter is also mentioned in meeting notes available on the Association of Bay Area Government's (ABAG) website.***

> **Quote from ABAG's Housing Methodology Committee Agenda Packet for the 4th RHNA Cycle, July 2006**
>
> "There was also a lot of discussion about the headship rates used by HCD/DOF. Several people commented that headship rates in the Bay Area are generally lower than the State's estimates because the region's high housing costs limit household formation. In response, Mr. Fassinger noted that HCD uses these higher headship rates because the RHNA process is intended to alleviate the burdens of high housing cost and overcrowding."

Despite this, overcrowding and cost-burdening were counted a second time as adjustment factors required by SB-828.

+ 734,000 housing units

TOTAL: +941,000 housing units

* All errors are rounded to the nearest thousand.

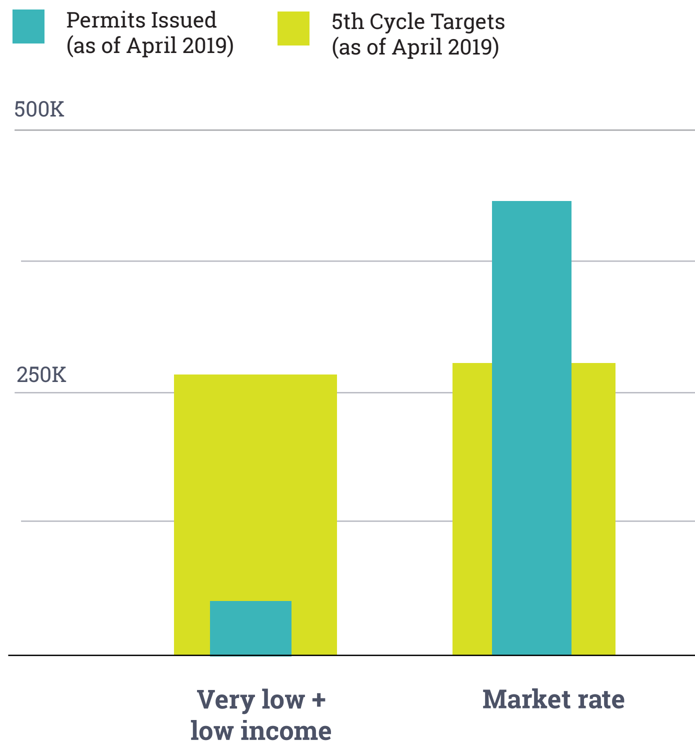
** Overcrowding measures the number of households with more than 1 person per room. Cost-burdening measures the number of households that spend more than 30% of the household income on housing. Cost-burdening is measured by five income levels — extremely low, very low, low, moderate, above moderate

*** P-4 tables are created by the Department of Finance—Household Projection table 2020–2030 and their methodology is fully explained in 'read me' notes that accompany the table.

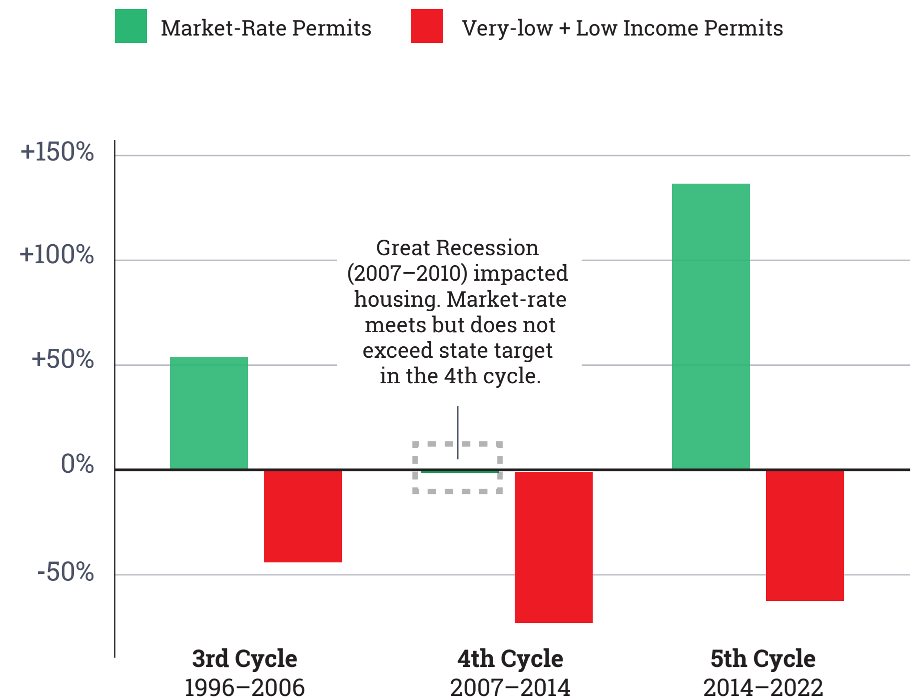
The state's exaggerated targets unfortunately mask the real story: Decades of overachieving in market-rate housing has not reduced housing costs for lower income households.

The state has shown, with decades of data, that it cannot dictate to the market. The market is going to take care of itself. The state's responsibility is to take care of those left behind in the market's wake. Based on housing permit progress reports published by the Dept. of Housing and Community Development in July 2020, cities and counties in the four most populous regions continue to strongly outperform on the state's assigned market-rate housing targets, but fail to achieve even 20% of their low-income housing target. In the Bay Area where permit records have been kept since 1997, there is evidence that this housing permit imbalance has propagated through decades of housing cycles.

Permit Progress in the 5th Cycle (2013-2022)*
(all 4 regions)



Affordable Housing Languishes as Market-Rate Housing Overachieves
(Bay Area only)*

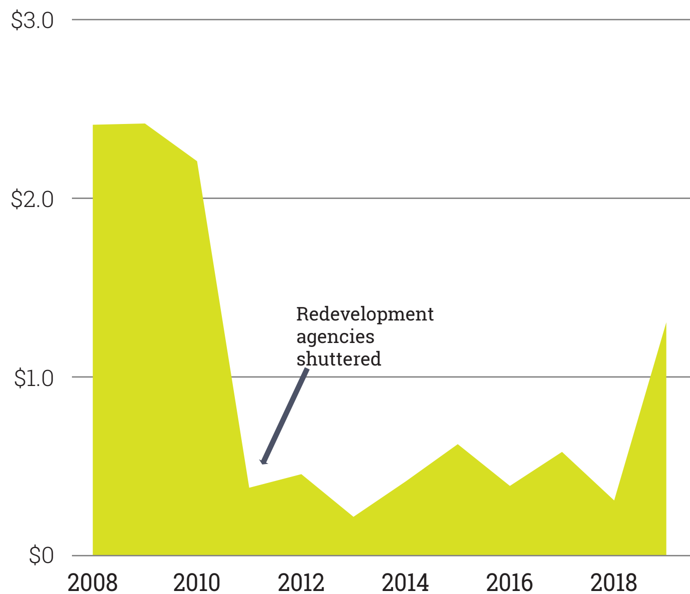


* Based on permit progress reports published by the Dept of Housing and Community Development and updated July 2020, reporting progress through April 2019.
** Only the Bay Area is shown because other regions have not kept detailed records of permit progress through the 3rd and 4th cycles.

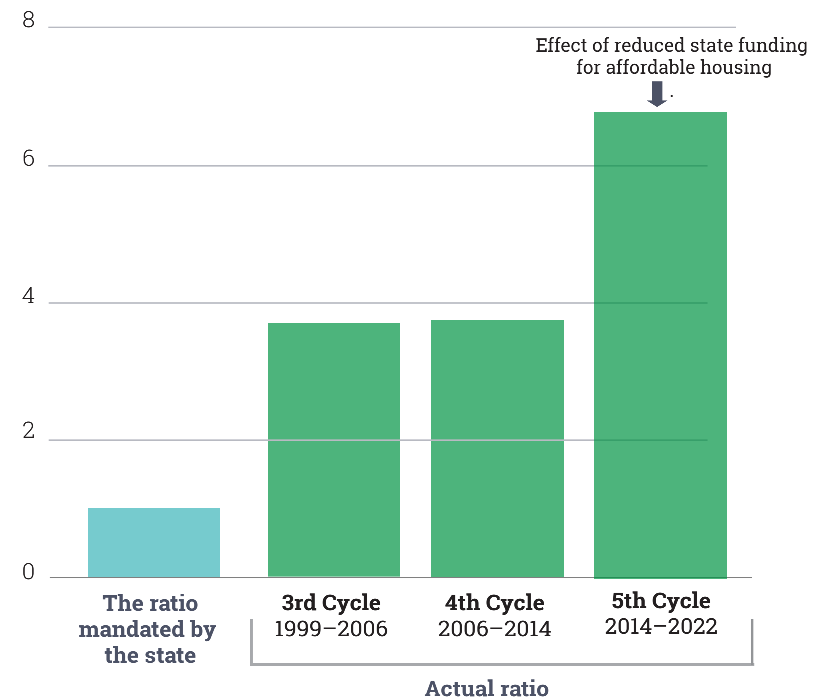
It's clear. Market-rate housing doesn't need state incentives. Affordable housing needs state

Cities are charged by the state to build one market-rate home for every one affordable home. But state laws, such as the density bonus law, incentivize developers to build market-rate units at a far higher rate than affordable units. As a result, California has been building four market-rate units for every one affordable unit for decades. And with the near-collapse of legislative funding for low-income housing in 2011, that ratio has grown to seven to eight market-rate units to each affordable unit. Yet we need one-to-one. This worsening situation can't be fixed by zoning or incentives, which are the focus of many recent housing bills and only reinforce or worsen the ever-higher market-rate housing ratios. From the data it appears that the shortage of housing resulted not from a failure by cities to issue housing permits, but rather a failure by the state to fund and support affordable housing. Future legislative efforts should take note.

State Funds for Affordable Housing, 2008–2019*
$ Billion



Market-Rate to Low-Income Housing Permits in the Bay Area has grown from a ratio of 4 : 1 to 7 : 1
(Bay Area only)**



* "The Defunding of Affordable Housing in California", Embarcadero Institute, update June 2020 www.embarcaderoinstitute.com/reports/

** Only Bay Area is shown because other regions have not kept detailed records of permit progress through the 3rd and 4th cycles. Data is from ABAG's permit progress reports for 3rd and 4th cycle and Dept. of Housing and Community Development's 5th cycle Annual Progress Report.

Finally, since penalties are incurred for failing to reach state targets for housing permits, the methodology for developing these numbers must be transparent, rigorous and defensible.

Non-performance in an income category triggers a streamlined approval process per Senate Bill 35 (2017). These exaggerated 6th cycle targets will make it impossible for cities and counties to attain even their market-rate targets, ensuring market-rate housing will qualify for incentives and bonuses meant for low-income housing. **Yet again, low-income housing will lose out.** The state needs to correct the latest housing assessment errors and settle on a consistent, defensible approach going forward.

At Least Four Different Methodologies Have Been Used Simultaneously by the State to Discuss Housing Need: We Only Need One

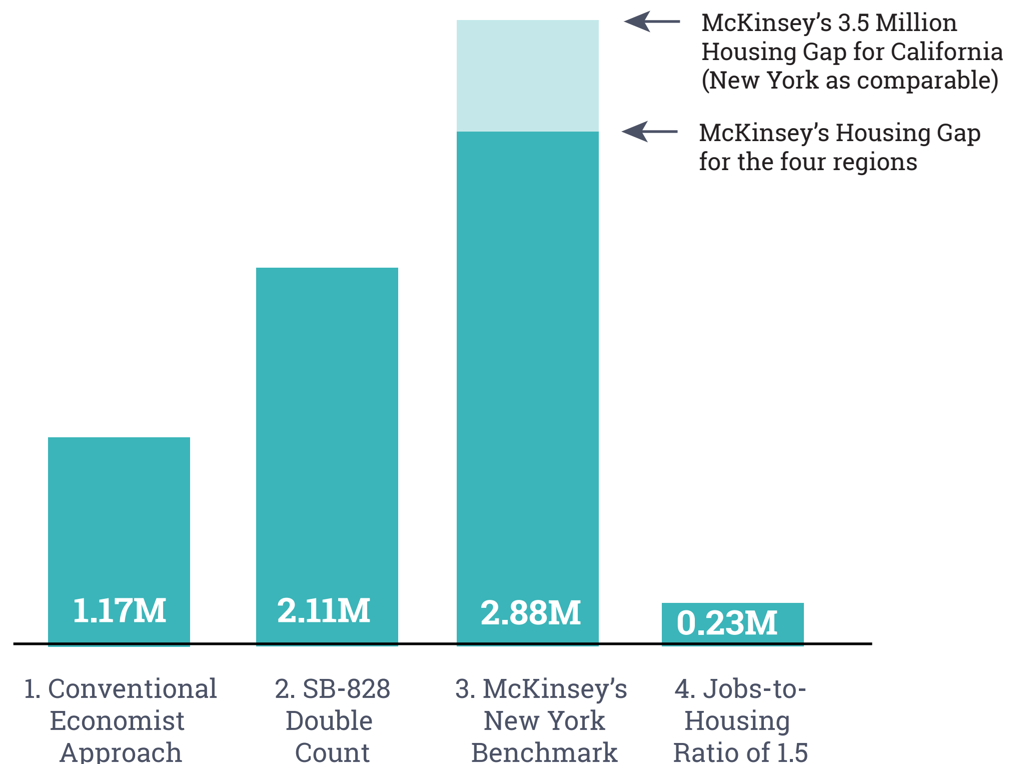
1. **The Conventional Economist Approach**: uses goldilocks (not too big, not too small, just right) benchmarks for vacancies - 1.5% for owner-occupied and 5% for rental housing.

2. **SB-828 Double Count**: incorrectly uses a benchmark of 5% vacancy for owner-occupied housing. It also double counts overcrowding and cost-burdening

3. **McKinsey's New York Benchmark:** the over-simplified approach generated an exaggerated housing gap of 3.5 Million for California. McKinsey multiplied California's population by New York's housing per capita to get 3.5M. New York is not a proper benchmark for California and NY's higher housing per capita is more reflective of NY's declining population rather than a healthy benchmark for housing

4. **Jobs-to-housing ratio of 1.5**: according to state planning agencies 1.5 is the optimal benchmark. Employment in the four regions is estimated to grow to 17 million by 2030 (job growth estimates prepared before COVID).**

Forecast 2030 Housing Need for the Four Regions



* California's Employment Development Department (EDD) estimates employment by county through 2026. Using annualized growth (2016 to 2026) as a basis for future growth 2030 employment is estimated for the four regions.

** The 17 million includes estimates of self employed, private household workers, farm and nonfarm employment. Occupations with employment below 100 in 2016 are excluded.

How it Works: A multi-agency collaborative effort has generated past state housing targets. However, in 2018, SB-828 anointed the Dept. of Housing and Community Development with final veto powers.

STEP 1

The Dept. of Finance (DOF) generates household forecasts by county based on population growth and headship rates. This is the step where overcrowding and cost-burdening are factored in .

STEP 2

The Dept. of Housing and Community Development (HCD) then takes the DOF household projections and adds in a healthy vacancy level (1.5% for owner-occupied, 5% for rental housing) to determine the number of housing units needed to comfortably accommodate the DOF household projections.

Dept. of Finance (DOF)

Dept. of Housing and Community Development (HCD)

STEP 3

The regional agencies allocate housing targets to cities and counties in their jurisdiction. These allocations collectively meet their RHNA assessments and are based on algorithms that may include employment, transit accessibility and local housing patterns

STEP 4

Cities and Counties report annual progress on housing permits to the Dept. of Housing and Community Development (HCD)

SB-828 introduced errors in Step 2 (when the Dept. of Housing and Community Development made adjustments to the Dept. of Finance's household projections).

Southern California and the Bay Area were most impacted by the double counting. San Diego was not assessed for cost-burdening although it is more cost-burdened than the Bay Area. It was perhaps overlooked because its assessment cycle began in July, 2018, a few months before SB-828 passed into law.

The Department of Housing and Community and Development

1. Used a benchmark of 5% vacancy rate for BOTH owner-occupied and rental housing.

Region		Change
Six SoCal Counties	=	+126,000
Greater Bay Area	=	+59,000
San Diego Area	=	+23,000
Greater Sacramento	=	+21,000

+229,000 housing units

2. Assumed vacancies in household projections *

Region		Change
Six SoCal Counties	=	-13,000
Greater Bay Area	=	-4,000
San Diego Area	=	-2,000
Greater Sacramento	=	-3,000

– 22,000 housing units

3. Double counted overcrowding and cost-burdening

Region		Change
Six SoCal Counties	=	+578,000
Greater Bay Area	=	+104,000
San Diego Area	=	+39,000
Greater Sacramento	=	+13,000

+734,000 housing units

* P-4 tables are created by the Department of Finance—Household Projection table 2020–2030 and their methodology is fully explained in 'read me' notes that accompany the table

** Overcrowding measures the number of households with more than 1 person per room. Cost-burdening measures the number of households that spend more than 30% of the household income on housing. Cost-burdening is measured by five income levels—extremely low, very low, low, moderate, above moderate.

Detailed explanation of the errors using SoCal Counties as an example: First—the correct approach.

The Department of Housing and Community Development (HCD) has traditionally arrived at a number for pent-up demand or housing shortfall by comparing vacancy rates in owner-occupied and rental housing to healthy benchmarks (1.5% for owner-occupied* and 5% for rental housing). The largest of the four regions, six SoCal Counties (covering Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties) is considered in the example below**.

EXISTING HOUSING: Six SoCal Counties

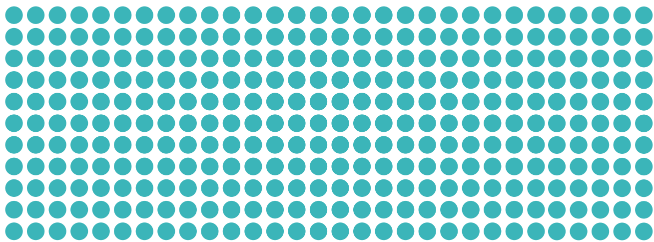
1 circle = 10,000 households

Occupied Housing Units

Vacant Housing Units

Existing Need

Home-owned (3.3 Million)



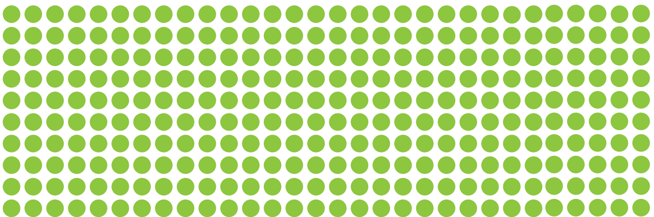
Actual Vacancies (40,000) 1.2%

Healthy Benchmark (50,000) 1.5%

=

(10,000)

Rentals (3 Million)

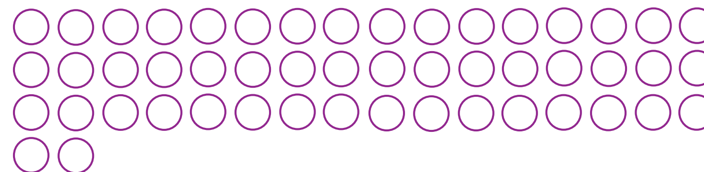


Actual Vacancies (111,000) 3.7%

Healthy Benchmark (150,000) 5.0%

(39,000)

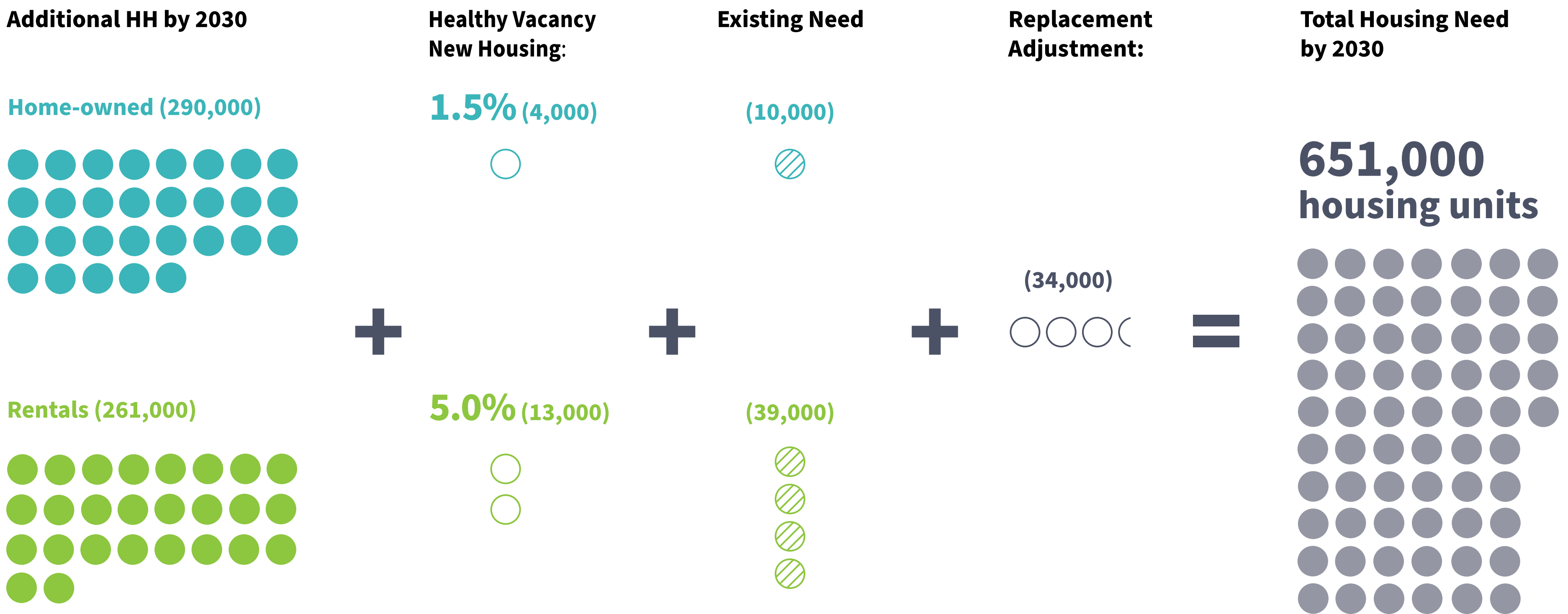
Seasonal Vacancies (500,000)***



* Owner-occupied has a lower healthy vacancy rate because it is usually only vacant while a house is for sale
** All numbers are rounded to the nearest thousand.
*** Seasonal Vacancies represent second homes, coprorate housing, and short-term rentals such as AIrBnBs

The housing need also takes into account for future growth.

The Dept. of Finance (DOF) supplies the Dept. of Housing and Community Development (HCD) with an estimate of additional households (HH) needed by the end of the cycle. The DOF forecast the 2030 population, and using an optimal household formation rate determine the number of households required to comfortably house that population*. The DOF also supply the HCD with the number of existing households at the start of the cycle. The HCD adds to the base number of additional households needed, factoring in vacancies for a healthy market, and adding a replacement adjustment (also supplied by the DOF)**.



* Households represent occupied housing units. The number of housing units is always higher as at any given time than the number of households because some housing will be vacant or unutilized. The DOF is responsible for the base projection because they manage population projections for the state, and determine those by analyzing births, deaths and net migration.

** Replacement represents houses that may be demolished or replaced during the cycle*.

However, the Dept. of Housing and Community Development has adopted an unusual methodology in evaluating existing need in the 6th housing cycle.

Instead of the typical 1.5% benchmark for owner-occupied housing, they used a 5% vacancy rate usually reserved for rental housing. A 5% vacancy in owner-occupied housing is indicative of a distressed housing market. At 5%, SoCal's existing housing need is increased by 115,000 housing units. Existing need for rental housing is unchanged.

EXISTING HOUSING: Six SoCal Counties

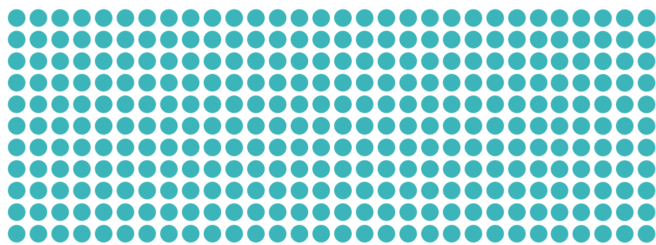
1 circle = 10,000 households

Occupied Housing Units

Vacant Housing Units

Existing Need

Home-owned (3.3 Million)

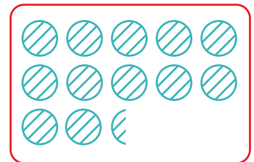


Actual Vacancies (40,000) 1.2%

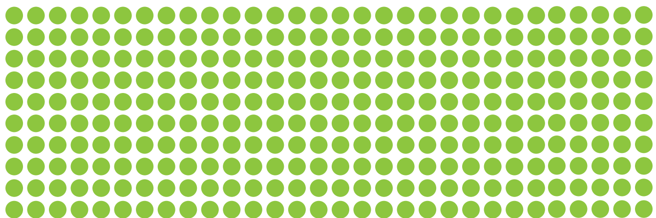
Healthy Benchmark (165,000) 5.0%

=

(125,000)

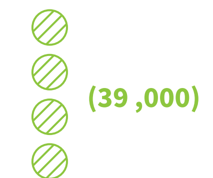


Rentals (3 Million)



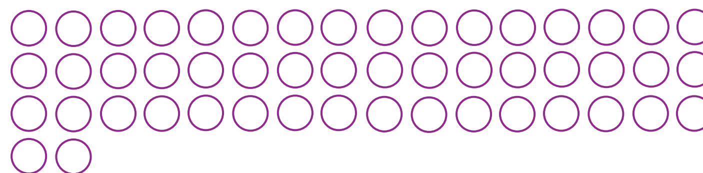
Actual Vacancies (110,000) 3.7%

Healthy Benchmark (149,000) 5.0%



(39 ,000)

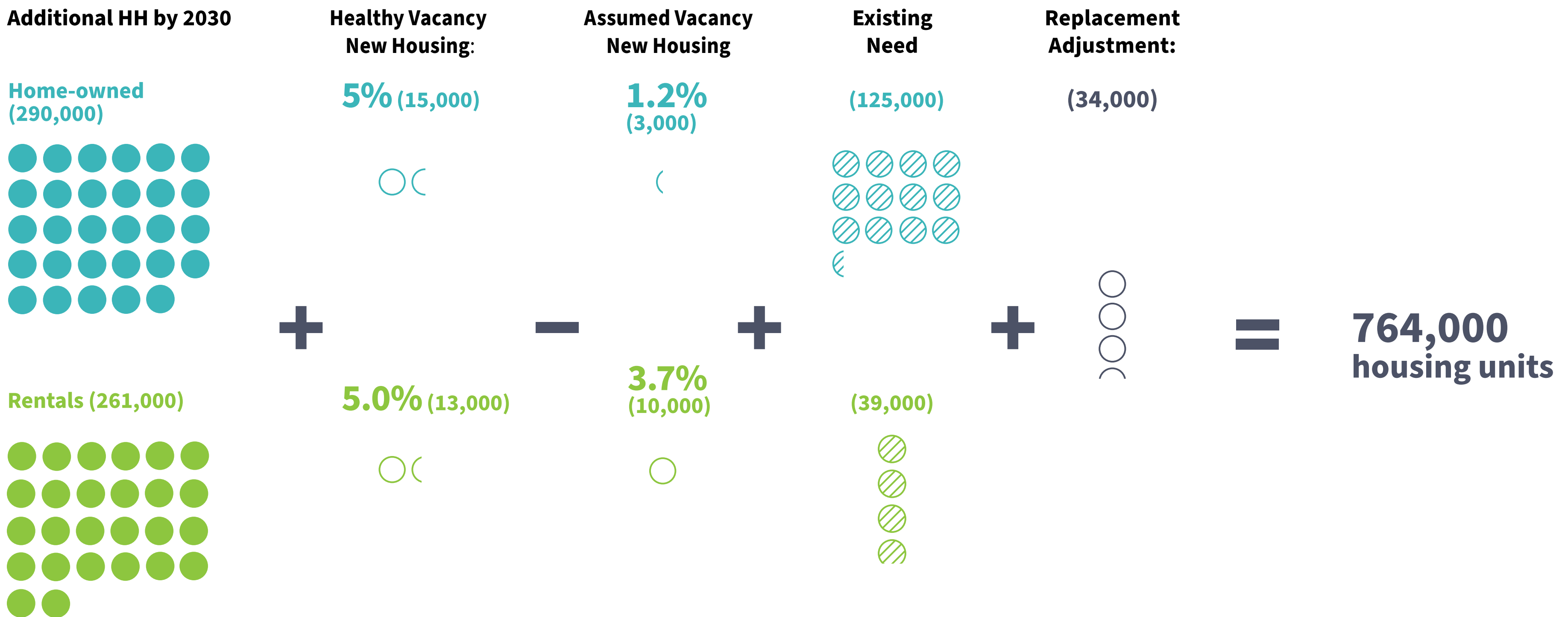
Seasonal Vacancies (500,000)



The Dept. of Housing and Community Development have also taken an unusual approach in evaluating projected housing need.

Again, instead of using the separate benchmark of 1.5% for owner-occupied housing, 5% was used for all housing. It was also assumed that new projected households had existing vacancies. The full benchmark was not applied to new households. Instead, the difference between the benchmark and the current vacancy rate was applied. The replacement adjustment was applied as it has been in the past.

PROJECTED HOUSING NEED: Six SoCal Counties



Lastly, the Dept. of Housing and Community Development double counted by adding two new factors that had already been factored into household forecasts made by the Dept. of Finance (DOF).

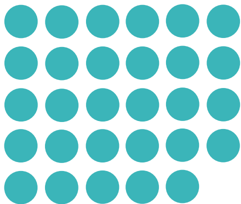
Two new factors were introduced into the 6th assessment — overcrowding and cost burdening. These factors had already been rolled into the DOF's household projections. The DOF explicitly recognized that regional household formation rates might be depressed (a symptom of overcrowding and cost-burdening) because of the affordable housing crisis. The household formation rate used by the DOF is higher than the actual rate experienced. As such, it generates a higher housing target meant to relieve overcrowding and cost-burdening.

PROJECTED HOUSING NEED: Six SoCal Counties

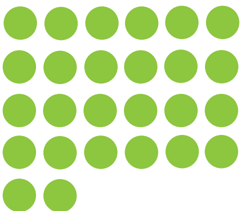
1 circle = 10,000 households

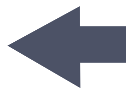
Additional HH by 2030

Home-owned (290,000)



Rentals (261,000)





Projected Households already factors in overcrowding and cost-burdening

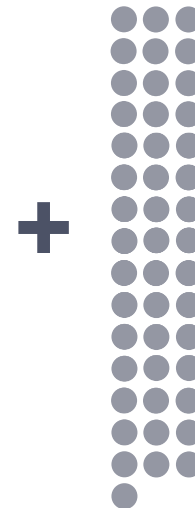
From the Department of Finance

"The argument was that the Great Recession and the affordability crisis which impact recent trends in headship should not be allowed to solely dominate the projection, rather some return to underlying socio-cultural norms of homeownership/fewer roommates is a beneficial assumption"

A DOUBLE COUNT

Overcrowding Adjustment*

(460,000)



Cost Burdening Adjustment**

(118,000)

* In addition to double counting, HCD incorrectly calculated the overcrowding factor. They assumed that for every house that was overcrowded another house would be required to relieve overcrowding. The more accurate analysis would be to assess the number of extra people to be housed and divide by the average household size.

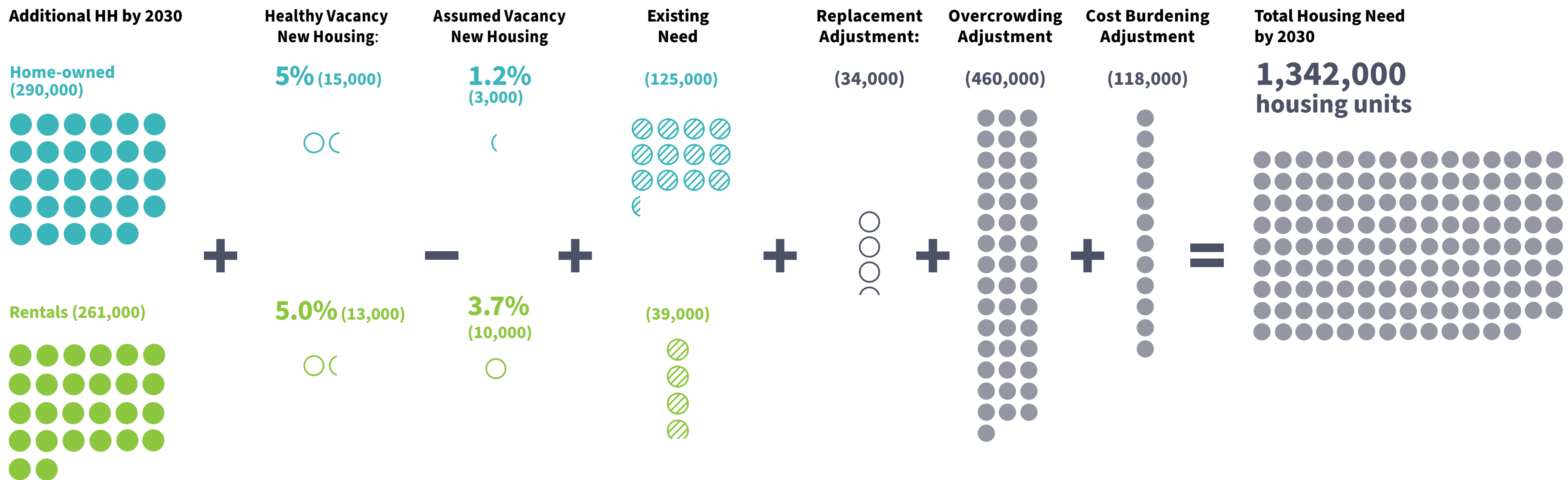
** HCD only applied cost-burdening adjustments to future households not existing households. It is unclear why cost-burdening would only be considered an issue for future households, as the data is for current households.

The vacancy errors and double counting resulted in a doubling of the housing needs assessment for the six counties of SoCal.

TYPICAL METHODOLOGY

1 circle = 10,000 households

HCD 6TH CYCLE METHODOLOGY



Complete data tables: *RHNA Data and Models 6th cycle*, www.embarcaderoinstitute.com

References used in the analysis :

Dept. of Housing and Community Development (HCD) https://www.hcd.ca.gov

Regional Housing Needs Allocation and Housing Elements

Regional Housing Needs

Allocations for 6th Cycle Housing Elements:

Association of Bay Area Governments Regional Housing Need Determination Plan for the Sixth Housing Element Update

Sacramento Area Council of Governments Regional Housing Need Determination for the Sixth Housing Element Update

Southern California Association of Governments Regional Housing Need Determination for the Sixth Housing Element Update

San Diego Association of Governments Regional Housing Need Determination and Plan for the Sixth Housing Element Update

Allocations for 5th Cycle Housing Elements:

Association of Bay Area Governments (February 24, 2012)

Sacramento Area Council of Governments (September 26, 2011)

San Diego Association of Governments (November 23, 2010)

Southern California Association of Governments (August 17, 2011)

Annual Progress Reports

Annual Progress Report APR: 5th Cycle Annual Progress Report Permit Summary (updated 730/2020)

Allocations for Earlier Cycles and Housing Element

RHNA 2007-2014 - Housing Methodology Committee Agenda Packet 07-27-06

Regional Housing Needs Plan 2006 to 2013 SACOG February 2008

3rd and 4th Cycle RHNA allocations (data sent in personal communication with the Department of Housing and Comunity Development)

Department of Finance Methodology for Household Forecasts

"Read Me" P4 Tables : Household Projections 2020 to 2030

Association of Bay Area Governments Digital Library: RHNA Documents, Regional Housing Needs Allocation Documents

RHNA 2007-2014 - Housing Methodology Committee Agenda Packet 07-27-06, Regional Housing Need Allocation p 2

Other Housing Assessment Methodologies

"Mckinsey & Company: A TOOL KIT TO CLOSE CALIFORNIA'S HOUSING GAP: 3.5 MILLION HOMES BY 2025", October 2016

Jobs to Housing

Employment Development Department, State of California, Employment Projections : Long Term Projections

https://www.labormarketinfo.edd.ca.gov/data/employment-projections.html