A Review of California's Process for Determining, and Accommodating, Regional Housing Needs

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Introduction and Executive Summary

This background paper is meant to help the California State Auditor, and the legislators the Auditor serves, better understand (1) the traditional limitations of California's process for estimating, allocating, and planning for regionally needed housing; (2) how the Legislature undertook to improve this process between the fifth and sixth planning cycles; (3) how the Department of Housing and Community Development (HCD) has implemented the new statutory criteria; (4) the consequences of setting a city's housing target too high or too low; and (5) some of the major issues to date with 6th cycle housing elements.

The main takeaways are as follows:

- From the beginning, California's housing framework has suffered from three fundamental problems: (i) a methodology for quantifying "housing need" that perpetuates housing shortages in high-demand places, by ignoring the effects of housing prices on rates of migration and new-household formation; (ii) an accounting standard that overlooks the substantial positive effect of new market-rate construction on the availability of more affordable units elsewhere in the region; and (iii) an assumption that the capacity of a city's housing plan can be quantified without adjusting for sites' likelihood of development during the planning period.
- 2. SB 828 and AB 1771, adopted in 2018, address the first of these fundamental problems. As a result, housing targets in major metro regions for the current RHNA cycle – the 6th – are considerably higher than they were in previous cycles. Within regions, expensive cities and suburbs are receiving higher shares of their region's target, although maybe not high enough. However, the second fundamental problem (the accounting standard) has not been addressed; and the third problem (adjusting for sites' likelihood of development) has been addressed only equivocally, in a manner that invites cities to adopt housing plans that will predictably result in production shortfalls.
- 3. In setting targets for the 6th cycle, HCD reasonably applied the statutory factors (although it should have made a jobs-housing-imbalance adjustment as well). The department's effective adjustment for "present need," i.e., the accrued housing shortage, was on the low end of the range of independent estimates of that shortage. Consistent with past practice, the department's application of statutory factors was ad hoc rather than model based. That is, the vacancy, overcrowding, and cost-burden adjustments were based on simple rules of thumb, rather than an economic model that yields predictions of how much new housing would be needed to achieve target rates of vacancy, overcrowding, or cost-burden. Some of the department's rules of thumb were conservative; others were pro-housing.

- 4. Setting housing targets requires a lot of guesswork. In doing this guesswork, the state shouldn't worry much about overshooting the optimal target, but it should be very concerned about setting the target too low. The societal costs of a too-high target are minimal because cities aren't punished if they fail to meet their targets; because nothing will change on the ground if cities zone for housing that's not economically feasible to build; because the Housing Element Law includes protections for cities that lack "available resources" to meet their targets; and because other state housing laws such as the Housing Accountability Act and SB 35 protect cities' authority to apply health, safety, and other objective standards to housing projects. On the other hand, the costs of a too-low target are substantial, because California has severe housing shortages in high-demand places, and because cities left to their own devices give short shrift to the important regional and statewide interests in expanding the supply of dense housing in high-demand markets.
- 5. Our principal concern with 6th cycle housing elements is not the housing targets, but the manner in which cities and HCD are assessing the overall capacity of a city's housing plan. (This pertains to items (5) and (6) in Sen. Glazer's letter requesting the audit.¹) For cities to achieve their overall RHNA targets, a housing element's capacity must be defined as its expected yield in new housing units during the planning period (Elmendorf et al. 2020a). The expected yield of a site is equal to its probability of development during the planning period, multiplied by the number of units likely to be built on the site if it were to be developed during the period. In previous planning periods, cities assumed that if a site was "good enough" to go into the housing element, its probability of development was equal to one. New state laws, including AB 1397 (2017) and SB 6 (2019), provide a legal foundation for HCD to require cities to discount site capacity by a rough estimate of the site's probability of development during the planning period (Elmendorf et al. 2020). HCD's Site Inventory Guidebook (June 2020) encourages this approach, but leaves considerable ambiguity about what is required, and most of the 6th cycle housing elements submitted to date do not make a probability-of-development adjustment. This allows cities to avoid rezoning for additional capacity. (Compare San Diego with Los Angeles.)
- 6. Two recent studies drive home the stakes of the probability-of-development issue. Kapur et al. (2021) examined development outcomes on 5th cycle inventory sites in 99 cities in the Bay Area. They found that the median city is on track to develop only about 8% of its housing element sites. For nonvacant sites, the redevelopment rate is even lower approximately 3% in the median city and 8% regionwide). Kapur et al. also discovered that most housing development in the Bay Area both affordable and market rate –

¹ Item 5: "Within the three selected regional governments, review a representative selection of local jurisdictions to determine whether they can reasonably identify sites sufficient to accommodate potential development of their needed housing units."

Item 6: "Evaluate the factors that impact whether actual development occurs that meets the selected local jurisdictions' housing need, including ... removal of barriers to development...."

occurred on sites that cities hadn't included in their housing element. (Accordingly, cities should receive credit toward their RHNA for anticipated production on non-inventory sites, much as HCD now credits anticipated ADU production.) Romem (2021) studied residentially zoned parcels in Los Angeles. He found that the average parcel has an 8-year likelihood of development of a little over 2%, and that the very best parcels – those in the 99th percentile – have only a 14% chance of getting developed during an 8-year period. If one disregards sites' likelihood of development, the City of Los Angeles has enough excess capacity under current zoning to accommodate the entire region's ~1.4m unit housing target. Yet adjusting for sites' probability of development over the next eight years, LA has a massive shortfall of capacity relative to just its share of the regional target.

* * *

This background paper is organized as follows. Part I reviews the serious problems with California's traditional approach to quantifying and planning for needed housing. Part II explains how the Legislature undertook to improve the process in recent years, through bills such as SB 828 (2018), AB 1771 (2018), AB 1397 (2017) and SB 6 (2019). Having explained what the Legislature set out to achieve, the report turns in Part III to HCD's implementation of the new statutory criteria for quantifying and allocating regionally needed housing. Part IV explains why a "too high" RHNA wouldn't cause any substantial injury to a city. Finally, Part V addresses issues with 6th cycle housing elements to date, focusing on the assessment of site capacity pursuant to AB 1397 and HCD's Site Inventory Guidebook.

I. California Traditionally Mismeasured Regional Housing Need; Misaccounted for Progress Toward Housing Targets; and Misjudged the Capacity of Cities' Housing Plans

Since 1981, California has set housing targets in a two-step process (Lewis 2003, pp. 16-18). First, the Department of Housing and Community Development (HCD), in consultation with regional councils of governments, periodically sets an overall target for each region and subtargets at four levels of affordability: housing for very-low-income, low-income, moderate-income, and above-moderate-income households. These region-level targets are called Regional Housing Need Determinations, or RHNDs. Next, each council of governments divvies up its RHND among the cities and counties in the region. The target received by a local government, with subtargets at each level of affordability, is called its Regional Housing Needs Allocation, or RHNA.

The basic point of the RHNA framework is to get cities with unduly restrictive zoning to relax their restrictions so that more housing – and especially more affordable housing – can be provided. But from the outset, as this section explains, the framework relied on three economically nonsensical assumptions that let cities with the most harmful and restrictive land-use regimes off the hook.

The first mistake was to assume that a region's need for new housing can be reasonably approximated as the difference between (1) the projected number of households at the end of the planning period, and (2) the current number of housing units. This standard of "need" elides the fact that a region with severely restrictive land-use controls may experience a low rate of household growth <u>because of those controls</u>.

The second foundational mistake was to assume that the number of affordable units that will become available to lower-income households during the planning period is equal to the number of newly constructed units that are sold or rented at a price that lower-income households can afford. This accounting standard overlooks the effect of new market rate housing (or its absence) on the availability and affordability of existing dwelling units within the region.

The third basic error concerned the assessment of cities' capacity to accommodate their RHNA under current zoning. A housing element must provide an inventory of developable sites and quantify how much "realistic" capacity exists on each site under current zoning. However, these capacity assessments traditionally assumed that if a site was good enough for the housing element, it should be counted for the number of units likely to be built on the site *if it were developed* (Elmendorf et al. 2020a). This ignores the fact that the vast majority of sites that could, in theory, be developed, will not, in fact, be developed during an 8-year planning period. Existing uses, local regulatory barriers and fees, fractionated ownership, and any number of other idiosyncratic factors will result in many such sites remaining in their current use throughout

the planning period. Much as a university targeting a freshman class of 5000 students must admit several times as many applicants to achieve its target, a city aiming for 5000 units of new housing must zone for several times as many to achieve its target. And just as the university sets its admitted-students target based on past experience with enrollment rates among accepted students, a city should look to past experience with development rates as the starting point for estimating the expected yield of its housing element sites.

The RHNA framework's three foundational mistakes amounted to a recipe for perpetuating California's housing shortage while purporting to do something about it.

A. The "Net New Households" Standard of Need Perpetuates Housing Shortages, by Ignoring the Effects of Land-Use Restrictions on Migration and Household Formation

Over the last decade, the number of households in Arizona and Texas grew at a much faster clip than the number of households in California (14% for AZ and TX, 6% for CA). Projecting these states' recent rates of household growth eight years into the future, one would conclude that the housing status quo in Arizona and Texas is severely inadequate relative to what these states "need," whereas California's situation is much less dire. Yet by any reasonable metric, it's California, not Texas and Arizona, that most needs to relax local land-use regulations and facilitate housing-stock growth. Housing prices and rents in California are much higher than in Arizona or Texas, and, among other consequences, the share of California's population that's homeless is about 3-4 times higher than the homeless population share in Texas and Arizona.²

This example illustrates the central flaw of California's "forecast of new households" standard of need. As Elmendorf (2019, p. 107) put it:

A region that has allowed little new housing will have a depressed rate of new household formation, but this hardly means that the region has little need for new housing. On the contrary, if many people want to live in the region, the barriers to new housing will manifest in sky-high prices for existing housing; this, in turn, slows the rate of new household formation. Young adults who cannot afford a place of their own will live with their parents or stacked up with roommates. The corresponding slowdown in the rate of household formation yields a smaller projection of "regional housing need," while the economic reality is exactly the opposite.

² Zillow's current estimate of the typical home's value in California, Texas, and Arizona is, respectively, \$727,000, \$271,000, and \$396,000, <u>https://www.zillow.com/home-values/</u>. Data on homeless counts by state are from the U.S. Interagency Council on Homelessness, <u>https://www.usich.gov/homelessness-statistics/</u>.

Within regions, the forecasted-new-households standard of need also justified assigning miniscule allocations to exclusionary places. For example, during the 5th planning period, Beverly Hills (typical home price: \$3.9 million) received an affordable housing target of just 3 units, and a market-rate target of 0 units (Elmendorf, 2019, p. 108). When journalists started asking questions about this, city leaders responded that the numbers were reasonable because Beverly Hills's population was not growing (Fuller and Dougherty, 2018). According to the projected-households standard of need, the city's leadership was correct. But the standard itself was nonsense: Beverly Hills would grow like gangbusters if the city's land-use regulations allowed it.

B. RHNA's Accounting Standards Overlook a Major Source of Affordable Housing: New Market-Rate Development

California evaluates cities' and regions' progress toward their RHNA by dividing (1) the number of new or newly permitted housing units that are (or will be) sold or rented at a price point affordable to the target group, by (2) the city's RHNA at that affordability level (Department of Housing and Community Development, 2020a; Department of Housing & Community Development, 2020b).

This accounting standard misses the indirect effect of new market-rate housing on the availability of more affordable units within the region. When a new building comes onto the market, many of the people who buy or rent units in the building then vacate other units within the region. The newly vacated units in turn are occupied by people who vacate other units, and so forth. A recent study found that when 100 new units are constructed in a high-income census tract, the resulting "chain of moves" releases—within five years—about 45-70 units in below-median-income census tracts in the same metro area, and 17-39 units in bottom-quintile census tracts (Mast, 2021).

Conversely, when new market-rate units are <u>not</u> constructed in a city or region experiencing high-wage employment growth, existing units in lower-income census tracts come under gentrification pressure. They "filter upward," in the lingo of housing economists, as speculators buy, renovate, and flip the older homes. What had been naturally affordable housing gets repurposed as like-new luxury housing.

In functioning housing markets, the typical housing unit mostly filters downward, becoming more affordable as it ages. A recent study of the nation's rental housing stock from 1985-2011 found that <u>less than 10% of the net increase in affordable units came in the form of affordable new</u> <u>construction</u> or subdivision of existing units (Weicher et al. 2017). The rest was due to downward filtering of older rental units, and tenure switches between owner-occupied and rental housing. However, in supply-constrained markets, the upward filtering of some older units

partially or entirely offsets the slow downward filtering of others (Rosenthal, 2014; Liu et al., 2020; Myers and Park, 2020).

The RHNA framework accounts for none of this. Progress toward affordable-housing targets is measured just in terms of production of new units with deed restrictions requiring the unit to be sold or rented at an affordable price point. There's no accounting for the indirect effects of new market-rate production on the availability of more affordable units throughout the region. Nor is any effort made to account for the upward filtering of previously affordable units.

As Elmendorf et al. (2020a) observe, these omissions give the RHNA framework an air of unreality. Take San Francisco, for example. Prices for new market-rate housing in the city are beyond the reach of even moderate-income households, so to produce new units that moderate or lower-income households can afford requires large subsidies. For the fifth planning cycle when San Francisco's overall target was only about as third as large it will be for the sixth cycle - the city estimated that meeting its lower and moderate-income RHNAs would require public subsidies on the order of \$660 million a year, roughly 1/3 of the city's entire discretionary general fund (Elmendorf et al., 2020a). Meanwhile, state law instructs, "Nothing in [the housing element article] shall require a city . . . to [e]xpend local revenues for the construction of housing, housing subsidies, or land acquisition." Gov't Code § 65589(a)). For the 5th cycle, San Francisco demonstrated compliance with state law by showing, through its housing element, that the city's zoning would allow the city's lower- and moderate-income RHNAs to be achieved if unlimited public subsidies were on offer (and if every inventory site were developed). Of course unlimited public subsidies are not on offer, yet no one bothered to ask whether San Francisco – simply by liberalizing its land-use restrictions – could generate enough market-rate units over the planning period to free up, through Bay Area chains-of-moves, a number of moderate-income or even lower-income units equal to the city's RHNAs for those categories.

The RHNA framework's accounting fallacies also provide rhetorical ammunition for anti-housing interests. The Embarcadero Institute (2019, p. 3) points out that counties with the largest RHNAs "are far exceeding their market-rate housing targets, while falling far short on their affordable housing targets." This asserted "mismatch" between housing production and housing need is then used to argue for stricter affordability standards under state density bonus law (Embarcadero Institute, 2019, p. 4), standards which would reduce the economic feasibility of large multifamily housing projects. Yet what the Embarcadero Institute labels a "mismatch" between housing production and housing need is just an illusion created by California's bad accounting. In reality, the housing opportunities available to nearly all lower- and moderate-income households – all but the lucky few who win a lottery for below-market-rate units – are the byproduct of new market-rate production.

Just as working-class drivers depend on the used cars that become available (and affordable) when more affluent drivers trade up for a new model, so too do working-class households depend on the used homes that become available when more affluent households trade up for a

newer, more expensive home. When regulatory constraints block new market-rate development, the working class ends up paying the price.

C. Cities' Reliance on Tacit, Patently False Assumptions About Sites' Likelihood of Development Allowed Cities to Avoid Rezoning for Additional Capacity

The housing element framework requires cities to provide additional zoned capacity only insofar as the capacity of the city's site inventory under current zoning is inadequate to accommodate the city's RHNA. In the past, cities have been able to avoid rezoning due to a combination of low housing targets and unrealistic assumptions about the likelihood of housing development.

During the last planning period, only about 10% of jurisdictions were required to do any rezoning to "accommodate" their RHNA (see the Appendix for details). The rest were able to show sufficient capacity on paper to accommodate their target under current zoning. **Not one major city or suburb had to provide additional zoned capacity. Statewide, a mere 35,340 dwelling units had to be accommodated through rezoning.** To put this in context: estimates of California's housing shortage range from about 1 million to more than 3 million units (see Part II).

How could this be? The answer is that cities' calculated the capacity of their inventory sites on the assumption that every single site would be developed during the planning period (Elmendorf et al. 2020). New research on development outcomes in the Bay Area and Los Angeles demonstrates that this assumption was wildly off base.

Romem (2021) modeled the probability of development of land parcels in Los Angeles during the period 2015-2019. His econometric model accounts for a parcel's zoning, existing uses, and other conditions.

Romem finds that if one disregards sites' likelihood of development, LA has enough excess capacity under current zoning to accommodate the entire region's ~1.4m unit housing need. Yet adjusting for sites' probability of development, LA has a massive shortfall of capacity relative to just its share of the regional target. This is so because the typical site has a 5-year probability of development of less than 2%, and even "99th percentile sites" – those most likely to be developed in the near future – have a 5-year probability of development of less than 10%.

Romem also finds that when development does occur, it often results in more units than the site's zoning originally allowed, even with density bonuses. This implies that entitled projects in Los Angeles often receive project-specific variances or rezonings.

Kapur et al. (2021) studied development outcomes on the housing element sites of nearly every city in the Bay Area. Their study covers the same time period as Romem's (2015-2019). On the assumption that development proceeds, on average, at the same annual rate throughout the planning period, Kapur et al. (2021) find that:

- The median city will develop only about 8% of the sites in its 5th cycle housing element inventory.
- Although vacant inventory sites are somewhat more likely to be developed than nonvacant sites, the difference is not nearly enough to warrant the current presumption allowing vacant sites to be counted without any adjustment for likelihood of development.
- The vast majority of housing development both market-rate and deed-restricted affordable occurs on sites that are not in a city's housing element.
- In the region's largest cities, housing element sites that get developed typically generate many more units than the housing element indicated site could accommodate. By contrast, in the median city, the housing element's projection of the number of units a site will accommodate is right in line with what gets built when sites are developed.

In light of these findings, Kapur et al. (2021) propose that the Legislature end the charade of site selection and capacity estimation by cities' housing element consultants. Instead, HCD or the regional councils of governments should estimate the aggregate capacity of *all* parcels zoned for residential use in each city. Cities would then decide which parcels to rezone for additional capacity.

It is critically important that Auditor Howle address sites' likelihood of development as part of her inquiry into whether "local jurisdictions can reasonably identify sites sufficient to accommodate potential development of their needed housing units," and whether "removal of barriers to development," e.g., rezoning, is necessary for "actual development ... that meets the selected jurisdictions' housing needs." Letter from Sen. Glazer to the Hon. Rudy Salas, Chairman, Joint Legislative Audit Committee, Sept. 30, 2021, p. 3. It would be especially fruitful for Auditor Howle to compare the sixth cycle housing elements of <u>San Diego</u> and <u>Los Angeles</u>, which take very different approaches to the estimation of site capacity and reach predictably different conclusions about whether rezoning is necessary to accommodate the city's housing target.

II. While No One Knows Exactly How Much Housing Regions Should Plan for over the Next Eight Years, the Accrued Deficit Is Big, and the Legislature's Recent Reforms Are Steps in the Right Direction

A. California Needs A Lot More Housing – Especially Multifamily Housing – But Setting Targets Depends on Messy Guesswork

Over the last several years, researchers using various methodologies have arrived at estimates of California's present housing shortage that range from 1.1 - 3.4 million homes. These homes need to be built over the next decade, not just planned for on paper. As we'll see in Part III.C, the "present need" adjustment that HCD made to housing targets for the sixth cycle is at the low-end of this range.

In brief:

- The Legislative Analyst's Office estimated supply and demand curves, and used the fitted model to determine how many more units California would have needed to build from 1980-2010 to keep housing prices from rising beyond the level of 1980 (Taylor 2015). The LAO concluded that the state was short about 2.7 million homes (70,000 110,000 per year over 30 years). This methodology depends on strong assumptions (Davidoff 2016), so it's at best a ballpark guess.
- The McKinsey Global Institute benchmarked the number of dwelling units per capita in California against the number of units per capita in New York and New Jersey, concluding that California had a present deficit of about 2 million homes. (Woetzel et al. 2016). However, it's not clear why New York and New Jersey should be used as comparators. (New York City adds new housing at half the rate of San Francisco.) More fundamentally, this methodology overlooks the fact that California's population is smaller than it would be if housing were more abundant.
- A research team at USC estimated the current housing deficit by treating California's "headship rates" (number of households per person) in the year 2000 as the benchmark. The team calculated that California would need about 1.1 million more dwelling units to accommodate its year-2016 population at year-2000 headship rates (Myers, Park, and Li 2018). Like the McKinsey study, this methodology ignores interstate population flows in response to housing prices and availability, and it's not clear why the researchers choose the year 2000 as the benchmark, rather than California headship rates prior to the runup in home prices, or headship rates in another state with healthy housing markets.

A research team working for Up for Growth, a national housing advocacy organization, constructed a statistical model to predict new housing production in each state as a function of housing prices, income, population, and the size of the existing housing stock (Baron et al. 2018). They fit the model with data up to the year 2000, and then used the fitted model to predict how much housing each state would have produced each year from 2000 to 2015 if the pre-2000 relationship between housing production and prices, income, population and housing stock in the state had continued post-2000. The gap between actual production and this measure of "normal" production can be interpreted as the accrued housing deficit. In California, that comes to nearly 3.4 million homes. However, the underlying statistical model is opaque, and the authors did not report the robustness of their results to alternative modeling assumptions.

The range of estimates from these studies is very broad: 1.1 - 3.4 million homes. Is it possible to say which estimate is closest to being right? Probably not. The estimates rest on contestable assumptions about reference years (1980, 2000?), comparison states (New York / New Jersey, or someplace else?), and how to account for the movement of people across state boundaries in response to housing prices and economic opportunities (only the LAO and the Up for Growth models even try to account for this). Perhaps the most important takeaway is that every method supports the conclusion that California's present housing shortage is very large.

A further concern is that it doesn't really make sense to speak of <u>the</u> shortage of homes in California as a whole, as if it were a single quantity. There are, rather, shortages of homes in <u>specific places</u> in California. To a first approximation, the regions – and the places within regions – that need the most new housing are those where the price of new housing is highest relative to the labor-and-materials cost of construction ("replacement cost"). Economists have shown that in markets where the supply of housing is not constrained by regulation, the price of new homes generally stabilizes at close to replacement cost (Glaeser and Gyourko 2018; Romem 2017). The ratio of price to replacement cost may rise a little during periods of high interest rates, or in places where the value of existing uses on potentially redevelopable sites is substantial, but large and persistent disparities between housing prices and replacement costs indicate that there are barriers keeping landowners from developing or redeveloping their property for more housing.

The gap between housing prices and replacement cost in California's most expensive markets is stunning. Glaeser and Gyourko (2018) estimate that prices have reached two to three times the cost of construction in the San Francisco, Los Angeles, and San Diego metro regions. Romem (2017) drills down to zip codes and estimates that in some neighborhoods, housing prices are five times replacement cost.

To be sure, the fact that a land-use regulation prevents a landowner from redeveloping her parcel for a housing project that would be profitable to build (absent the regulation) does not *necessarily* mean that the regulation is ill-advised. Housing development projects often have modest negative "externalities" – spillover effects – on nearby residents. Construction is noisy

and sometimes dusty. The new building may cast a shadow or block a view, annoying nearby residents. It may increase congestion on nearby streets, or require improvements to the water and sewer system.

These points are familiar. Less often acknowledged is that new housing development in California has <u>positive externalities</u>, particularly in dense or potentially dense urban areas. When more people are able to live near one another, this results in what economists call <u>agglomeration effects</u>: the generation of new ideas and innovations that power economic growth; dense labor markets that reward specialization and make it hard for employers to exploit their workers; and cultural amenities like restaurants, civic parks, and theaters (Bolter and Robey 2020). There are also <u>beneficial climate impacts</u>, as people living in dense urban environments have much smaller per-capita greenhouse gas emissions than people living in suburban and exurban settings (Wheeler, Jones, and Kammen 2018). Dense development that adds to road congestion in the short term makes public transit more viable in the longer term. And there are important <u>socioeconomic mobility benefits</u>, because when poor families move into middle-class communities, their children have much better long-run outcomes: higher incomes, lower unemployment, less incarceration (Chetty et al. 2020). Society as a whole benefits when everyone can reach their potential, but housing-market constraints stand in the way.

Also worth bearing in mind is that arguments about negative traffic, noise, or aesthetic spillovers from new development are sometimes pretextual ((Manville and Osman 2017). It's been true historically, and it may remain true today, that one of the main local motivations for restrictive land-use policy is to keep poor people and disfavored minorities from moving into one's neighborhood (Trounstine 2018, Sahn 2021).

Taking the full measure of the costs and benefits of regulatory restrictions on housing supply, the clearest conclusion is this: California should not defer to municipal judgments – and especially not to neighborhoods' judgments – about whether the benefits of new housing outweigh the costs. The costs, both legitimate and illegitimate, are born locally, whereas most of the benefits accrue regionally (more affordable housing, stronger labor markets, cultural amenities) or at state, national and international levels (faster economic growth, greater socioeconomic mobility, slower climate change). There should be a presumption in favor of allowing dense housing to be built in existing urban and suburban neighborhoods, particularly near transit stops and arterial roads, whenever the price of housing exceeds the labor-and-materials cost of construction.

Of course, this conclusion does not answer the question of whether the statewide housing deficit is closer to 1.1 million units or 3.4 million units. Nor does it shed any light on how much closing of the deficit can practically be achieved during an eight-year planning period. It does mean, however, that the state should put pressure on local governments to allow a lot more housing, especially multifamily buildings with small units.

Zoning for multifamily housing is important because it allows a given parcel of land to make a larger contribution to the regional supply of housing (thus putting downward pressure on

regional prices), and because small apartments are relatively affordable compared to larger single-family homes. Single-family zoning is a wasteful use of land in places where housing prices have escalated sharply in response to job growth or other demand-side pressures (Schuetz and Murray 2019). Yet the typical city in the Bay Area and Los Angeles metro regions reserves more than 80% of its residential land area exclusively for single family homes (Menendian et al. 2020; Dedousis 2021). And once homes get built in neighborhoods zoned exclusively for single-family use, the zoning almost never changes (Ellickson 2020).

One potential virtue of California's RHNA framework is that it effectively requires cities to make at least 40% of their zoned capacity for the RHNA available at densities of at least 30 dwelling units per acre, or 20 units per acre in suburban areas. These are the so-called "Mullin densities," named after Assemblymember Gene Mullin, whose 2004 bill deemed these densities suitable for accommodating the lower-income RHNA (A.B. 2348, 2003–2004 Reg., Leg. Sess.). For context, development at thirty units per acre is roughly the equivalent of building two-flat duplexes on the small lots typical of older neighborhoods in San Francisco.³

But this virtue of the RHNA framework will make a difference only if California sets reasonable housing targets and demands realism about sites' probability of development, so that local governments actually have to do large-scale rezoning and removal of development constraints. Under the old "forecasted growth in households" standard of need, targets were small and, paired with false assumptions about sites' probability ot development, did little to disrupt the land-use status quo. Indeed, as discussed above in section I.C and documented in the Appendix, not one major city or suburb had to rezone for additional capacity during the last planning cycle.

B. Recent Reforms to the RHNA Process (SB 828 and AB 1771) Represent Steps in the Right Direction

In 2018, the Legislature enacted two important bills that improve the process for determining cities' housing targets. SB 828 supplemented the criteria that HCD uses to set the regional targets, and SB 828 and AB 1771 together shift intraregional allocations toward historically exclusionary jurisdictions.

1. Supplementing "Future Need" with "Present Need" (SB 828)

³ Starting in 2021, cities also have to accommodate at least 25% of their moderate and above-moderate-income RHNAs on sites zoned to allow at least four dwelling units. Gov't Code 65583.2(c)(4).

The thrust of SB 828 is to make determinations of housing need responsive to the present housing shortages that exist in many regions of California, not just forecasted household growth (Senate Floor Analysis, SB 828, p. 4, May 25, 2018).⁴ The bill authorizes HCD to top off the baseline "net new households" standard of need with adjustments based on the current percentage of households in the region that are overcrowded and / or cost-burdened, as compared to "comparable regions" of the nation.⁵ Gov't Code § 65584.01(b). SB 828 also requires HCD to presume that the vacancy rate for a healthy rental housing market is at least 5%.

Though SB 828's goal is on the mark, the bill's criteria for the top-off adjustments are imperfect. The bill presumes that the difference between a California region's cost-burden and overcrowding rates and the rates in "comparable" regions of the nation indicates the degree of ill-health, as it were, of the California region's housing market. But interregional differences in cost-burden and crowding rates are not that large, because when a region's housing prices rise, many less affluent households respond by leaving the region (Elmendorf 2019, p. 115; Romem and Kneebone 2018a, 2018b). This tends to equalize cost-burden rates across regions.

It would have been better for SB 828 to use prices and rents, rather than cost-burden and crowding, as the central adjustment factors. Even so, SB 828 remains a step in the right direction, as it gives HCD more administrative leeway to supplement the old "forecasted new households" standard of need, a standard that certainly understated the amount of housing that should be added to high-demand, highly-supply-constrained regions.

 Shifting Intraregional Allocations Toward More Exclusionary Places (SB 828, AB 1771)

In addition to boosting regional housing targets, the Legislature in 2018 altered the criteria for intraregional allocations, and gave HCD a supervisory role at the allocation stage. SB 828 disallows downward adjustment of a city's share of the regional target on the basis of "[p]rior underproduction of housing [in the city] from the previous regional housing need allocation" or "[s]table population numbers [in the city] from the previous regional housing needs cycle" (Gov't Code § 65584.04(f)). No longer will Beverly Hills and its ilk wheedle out of zoning for new

⁴ Elmendorf et al. (2020a) reviewed fifteen housing elements from the fifth cycle. In each case, the city went through the motions of analyzing present housing-market conditions, but in no case did the city use this information when assessing the need for rezoning or constraint removal. The programs were anchored to the city's RHNA instead, and, as we explained in Part I, the RHNAs (prior to SB 828) were themselves based on forecasted household growth, not present need.

⁵ A more limited version of the overcrowding factor (specific to renter households) had been added a year earlier, by SB 1078 (2017).

housing on the ground that the city didn't allow its housing stock to grow during the previous cycle.⁶

AB 1771 directs councils of governments to allocate their region's housing target in a manner that increases lower-income residents' access to areas of high opportunity, while avoiding displacement and affirmatively furthering fair housing. The bill also authorizes HCD to review and make findings about councils of governments' proposed methodology for allocating their region's target to local governments. (Previously, the intraregional allocation had been left entirely to the discretion of the councils of governments.)

Taken together, AB 1771's requirement that the intraregional allocation affirmatively further fair housing, and SB 828's requirement that the councils of governments not consider "prior underproduction" and "stable population numbers" as intraregional allocation factors, should result in substantially larger RHNAs for historically exclusionary, low-growth jurisdictions.

That said, though SB 828 and AB 1771 were steps in the right direction, they're just a start. We remain concerned that the intraregional allocation is not grounded in an explicit economic feasibility analysis. Cities with lots of sites where developers could make money building dense housing (in the absence of regulatory barriers) ought to receive the lion's share of the regional target.

C. The Legislature Has Authorized HCD to Require More Realistic Assessments of Housing Element Capacity, but Has Not Provided Clear, Workable Directives

Critics have long argued that cities "game" the RHNA process by selecting sites that are unlikely to be developed during the planning period (Dillon 2017). In 2017, the Legislature through AB 1397 substantially tightened the requirements for housing element site inventories and the analysis of site capacity, as follows:

• For nonvacant sites, the inventory must now include an estimate of the parcel's "additional development potential ... within the planning period," accounting for a host of factors including "development trends," "market conditions," "any existing leases or other contracts that would perpetuate the existing use or prevent redevelopment of the site," and the city's "past experience with converting existing uses to higher density residential development." Gov't Code § 65583.2(g)(1).

⁶ This is not to say that Beverly Hills's RHNA for the sixth cycle is high enough. It's still less than half of that of Coachella, a similarly sized city in the Inland Empire, despite Beverly Hills having a typical home value more than ten times higher than Coachella's. (The market value of a typical home is a rough proxy for unmet demand.)

- If a local government assigns more than 50 percent of its lower-income RHNA to nonvacant parcels, it must make findings supported by "substantial evidence" that the existing use of each such parcel "is likely to be discontinued" during the planning period. Gov't Code § 665583.2(g)(2).
- Special findings are also required if the local government claims that a site smaller than 0.5 acres or larger than ten acres can accommodate a portion of the low-income RHNA. Gov't Code § 65583.2(c)(2)(A)—(B).
- If a nonvacant parcel in the inventory goes undeveloped over the planning period, or if a vacant parcel goes undeveloped over two successive planning periods, the nominal capacity of that parcel may not be counted toward the local government's low-income RHNA in the next cycle unless the parcel is rezoned for by-right development of projects in which 20 percent of the units will be sold or rented at below-market rates. Gov't Code § 65583.2(c).
- If a local government approves for an inventory site a project that has fewer units by income category than the housing element said the site could accommodate, then the local government must make findings that it has adequate remaining capacity to accommodate its RHNA by income category, or else rezone additional sites within 180 days to accommodate the unmet need within the relevant income band. Gov't Code § 65863(b).

In 2018, the Legislature added that housing elements must "affirmatively further fair housing." A.B. 686, 2017–2018 Reg., Leg. Sess. (Cal. 2018). This may put pressure on local governments to assign more of their low-income RHNA to nonvacant sites, owing to the rarity of vacant sites in affluent, high-opportunity neighborhoods. However, the findings required when sites smaller than 0.5 acres are used to accommodate the low-income RHNA cut in the other direction, because land parcels in affluent single-family neighborhoods are usually smaller than the 0.5-acre cutoff.

Finally, in 2019, the Legislature passed SB 6, which authorizes HCD to issue "standards, forms, and definitions" for the housing-element site inventory and associated analysis. Gov't Code § 65583.3(b).⁷

⁷ Technically, SB 6 authorizes HCD to issue "standards, forms, and definitions" for the analysis required by Gov't Code 65583(a), which covers the entire analytical side of the housing element. The detailed requirements for the site inventory come in Gov't Code 65583.2, which fleshes out the mandate of Gov't Code 65583(a)(3) ("An inventory of land suitable and available for residential development, including vacant sites and sites having realistic and demonstrated potential for redevelopment during the planning period to meet the locality's housing need for a designated income level, and an analysis of the relationship of zoning and public facilities and services to these sites, and an analysis of the relationship of the sites identified in the land inventory to the jurisdiction's duty to affirmatively further fair housing").

While these various reforms evince an intent to make the site inventory work for housing production and desegregation, they don't tell cities *how* to take the new statutory factors into account. Is it enough for cities just to "consider" the various factors in selecting sites for their housing element? Or must cities use the statutory factors to create a rough forecast of the likelihood that inventory sites will be developed during the planning period, and discount site capacity accordingly? The Legislature hasn't answered this question because it has not undertaken to define "realistic capacity" or "additional development potential ... within the planning period," the keystone concepts under the statute.

It's also not clear how the discontinuation-of-existing-uses findings requirement is supposed to be implemented. Again, AB 1397 (2017) requires cities that assign more than 50% of their lower-income RHNA to nonvacant sites to make findings "based on substantial evidence" that the sites' existing are "likely to be discontinued" during the planning period. Gov't Code 65583.2(g)(2). The term "likely" ordinarily means "more likely than not." Yet Kapur et al.'s (2021) discovery that the median Bay Area city is on track to develop only 3% of the nonvacant sites in its 5th cycle inventory implies that few if any cities will be able to make a credible "more likely than not" finding as to 6th cycle inventory sites. This is an important issue for Auditor Howle to address in connection with item (5) in Sen. Glazer's letter ("review a representative selection of local jurisdictions to determine whether they can reasonably identify sites sufficient to accommodate potential development of needed housing units"). The question is not merely whether a city could identify sufficient sites to meet its target, but whether those sites would be legally acceptable given the strictures of AB 1397.

One practical solution would be for cities to comply with AB 1397 by (1) substantially discounting the nominal zoned capacity of nonvacant inventory sites, in accordance with their estimated likelihood of redevelopment, and then (2) finding that the likelihood that the sites' existing uses will be discontinued during the planning period equals or exceeds the discount factor applied to the sites. But instead of condoning (or rejecting) this approach, the Legislature simply delegated authority to HCD to issue "standards" and "definitions" concerning the site inventory and associated analysis. And as we'll explain in Part V, HCD hasn't issued a tractable standard.

III. In Determining Regional Housing Needs for the 6th Cycle, HCD Reasonably Applied the New Statutory Factors

SB 828 tells HCD to account for present needs, but, beyond identifying a few relevant factors (cost-burden, overcrowding, the performance of comparable regions elsewhere in the nation), the statute as amended doesn't tell HCD <u>how</u> to account for present needs. The statute doesn't define "comparable regions," and it doesn't tell the department how many units to add to an

RHND upon discovering some disparity between cost-burden or overcrowding rates in the California region vis-a-vis its comparators.

This section of our background paper describes how HCD has exercised its new discretion to "top off" the traditional, forecasted-new-households standard of need. We reviewed the sixth planning period RHNDs for the state's four major metropolitan regions: San Diego (SANDAG), Los Angeles (SCAG), San Francisco (ABAG), and Sacramento (SACOG). We also took a deeper dive into the ABAG RHND, replicating HCD's analysis and examining how a jobs-housing adjustment would affect the housing need projection for that region (Elmendorf et al. 2020b).

Broadly speaking, we would characterize HCD's approach as (1) ad-hoc, rather than model-based; (2) reliant on simple rules of thumb; and (3) moderate in the exercise of administrative discretion.

Governor Jerry Brown famously subscribed to the "canoe theory" of politics: paddle a little to the left, then paddle a little to the right, and you'll end up in the political center (and win reelection). HCD's implementation of SB 828 hewed to the former governor's adage. In making ad hoc adjustments to the forecasted-new-households standard of need, the department exercised its discretion conservatively on some issues, progressively on others, and achieved an end result at the low end of the range of independent estimates of the housing shortage.

A. Ad-Hoc vs. Model-Based Implementation of the Adjustment Factors

HCD faced a threshold choice in implementing SB 828: whether to model housing market dynamics and forecast how much new housing would be needed to bring a California region's cost-burden and overcrowding rates down to levels that prevail in comparable regions, or whether to make ad hoc adjustments such as "inflating" or "deflating" the California region's RHND in proportion to the difference between the California region's cost-burden (overcrowding) rate and the rate in comparator regions.

A model-based approach would account for price changes and population flows in response to the construction of new housing, and would offer some *a priori* reason to think that the adjustment would actually result in achievement of the benchmark. The ad hoc approach does not. But the ad hoc approach has real advantages too: it's transparent and easy to implement. It's also presumably what the Legislature expected, given that the vacancy adjustments authorized by statute for previous cycles had been implemented without modeling, and given that the Legislature delegated implementation of SB 828 to a department without staff economists.

For the sixth cycle planning period, HCD adopted the ad hoc approach. Figure 1 provides a representative example (regional housing needs for the Bay Area).

Figure 1: Example of Ad Hoc Adjustment to Forecasted-Households Standard of Need

HCD REGIONAL HOUSING NEED DETERMINATION: ABAG June 30, 2021 through December 31, 2030

Methodology

ABAG: PROJECTION PERIOD (8.5 years) HCD Determined Population, Households, & Housing Unit Need					
Reference	Step Taken to Calculate Regional Housing Need	Amount			
No.					
1.	Population: December 31 2030 (DOF June 30 2030	8,273,975			
	projection adjusted + 6 months to December 31 2030)				
2.	- Group Quarters Population: December 31 2030 (DOF June	-169,755			
	30 2030 projection adjusted + 6 months to December 31 2030)				
3.	Household (HH) Population	8,159,280			
4.	Projected Households	3,023,735			
5.	+ Vacancy Adjustment (3.27%)	+98,799			
6.	+ Overcrowding Adjustment (3.13%)	+94,605			
7.	+ Replacement Adjustment (.50%)	+15,120			
8.	- Occupied Units (HHs) estimated June 30, 2022	-2,800,185			
9.	+ Cost-burden Adjustment	+9,102			
Total	6 th Cycle Regional Housing Need Assessment (RHNA)	441,176			

As Figure 1 illustrates, the starting point is a projection of households at the end of the sixth cycle planning period, provided by demographers at the Department of Finance. This is line 4 in Figure 1. Next, HCD multiplied the "projected households" number by the difference between the benchmark vacancy rate and the target region's current vacancy rate (line 5); the difference between the target region's overcrowding rate and the benchmark overcrowding rate (line 6); and the rate at which existing structures are lost to demolition (line 7). These products were added to the "projected households" total, and then the current number of occupied dwelling units was subtracted (line 8). Finally, HCD multiplied the resulting "net need" number by the difference between the target region's cost-burden rate and the benchmark cost-burden rate, and added this product to the total (line 9).⁸

⁸ Technically, HCD makes separate adjustments to the presumptive lower-income RHND and the presumptive moderate and above-moderate income RHND (i.e., the quantity after "line 8" in Fig. 1), based on the percentage of lower income households that are cost burdened and the percentage of moderate and above moderate income households that are cost burdened.

B. Simple Rules of Thumb, Not Complicated Adjustments

HCD's regional need methodology during the 6th cycle manifests a preference for simple rules of thumb over complicated adjustments. This preference crops up in several places, described below.

The Benchmark Vacancy Rate

HCD used a benchmark "healthy housing market" vacancy rate of 5%. That is, the department subtracted the target region's vacancy rate from 5%, multiplied the difference by the "present and future households" projection, and added this product to the total. See Figure 1, line 5.

SB 828 requires HCD to presume that the vacancy rate for <u>rental</u> housing in a healthy housing market is <u>at least</u> 5%, but leaves HCD with open-ended discretion to determine what vacancy rate for owner-occupied housing would be appropriate "for healthy housing market functioning and regional mobility." Gov't Code 65584.04(b)(2)(E). HCD could have set separate vacancy benchmarks for owner-occupied and rental housing, and then varied the vacancy adjustment for each region according to the relative percentage of owner-occupied and rental housing stock in the region. Instead, HCD used a flat 5% benchmark for all housing types and regions.

This simple rule of thumb made the RHND determinations predictable and transparent – and easy. It didn't require HCD to forecast what share of the housing stock in a region is likely to be owner-occupied vs. rental during the planning period. It didn't depend on contestable judgments about whether (or how much) to aim for a higher-than-normal rate of vacancy in regions with higher-than-normal prices, on the theory that an increase in the vacancy rate in such regions would put downward pressure on prices and therefore be "healthy ... for regional mobility." Also, the 5% benchmark is a convenient middle ground between the national vacancy rate for owner-occupied housing (historically about 1%-2%) and the national vacancy rate for rental housing (historically about 5%-10%).⁹

The Form of the Cost-Burden and Overcrowding Adjustments

HCD made cost-burden and overcrowding adjustments by multiplying a "base" number of housing units by the difference between the overcrowding (cost burden) rates in the target region and the comparator regions. See Figure 1. This is easy to do, and it mirrors the type of adjustment that HCD had long made for vacancy rates. But there were other options the department could have chosen, short of a model-based implementation.

For example, if the comparison regions had substantially lower overcrowding or cost-burden rates, HCD might have asked, "How fast did the comparison regions expand their housing stock

⁹ Historical data on the quarterly vacancy rate for owner-occupied and rental housing is available here, <u>https://www.census.gov/housing/hvs/data/histtabs.html</u> (Tables 1 & 2).

during the previous 8 years?" If the comparison regions grew faster, HCD could have adjusted the target region's RHND by the difference between the observed housing-stock growth in the target region (over the previous cycle) and the growth that would have occurred if the target region had expanded its housing stock as rapidly as the comparison regions. This is an ad hoc alternative to modeling the effect of housing supply on overcrowding and cost-burden rates, but at least it attempts to bring about housing supply more like that of comparable regions with healthier housing markets.

However, this approach would have raised a host of questions too, and as such it's more complicated than the adjustment methodology the department adopted. The department would have had to decide how many years to look back (for evaluating differences in housing-stock growth rates); whether to establish thresholds for actionable disparities in cost-burden and overcrowding rates; what to do when the difference between the California region and the comparator regions exceeds the threshold by one metric (cost burden) but not the other (overcrowding), and so forth. Some critics might also have questioned whether the approach was authorized by statute, since the magnitude of the adjustments would reflect differences in housing-stock growth rates, not cost-burden or overcrowding rates. The department chose the simpler path.

The Lack of a Jobs-Housing Adjustment

Our final example of HCD's preference for simple adjustments is the fact that the department did not make any adjustment for "jobs-housing imbalance." This factor was added to the statute in 2008 by SB 375, the landmark climate bill, but so far as we can tell, it has never been applied.

HCD could have made a jobs-housing adjustment using Census data on interregional commuting patterns, or "supercommuters" (Elmendorf et al. 2020b). This adjustment would have brought the housing target for ABAG – a geographically small region whose workforce contains an extraordinary share of long commuters – more in line with the target for SCAG. And doing this adjustment would have advanced SB 375's climate goals, by putting pressure on ABAG especially to allow more housing.

But jobs-housing adjustments might have complicated the RHND process too, by making determinations for one region arguably relevant to determinations for neighboring regions. For example, if the Bay Area got an upward adjustment to its RHND on account of jobs-housing imbalance (as it should have), the Sacramento region would probably argue for a corresponding downward adjustment, to reflect the commuters who now travel from the Central Valley to the Bay Area.

The simplest path was to skip the jobs-housing adjustment, notwithstanding the statute's instruction that the determination of "existing and projected housing need" "shall reflect the

achievement of a feasible balance between jobs and housing within the region." Gov't Code 65584.01(c)(1).

C. Canoeing Down the Middle

HCD's ad-hoc adjustments reflect Governor Brown's old adage. Some were progressive, some were conservative, and the end result was at the low end of the range of independent estimates of California's housing shortage.

Start with the bottom line. Taken together, HCD's vacancy, overcrowding and cost-burden adjustments for the state's four major metro regions (where the vast majority of the state's housing and housing demand is located) sum to 1,064,822 units. As noted in Part II.A, independent analysts peg California's shortage at anywhere from 1.1 to 3.4 million homes. Those estimates should be taken with many grains of salt, but ultimately HCD exercised its discretion in a manner that generated fairly conservative targets relative to the large range of estimates in the literature.

We haven't tried to quantify the full range of potential RHNDs that HCD could have produced using different ad-hoc implementations of the adjustment factors. However, Elmendorf et al. (2020b) replicated HCD's determination for the ABAG region and showed that the RHND would have been roughly 50% larger if HCD had made the jobs-housing adjustment and used a different rule of thumb for the cost-burden adjustment.

The balance of this section illustrates the particular ways in which HCD's regional need determinations for the 6th cycle mix together pro-housing and conservative rules of thumb.

Paddling Toward More Housing

The Benchmark Vacancy Rate. HCD's decision to use a benchmark vacancy rate of 5% was mildly progressive. As noted above, historical vacancy rates in the nation as a whole are in the range of 1%-2% for owner occupied housing, and 5%-10% for rental housing. Weighted by the proportion of California households who own their homes (55%), the national average vacancy rate over the last generation for owner-occupied and rental housing is about 4.7%. HCD's 5% benchmark is slightly higher than this, and, accordingly, resulted in modestly larger vacancy adjustments to the RHNDs.¹⁰ To be clear, the statute <u>does not</u> require HCD to choose the benchmark vacancy rate on the basis of national averages or comparator regions. The statutory standard for the vacancy adjustment is "healthy housing market functioning and regional

¹⁰ This calculation is for the years since 1990, and uses the Census data available here: <u>https://www.census.gov/housing/hvs/data/histtabs.html</u> (Tables 1 & 2).

mobility." Gov't Code 65584.01(b)(1)(E). This warrants using a high benchmark vacancy rate where the housing market is severely supply-constrained.¹¹

Applying Adjustments to "Total Present and Future Households." Another example of a progressive discretionary choice was HCD's decision to apply overcrowding and vacancy adjustments to the entire "present and future households" forecast, rather than applying the adjustment only to "net new households," or, conversely, applying the adjustments only to the current population of households and not to projected new households. See Figure 1, rows 5-7. HCD's method of making the adjustment effectively increments the "total present and future households" number by one additional dwelling unit for every "excess" overcrowded household (excess relative to the comparator region's overcrowding rate); by one additional dwelling unit for every household whose dwelling is projected to be lost to demolition; and by approximately the number of new units that would be needed to achieve the target vacancy rate if each addition of a "vacancy adjustment" unit to the housing stock actually resulted in a vacant unit (which of course it does not, but as noted, the adjustments were ad-hoc not model-based).

Applying the adjustment factors to "total present and future households" honored the clear intent of SB 828. But it was also an exercise of discretion, for the text of the statute lets HCD choose which population of households to adjust: "The methodology submitted by the department <u>may</u> [not "shall" or "must"] make adjustments based on the region's total projected households, which includes existing households as well as projected households." Gov't Code 65584.01(b)(2).

Paddling Against More Housing

The Overcrowding Adjustment. In contrast to the adjustments for vacancy, overcrowding, and units lost to demolition, HCD made the adjustment for cost-burdened households only after subtracting the count of existing occupied units. See Figure 1, rows 8-9. This decision resulted in a cost-burden adjustment that's much smaller than it would have been had HCD applied the cost-burden factor to "total present and future households," as the department did with the other adjustment factors. To illustrate, HCD's cost-burden adjustment added about 9,000 units to ABAG's RHND, but if the department had applied its cost-burden adjustment factor to the present-and-future households number, the adjustment would have added about 64,000 units, holding constant the choice of comparator regions.¹² This is <u>seven times larger</u> than the cost-burden adjustment the department ended up making.

HCD may have decided not to apply the cost-burden adjustment to "present and future households" out of concern that doing so would "double count" households that are both overcrowded and cost-burdened. These doubly burdened households factor into both overcrowding rates and cost-burden rates, so if HCD had first multiplied the "total present and

¹¹ During the 5th cycle, HCD made separate adjustments for owner-occupied and rental housing, and used a low benchmark vacancy rate for each housing type. In ABAG's case (we haven't reviewed others), the benchmark vacancy rate for rental housing was 5%, and for owner occupied housing was 1.50%. ¹² Calculations performed using HCD's Overpayment Calculation spreadsheet; available upon request.

future households" by the "excess overcrowding" rate (adding this number to the RHND), and then multiplied "total present and future households" by the "excess cost burden" rate (adding this number to the RHND), that would have the effect of incrementing the RHND by two units for every one household that's projected to be both overcrowded and cost-burdened.¹³

But there's actually nothing wrong, policy-wise or legally, with such a "double adjustment." Adding two new units to the housing stock for every household that's both overcrowded and cost-burdened would not result in excess, unoccupied units. Under California law, the "adjustment homes," if built, become part of the regular housing stock. There are no special deed restrictions reserving "cost-burden adjustment homes" for previously cost-burdened households, or "overcrowding adjustment homes" for previously overcrowded households. The effect of adding two new units (rather than one unit) to the housing stock for every household that's both overcrowded and cost-burdened is just to put more downward pressure on prices. The more new houses are added, the more prices will soften, giving presently cost-burdened and overcrowded households a better chance to reduce their overcrowding, to reduce their cost burden, or both.

In short, HCD's decision to exclude the current household population from the cost-burden adjustment was simply an exercise of administrative discretion to "paddle to the right."

Paddling Variably

We found that one issue – the choice of comparator regions – was handled differently by HCD in the context of different regions. This variation may reflect a learning curve as the department tried to come up with a workable implementation of SB 828's core idea, namely, identifying present needs by comparing the target region to other regions of the nation.

SB 828 doesn't define "comparable region," and the statute is a little unclear about whether the choice of comparators belongs to the councils of governments or to HCD. The statute directs each council of government to provide HCD with "data assumptions from the council's projections, including, if available, ... the average overcrowding rate in comparable regions throughout the nation, as determined by the council of governments[, ... and] the average rate of households that are cost burdened in comparable regions throughout the nation, as determined by the council. But the next paragraph states, "The department may accept or reject the information provided by the council of governments or modify its own

¹³ To be clear, HCD did not forecast future rates of cost burden and overcrowding. Rather, it used the current rates of cost-burden, vacancy, and overcrowding to adjust the "total current and new households" number. This is tantamount to assuming--to projecting--that current cost-burden, overcrowding, and vacancy rates will continue unchanged to the end of the planning period absent an adjustment to the housing stock beyond the development of the number of housing units equal to projected household growth.

assumptions or methodology based on this information." Gov't Code 65584.04(b)(2). This seems to authorize the department to reject a council's choice of comparators.

If HCD had wanted to paddle toward more housing as fast as possible, it would have established criteria for the selection of comparators that exclude metro regions with severe housing-supply constraints. Because the purpose of the comparison is to identify typical overcrowding and cost-burden rates for "healthy housing markets," Gov't Code 65584.04(b)(1), it makes no sense to benchmark the Bay Area or Los Angeles against a region that is "comparable" in the sense of also experiencing high demand, high prices, and thwarted supply.

To the best of our knowledge, the department never established comparator-region criteria, and it ultimately employed different families of comparators for ABAG, SCAG, and SACOG. (As for SANDAG, its needs were determined prior to the effective date of SB 828.)

In ABAG's case, the department deferred to ABAG's choice of comparators, including several that are notorious for high housing prices and severe supply constraints (Elmendorf et al. 2020b). Benchmarking ABAG against "high growth" comparators, or a national average, would have resulted in somewhat larger cost-burden adjustments (Elmendorf et al. 2020b).¹⁴

For SACOG, where housing prices are much lower than in the Bay Area, HCD and the council of governments agreed to comparators that are mostly fast-growing, relatively affordable places: Phoenix, Austin, San Antonio, Salt Lake City, Miami, Denver, and Portland. (Of these places, only Portland fits the paradigm of a slow-growth, supply-constrained metro.) This is more consistent with the statutory purpose of using comparators to benchmark California regions against a "healthy housing market" norm. Gov't Code 65584.01(b)(1)(H).

For SCAG, the department benchmarked the region against national averages, rejecting SCAG's proposed set of slow-growth, high-cost comparators (Letter from Kome Ajise, Executive Director, SCAG, to Doug McCauley, Acting Director, HCD. Sept. 18, 2019). In view of the Legislature's purpose in adopting SB 828, the national-average benchmark is superior to the kind of ad-hoc (and probably cherry-picked) benchmark that the department accepted for ABAG.

D. A Note on the Erroneous "Double Counting" Objection

Some anti-housing interests contend that HCD's determinations of need for the 6th cycle reflect a "double counting" of overcrowded and cost-burdened households. The argument is that the Department of Finance (DOF) made a tacit adjustment for overcrowding and cost burden when

¹⁴ Elmendorf et al. (2020) also show that the choice of comparators would have much bigger consequences if HCD had applied the cost-burden factor to the "total present and projected households" base, rather than subtracting off current households.

projecting the number households at the end of the planning period (the "total present and future households" number), and then HCD mades a further "SB 828 adjustment" based on the difference between overcrowding and cost-burden rates in California regions versus comparator regions (Embarcadero Institute 2020).

There are two problems with this objection. The first and most fundamental is that the crux of the complaint is that HCD followed the law. HCD did what the Legislature told it to do: it upwardly adjusted DOF's total-households projection on the basis of cost-burden and overcrowding differences between California regions and national comparators, and it made a policy-minded judgment about a target for vacancy rate "for healthy housing market functioning and regional mobility." Gov't Code 65584.04(b)(2)(E).

The second problem is that the Embarcado Institute's objection misunderstands the nature of the adjustments made by DOF and HCD. DOF's job is to produce a "best guess" about the number of households that will exist in California in future years. To make this guess, DOF must make assumptions about the number of households per capita. This is called the headship rate. Data on headship rates comes from the decennial Census. DOF's households-forecast model assumed that headship rates within demographic groups in California will gradually revert to the average rates that prevailed among these groups in the years 2000 and 2010 (California Department of Finance 2020). The alternative apparently preferred by the Embarcadero Institute is to assume that year-2010 headship rates would continue indefinitely into the future. DOF rejected this assumption on the ground that the year-2010 rates were anomalously low, owing to the Great Recession (California Department of Finance 2020). Erstwhile homeowners who lost their homes during the foreclosure crisis often "doubled up," e.g., by moving back in with their parents. DOF had to make some assumption about headship rates decades into the future, and it was certainly reasonable for the department to assume that future headship rates would revert to something like the average of the year-2000 and year-2010 rates, rather than stabilizing at rates that prevailed near the nadir of the Great Recession.

DOF's headship-rate assumptions do not incorporate any information about conditions in "comparable regions of the nation," as SB 828 directs, nor do they purport to identify headship rates that would prevail if the problems of cost-burdened and overcrowded households in California were satisfactorily redressed.

In short, the forecasting exercise undertaken by DOF was fundamentally different than the policymaking exercise undertaken by HCD. DOF undertook to predict how many households would exist in California in the future, on the assumption that recent population-flow, birth-rate, death-rate trends continue in into the future (with headship rates gradually reverting to the mean of years 2000 and 2010), HCD undertook to make a reasonable adjustment to the "projected households" definition of housing need, in a manner that accounts for cost-burden and overcrowding disparities between California regions and comparator regions and that aims to achieve "healthy housing market functioning and regional mobility." Gov't Code

65584.04(b)(2)(E). DOF made a forecasting judgment call. HCD made a policy judgment call. Each department performed the task it was assigned.

IV. Because the Costs of Error Are Asymmetric, There's No Need for the Legislature to Monitor and Adjust RHNAs that Cities Say Are "Too High"

It should be clear from this background paper that determinations of regional housing need are inherently uncertain (as evidenced by the wide range of scholarly estimates reviewed in Part II), and also that the discretionary choices that HCD must make to implement the statutory framework can have big consequences for the size of the RHNDs.

What may not be clear is that state housing law and local politics are structured in ways that make the costs of setting the housing targets "too high" or "too low" asymmetric. If HCD undershoots, setting a region's target below the level that would maximize societal welfare, the consequence is that high-price, supply-constrained cities will face little if any pressure to rezone for denser housing. As we explained in Part II.A, the costs of new housing are borne locally, while the benefits accrue regionally and statewide. Cities left to their own devices will accommodate too little housing.

During the 5th cycle, targets were certainly too low. Only about 10% of jurisdictions had to do any rezoning to "accommodate" their RHNA. See the Appendix. The rest were able to show sufficient capacity on paper to accommodate their target under current zoning. (Whether that capacity was realistic is another matter; see Part V.) Not one major city or suburb had to provide additional zoned capacity. Statewide, a mere 35,340 dwelling units had to be accommodated through rezoning.

Whether California's true housing deficit is closer to 1 million or 3 million homes, there's no way that California will make headway on its housing crisis by requiring a few dozen small jurisdictions outside of the major metro regions to rezone for a grand total of 35,000 more dwellings.

Now consider the opposite scenario: RHNAs that are too large, that require a city to plan for more housing than it can practically accommodate in economically sensible locations during the planning period. The "harm" in this scenario is actually trivial. If a city receives a "too large" allocation, this requires – at most – that the city provide zoned capacity on paper sufficient to accommodate it. The state has distributed <u>hundreds of millions of dollars in planning grants</u>, and cities don't have to spend a penny of their own revenues on affordable housing or land for housing. Gov't Code § 65589(a). In fact, the law expressly recognizes that "total housing needs … may exceed available resources and the community's ability to satisfy this need within the

content of the general plan." Gov't Code § 65583(b)(2). "Under these circumstances," a city may set "quantified objectives" for new housing that "need not be identical to the total housing needs." Gov't Code § 65583(b)(2). It would be unfortunate if a Council of Governments assigned its RHND to cities that didn't have much capacity and therefore set low quantified objectives, but for present purposes the important point is if this were to occur, the cities could avail themselves of the statute's escape hatch.

For the sake of argument, let's consider what would happen if a city that truly lacks capacity to accommodate its RHNA is pressured by HCD into undertaking a big rezoning to accommodate the RHNA on paper. Will this unleash chaos in the city? Not at all. Consider four ways in which a city could be "without capacity" to accommodate its too-large RHNA:

- City A lacks capacity because its infrastructure is inadequate. It would need a new sewage treatment plant to accommodate the RHNA.
- City B lacks capacity because all of its developable land is in an extreme fire danger zone, where it can't be safely developed.
- City C lacks capacity because it's built out: all of its developable sites have such high-value existing uses that even if they were rezoned for dense multifamily housing, no one would redevelop them because the profit from redevelopment would be less than the value of the existing use.
- City D lacks capacity because demand for housing is so low that development of even vacant sites would be a money-losing proposition.

In none of these cities will rezoning to accommodate the RHNA trigger a rush of development. In cities A and B, developers would like to build projects on the rezoned sites, but they won't do it because state law allows cities to deny zoning-compliant projects on the basis of objective health or safety standards. Gov't Code 65589.5(j). The inadequate sewer system in City A and the fire danger in City B would justify health-or-safety denials. Meanwhile, in cities C and D, developers won't propose projects because there's no money to be made from them.

On the other hand, if it turns out that some sites in cities A or B actually can be developed without a health or safety violation, or if some sites in cities C or D can be developed at a profit, then developers will propose projects on the rezoned sites. But in this event the city has no cause to complain, because what the developer's proposal demonstrates is that the city does have capacity for more housing, despite its earlier protestations to the contrary.

There are no penalties under state law for cities that fail to meet their RHNA targets. The only consequence of falling short is that, under SB 35, the city will be required to review ministerially certain multifamily housing projects that comply with the city's own objective zoning and development standards. This is a trivial imposition, given that SB 35 leaves cities free to deny

any project that runs afoul of the city's zoning ordinances and general plan, or that violates a health or safety standard. SB 35 projects must also comply with strict labor standards and provide below-market-rate units. This makes them economically viable only in places where housing prices have risen substantially above than the normal labor-and-materials cost of construction. In short, the only real consequence of a "too large" RHNA is that places with serious housing shortages will actually have to approve housing on sites they have zoned for it. This is a benefit, not a cost.

Because the costs of underestimating regional housing need are substantial, and the costs of overstating it are trivial, HCD ought to err on the side of making the RHNDs too large.

V. To Date, Sixth Cycle Housing Elements Have Used Inconsistent and Typically Inadequate Methods for Estimating the Capacity of Inventory Sites

As we explained in Part I, cities traditionally quantified the capacity of their housing element site inventory on the assumption that every site would be developed during the planning period. That assumption was always suspect, but the new studies by Romem (2021) and Kapur et al. (2021) make it completely untenable going forward. And while the Legislature has tried to prevent cities from relying on "bad" sites to show capacity vis-a-vis the RHNA (see Part II), the Legislature hasn't clearly reckoned with the reality that even good sites may have only a 1-in-5 or 1-in-10 chance of getting developed during the planning period. Nor has the Legislature provided guidance to HCD about whether or how to credit cities for development that's likely to occur in the aggregate on non-inventory sites. Even if such sites individually have a very small probability of development, the sum total can be quite important – as evidenced by Kapur et al's (2021) finding that most of the recent development in the Bay Area has occured on non-inventory sites.

Elmendorf et al. (2020a) argue that the new statutory requirements for analysis of site capacity should be implemented using an "expected yield" conception of sites' "additional development potential ... within the planning period." Gov't Code 65583.2. Sites would be counted not for the number of units they would host if developed (the traditional approach), but for that number of units multiplied by a rough estimate of the site's probability of development over the next eight years. For example, if a site's zoning and development standards allow 100 units, but the site has only a 1-in-4 chance of getting developed during the planning period, the site would be counted as accommodating 25 rather than 100 units of the city's RHNA.

Although HCD now has authority to issue "definitions" and "standards" concerning the site inventory and associated analysis (see Part II), the Department has proceeded gingerly. In June of 2020, it issued a <u>Site Inventory Guidebook</u>, which asks cities to make a likelihood of

development adjustment at least for nonvacant sites (Department of Housing & Community Development 2020a, pp. 19-22). The Guidebook further states, "If no information about the rate of development of similar parcels is available, report the proportion of parcels in the previous housing element's site inventory that were developed during the previous planning period" (p. 21). However, the Guidebook also lists various other factors that "may" be used for assessing realistic development capacity, leaving somewhat unclear what is actually required (pp. 19-21).

The Guidebook also leaves larger cities in the dark about how they are supposed to comply with AB 1397 if they must assign more than 50% of their lower-income RHNA to nonvacant sites. (Recall that this triggers a requirement that the city find by "substantial evidence" that the site's existing use is likely to be discontinued during the planning period.) The Guidebook encourages cities to contact site owners and secure letters of intent, or information about lease terms and the condition of the existing structures (p. 27). But this is impractical for cities with thousands or tens of thousands of sites in their inventory, and even small cities may have trouble making contact with every owner of an inventory site.

In the absence of clear directives from HCD or the Legislature, cities have been using a wide range of analytical strategies in their 6th cycle housing elements. Staff and volunteers with <u>Abundant Housing Los Angeles</u> and the <u>Campaign for Fair Housing Elements</u> have been carefully monitoring draft and adopted housing elements. They have observed four basic models for assessing nonvacant sites' "additional development potential ... within the planning period." Gov't Code 65583.2(g). The authors of this background paper have also reviewed a number of draft or adopted 6th cycle housing elements and have observed examples of each model.

<u>The Ad-Hoc Model</u>. Some cities – typically those with very small inventories – provide detailed but ad hoc information about each site, often including statements from the owner about their interest in redeveloping the site. The city calculates the capacity of its plan on the assumption that every inventory site will be developed. If more than 50% of the city's lower-income RHNA is assigned to nonvacant sites, the city "finds," based on the ad-hoc information, that the existing uses are likely to be discontinued during the period. Illustrative examples include <u>South Pasadena</u> and <u>Burbank</u>.

<u>The Screening Model</u>. Many cities rely on screening criteria to identify sites that are relatively good candidates for redevelopment. Typical criteria include size, location, age of existing structure, and ratio of improvement value to land value. The criteria are applied to citywide parcel datasets, and every parcel that passes through the screen goes into the inventory. These sites are treated as if they were certain to be developed during the planning period. That is, the city applies no discount factor to account for the likelihood that some (most) of the inventory sites won't be developed during the period. If the city relies on nonvacant sites for more than 50% of its lower income RHNA, the city tacks on a pro-forma "finding"

that the existing uses of nonvacant sites are likely to be discontinued during the planning period. These findings come with no justification other than examples of similar sites that have been redeveloped. (Of course, showing that similar sites have been redeveloped only establishes that the probability of discontinuation of existing uses during the planning period is greater than zero, not that it is <u>likely</u>.) <u>San Diego</u> is the leading example of this approach. Santa Monica, Long Beach, West Hollywood, Los Angeles County, Pasadena, Redondo Beach, Sierra Madre, and Oxnard are also using this model. It is the same model that was widely used in the 5th Cycle, and which resulted in the selection of sites whose probability of development during the planning period was less than 1-in-10 on average (Kapur et al. 2021).

<u>The Expected-Yield Model</u>. One city – <u>Los Angeles</u> – had an economist estimate sites' likelihood of development during the planning period (Romem 2021). LA included almost every residentially zoned site in its draft housing element inventory, while discounting the nominal zoned capacity of each site by its estimated likelihood of development during the planning period.

<u>The Hybrid Model</u>. Some cities use a hybrid of the Screening and Expected Yield models. Screening criteria are used to identify sites with redevelopment potential in zones that allow high-density use. The sites that the city thinks have the strongest redevelopment potential are then counted as if they were certain to be developed. For sites that pass through the screens but aren't as good candidates for redevelopment, the city applies a likelihood-of-development discount factor. In the Hybrid Model examples we've seen to date, the likelihood of development discount is a planner's guess, rather than a number derived from an econometric model (as in Los Angeles), or even a simple projection of the historical rate of redevelopment of similar sites (as HCD's Site Inventory Guidebook [p. 21] advises). Cities using the Hybrid Model include Sacramento, Alhambra, and Culver City.

We anticipate that the passage of SB 9 will induce many more cities to adopt – and abuse – the Hybrid Model. Sites that the city zones for dense development will be counted without any likelihood-of-development discount. Existing single-family homes sites will be counted after applying a likelihood-of-development discount factor that's based on fictive, overoptimistic assumptions about lot splits and duplex development pursuant to SB 9. <u>Culver City</u> illustrates the risk.

Notably, no city to our knowledge has reported "the proportion of parcels in the previous housing element's site inventory that were developed during the previous planning period," and then used this proportion to discount the nominal capacity of sites in the new housing element's inventory. This omission is significant, given that it runs against the instructions in HCD's own Site Inventory Guidebook (p. 21) for how to proceed when no other information about

development rates for inventory sites is available. It also raises questions about whether HCD can practically enforce the AB 1397 requirement that recycled sites be rezoned for by-right development.

To shed further light on the adequacy of 6th cycle housing element inventories, the advocacy group <u>Abundant Housing Los Angeles</u> hired the economic consulting firm <u>Mapcraft Labs</u> to audit the housing elements of ten jurisdictions in Southern California. (This is the same firm whose assessments of economically feasible housing production informed state-level debates over <u>SB</u> 9, the <u>ADU laws</u>, and <u>SB 50</u>.) Mapcraft concluded that:

- About 40-50% of the claimed capacity in the cities' housing elements is economically infeasible to develop;
- Most housing element inventory sites are either unlikely to be redeveloped to the density that cities are claiming, or are unlikely to be redeveloped altogether. These sites represent 80-95% of the typical city's claimed housing capacity.

Letters with audit results for each city are available <u>here</u>. For a summary, see this <u>blog post</u>. The Mapcraft / AHLA audit of these ten housing elements is directly responsive to items (5) and (6) in Sen. Glazer's letter, as Mapcraft investigated the relationship between market conditions, regulatory barriers to development (such as restrictive zoning), and the feasibility of development on potential inventory sites.

Although it may now be too late for HCD to provide clear guidance or safe harbors concerning the analysis of capacity in 6th cycle housing elements, the fact that many cities are still using the failed conventions of the past merits attention from the state auditor and a mid-cycle course correction by the Legislature.¹⁵

VI. Conclusion

California's housing element framework remains a work in progress. We hope the auditor's assessment of its implementation during the 6th cycle will provide a fair accounting of the good as well as the bad. The Legislature and HCD have made important refinements to the framework, such as the new criteria for determining regional housing need, and the new requirement that cities and councils of governments affirmatively further fair housing. But the framework remains overly complicated, and it suffers from economically naive assumptions that

¹⁵ The Legislature should also put "vacant" and "nonvacant" sites on more equal footing. Presently, nonvacant sites are subject to extensive analytical requirements, whereas cities are allowed to assume that vacant sites will be developed during the planning period (Site Inventory Guidebook, pp. 19-30). Kapur et al. (2021) find that vacant sites in 5th-cycle housing elements were somewhat more likely to be developed than nonvacant sites, but the probability of development of vacant sites was low in absolute terms (about 0.1). The Housing Element Law's disparate treatment of vacant and nonvacant cities encourages cities to "plan" for sprawl – and to provide too little zoned capacity in the process.

have proven harmful in practice. These include the erroneous premise that new market-rate housing has no effect on the availability of more affordable housing elsewhere in the region, and the truly fanciful premise that cities can determine precisely which parcels will or should be used to accommodate the city's share of regionally needed housing during the planning period.

Appendix: Jurisdictions Required to Rezone (5th Cycle)

The following table lists all California cities and counties that had to provide additional zoned capacity – beyond what was already available under local zoning – in order to accommodate their RHNA. The column labeled "Shortfall (units)" provides the number of units that the jurisdiction had to rezone for.

Jurisdiction	County	Shortfall (units)
ARTESIA	Los Angeles County	49
BRISBANE	San Mateo County	143
CHINO HILLS	San Bernardino County	365
CLAREMONT	Los Angeles County	157
COACHELLA	Riverside County	2542
CUDAHY	Los Angeles County	126
DEL MAR	San Diego County	12
DEL REY OAKS	Monterey County	11
DESERT HOT SPRINGS	Riverside County	946
EL CAJON	San Diego County	1363
ELK GROVE	Sacramento County	1273
ENCINITAS	San Diego County	888
FAIRFAX	Marin County	27
FILLMORE	Ventura County	61
FONTANA	San Bernardino County	2416
FOUNTAIN VALLEY	Orange County	162
GLENN COUNTY	Glenn County	32
GUSTINE	Merced County	33
INDUSTRY	Los Angeles County	2

KERN COUNTY	Kern County	2528
LA VERNE	Los Angeles County	235
LOOMIS	Placer County	66
LOS BANOS	Merced County	625
LOS GATOS	Santa Clara County	270
MAYWOOD	Los Angeles County	21
MONTEBELLO	Los Angeles County	430
NEWMAN	Stanislaus County	305
ONTARIO	San Bernardino County	1479
ORANGE COVE	Fresno County	197
PARAMOUNT	Los Angeles County	42
PARLIER	Fresno County	61
PATTERSON	Stanislaus County	496
PICO RIVERA	Los Angeles County	348
PISMO BEACH	San Luis Obispo County	59
PLACERVILLE	El Dorado County	133
POWAY	San Diego County	85
RIVERSIDE COUNTY	Riverside County	12044
ROCKLIN	Placer County	1769
SAN BRUNO	San Mateo County	354
SAN JUAN BAUTISTA	San Benito County	16
SANGER	Fresno County	284
SHASTA COUNTY	Shasta County	197
SUTTER COUNTY	Sutter County	33
TRACY	San Joaquin County	506
TRUCKEE	Nevada County	83

TULARE	Tulare County	1010
UNION CITY	Alameda County	70
VILLA PARK	Orange County	5
WESTLAKE VILLAGE	Los Angeles County	42
WESTMORLAND	Imperial County	92
WHEATLAND	Yuba County	186
WILDOMAR	Riverside County	521
WOODLAND	Yolo County	230

Total shortfall of capacity to be accommodated through rezoning: 35,430 dwelling units. Source: Department of Housing and Community Development.

Bibliography

Albouy, David, and Gabriel Ehrlich. 2018. "Housing Productivity and the Social Cost of Land-Use Restrictions." *Journal of Urban Economics* 107. https://doi.org/10.1016/j.jue.2018.06.002.

Badger, Emily, and Quoctrung Bui. 2019. "Cities Start to Question an American Ideal: A House With a Yard on Every Lot." *N.Y. Times*, June 18, 2019.

https://www.nytimes.com/interactive/2019/06/18/upshot/cities-across-america-question-si ngle-family-zoning.html.

Baron, Madeleine, Marley Buchman, Mike Kingsella, Randall Pozdena, and Michael Wilkerson. 2018. "Housing Underproduction in the U.S."

https://www.upforgrowth.org/sites/default/files/2018-09/housing_underproduction.pdf.

Bolter, Kathleen, and Jim Robey. 2020. "Agglomeration Economies: A Literature Review." Upjohn Institute.

https://research.upjohn.org/cgi/viewcontent.cgi?article=1256&context=reports.

Bronin, Sara C. 2021. "Exclusion, Control, and Consequence in 2,622 Zoning Districts." SSRN. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3792544.

California Department of Finance. 2020. "Household Projections for California Counties:

2020–2030 (P-4 Report)." https://www.dof.ca.gov/forecasting/demographics/projections/.

California Department of Housing and Community Development. 2020a. "SB 35 Determination Methodology and Background Data."

https://www.hcd.ca.gov/community-development/accountability-enforcement/statutory-de terminations.shtml.

- Chetty, Raj, John N. Friedman, Nathaniel Hendren, Maggie R. Jones, and Sonya R. Porter. 2020. "The Opportunity Atlas: Mapping the Childhood Roots of Social Mobility." NBER Working Paper 25147. DOI 10.3386/w25147.
- Davidoff, Thomas. 2016. "Supply Constraints Are Not Valid Instrumental Variables for Home Prices Because They Are Correlated With Many Demand Factors." *Critical Finance Review*, 177-206. 10.1561/104.00000037.
- Dedousis, Anthony. 2021. "Single-Family Zoning and Exclusion in L.A. County: Part 1." City Observatory. https://cityobservatory.org/la_exclusion_pt1/.
- Department. of Housing and Community Development. 2020a. "Site Inventory Guidebook." <u>https://www.hcd.ca.gov/community-development/housing-element/docs/sites_inventory_memo_final06102020.pdf</u>.
- Department of Housing & Community Development. 2020b. "Housing Element Annual Progress Report (APR) Instructions." rev'd Dec. 28, 2020.

https://www.hcd.ca.gov/community-development/annual-progress-reports.shtml.

- Dillon, Liam. 2017. "California Lawmakers Have Tried for 50 Years to Fix the State's Housing Crisis. Here's Why They've Failed." *Los Angeles Times*, June 29, 2017. https://www.latimes.com/projects/la-pol-ca-housing-supply/.
- Ellickson, Robert C. 2020. "The Zoning Strait-Jacket: The Freezing of American Neighborhoods of Single-Family Houses." SSRN.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3507803.

Elmendorf, Christopher S. 2019. "Beyond the Double Veto: Housing Plans as Preemptive Intergovernmental Compacts." *Hastings Law Journal* 71:79-150.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3256857.

Elmendorf, Christopher S., Eric Biber, Paavo Monkkonen, and Moira K. O'Neill. 2020. "Making It Work: Legal Foundations for Administrative Reform of California's Housing Framework." Ecology Law Quarterly 46.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3500139. [cited as: Elmendorf et al. 2020a]

Elmendorf, Christopher S., Ethan Elkind, Michael Lens, Michael Manville, Nicholas Marantz, Paavo Monkkonen, Moira O'Neill, and Jessica Trounstine. 2020. "Regional Housing Need in California: The San Francisco Bay Area." UCLA Lewis Center.

https://escholarship.org/uc/item/69j2b63r. [cited as: Elmendorf et al. 2020b]

Elmendorf, Christopher S., Eric Biber, Paavo Monkkonen, and Moira O'Neill. 2021. "State Administrative Review of Local Constraints on Housing Development: Improving the California Model." *Arizona Law Review* 63: 609-677.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3614085.

Embarcadero Institute. 2019. "California Cities Surpass State's RHNA Housing Goals." https://embarcaderoinstitute.com/portfolio-items/california-cities-surpass-states-rhna-hou sing-goals/.

Embarcadero Institute. 2020. "The Defunding of Affordable Housing in California." https://embarcaderoinstitute.com/portfolio-items/state-and-federal-funding-for-affordablehousing-in-california/.

Embarcadero Institute. 2020. "Double Counting in the Latest Housing Needs Assessment." https://embarcaderoinstitute.com/portfolio-items/double-counting-in-the-latest-housing-ne eds-assessment/.

Fuller, Thomas, and Connor Dougherty. 2018. "California Today: The Beverly Hills Affordable Housing Loophole." N.Y. Times, February 5, 2018. https://www.nytimes.com/2018/02/05/us/california-today-beverly-hills-affordable-housing. html.

- Glaeser, Edward, and Joseph Gyourko. 2018. "The Economic Implications of Housing Supply." *American Economic Review* 32 (1): 3–30. 10.1257/jep.32.1.3.
- Glazer, Steve, Josh Newman, Rebecca Bauer-Kahan, Anthony Portantino, Al Muratsuchi, Henry Stern, and Patricia Bates. n.d. *Audit Scope and Objectives*. shared by email with Professor Elmendorf, July 19, 2021.
- Kapur, Sidharth, Salim Damerdji, Christopher S. Elmendorf, and Paavo Monkkonen. 2021.
 "What Gets Built on Sites that Cities 'Make Available' for Housing?" UCLA Lewis Center for Regional Policy Studies. <u>https://escholarship.org/uc/item/6786z5j9</u>.
- Kneebone, Elizabeth, and Issi Romem. 2018b. "Disparity in Departure: Los Angeles Region Supplement." UC Berkeley Terner Center for Housing Innovation.

https://ternercenter.berkeley.edu/research-and-policy/summary-disparity-in-departure/.

Letter from Kome Ajise, Executive Director, SCAG, to Doug McCauley, Acting Director, HCD. Sept. 18, 2019. Available at:

https://scag.ca.gov/sites/main/files/file-attachments/scag-objection-letter-rhna-regional-d etermination.pdf?1602190274." n.d.

- Lewis, Paul G. 2003. *California's Housing Element Law: The Issue of Local Noncompliance*. San Francisco: Public Policy Institute of California.
- Liu, Liyi, Douglas A. McManus, and Elias Yannopoulos. 2020. "Geographic and Temporal Variation in Housing Filtering Rates."

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3527800.

- Manville, Michael, and Tanner Osman. 2017. "Motivations for Growth Revolts: Discretion and Pretext as Sources of Development Conflict." *City & Community* 16 (1): 66-85.
- Mast, Evan. 2021. "JUE Insight: The Effect of New Market-Rate Housing Construction on the Low-Income Housing Market." *Journal of Urban Economics*.

https://doi.org/10.1016/j.jue.2021.103383.

Menendian, Stephen, Samir Gambhir, Karina French, and Arthur Gailes. 2020. "Single-Family Zoning in the San Francisco Bay Area." Othering & Belonging Institute, UC Berkeley. https://belonging.berkeley.edu/single-family-zoning-san-francisco-bay-area.

Myers, Dowell, and Jungho Park. 2020. "Filtering of Apartment Housing between 1980 and 2018." National Multifamily Housing Council.

https://www.nmhc.org/research-insight/research-report/nmhc-research-foundation-studyfiltering-of-apartment-housing-between-1980-and-2018/.

Myers, Dowell, JungHo Park, and Janet Li. 2018. *How Much Added Housing is Really Needed in California?*

https://cpb-us-e1.wpmucdn.com/sites.usc.edu/dist/6/210/files/2017/02/HRB-1-How-Much -Added-Housing-is-Really-Needed-in-California-1okfauc.pdf.

Romem, Issi. 2021. "Creating a Stronger Housing Element: The Example of Los Angeles."

Terner Center for Housing Innovation, UC Berkeley.

https://ternercenter.berkeley.edu/research-and-policy/stronger-housing-element-los-ange les/.

Romem, Issi. 2017. "Paying For Dirt: Where Have Home Values Detached From Construction Costs?" Buildzoom.

https://www.buildzoom.com/blog/paying-for-dirt-where-have-home-values-detached-from -construction-costs.

Romem, Issi, and Elizabeth Kneebone. 2018a. "Disparity in Departure: Who Leaves the Bay Area and Where Do They Go?"

https://ternercenter.berkeley.edu/research-and-policy/disparity-in-departure/.

Rosenthal, Stuart S. 2014. "Are Private Markets and Filtering a Viable Source of Low-Income Housing? Estimates from a "Repeat Income" Model." *American Economic Review* 104 (2): 687-706. https://www.aeaweb.org/articles?id=10.1257/aer.104.2.687. Sahn, Alexander. 2021. "Racial Diversity and Exclusionary Zoning: Evidence from the Great Migration." https://drive.google.com/file/d/10_-WcJe4v6GfxVDfJ2h-R3pvjK4yjig0/view.

Schuetz, Jenny, and Cecile Murray. 2019. "Is California's Apartment Market Broken?" UC Berkeley Terner Center for Housing Innovation.

https://www.brookings.edu/research/is-californias-apartment-market-broken/.

Taylor, Mac. 2015. "California's High Housing Costs: Causes and Consequences." Legislative Analyst's Office. https://lao.ca.gov/reports/2015/finance/housing-costs/housing-costs.pdf.

Trounstine, Jessica. 2018. Segregation by Design. N.p.: Cambridge University Press.

- Weicher, John C., Frederick J. Eggers, and Fouad Moumen. 2017. "The Long-Term Dynamics of Affordable Rental Housing: Final Report to the Catherine T. MacArthur Foundation." https://www.hudson.org/research/13339-the-long-term-dynamics-of-affordable-rental-hou sing.
- Wheeler, Stephen M., Christopher M. Jones, and Daniel M. Kammen. 2018. "Carbon footprint planning: quantifying local and state mitigation opportunities for 700 California cities." *Urban Planning* 3:35-51.
- Woetzel, Jonathan, Jan Mischke, Shannon Peloquin, and Daniel Weisfield. 2016. "Closing California's Housing Gap." McKinsey Global Institute.

.

https://www.mckinsey.com/featured-insights/urbanization/closing-californias-housing-gap