

Cost Benefit Exploratory Analysis: Homelessness and 'Super Users' in California

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"All models are wrong, but some are useful"

-George Box

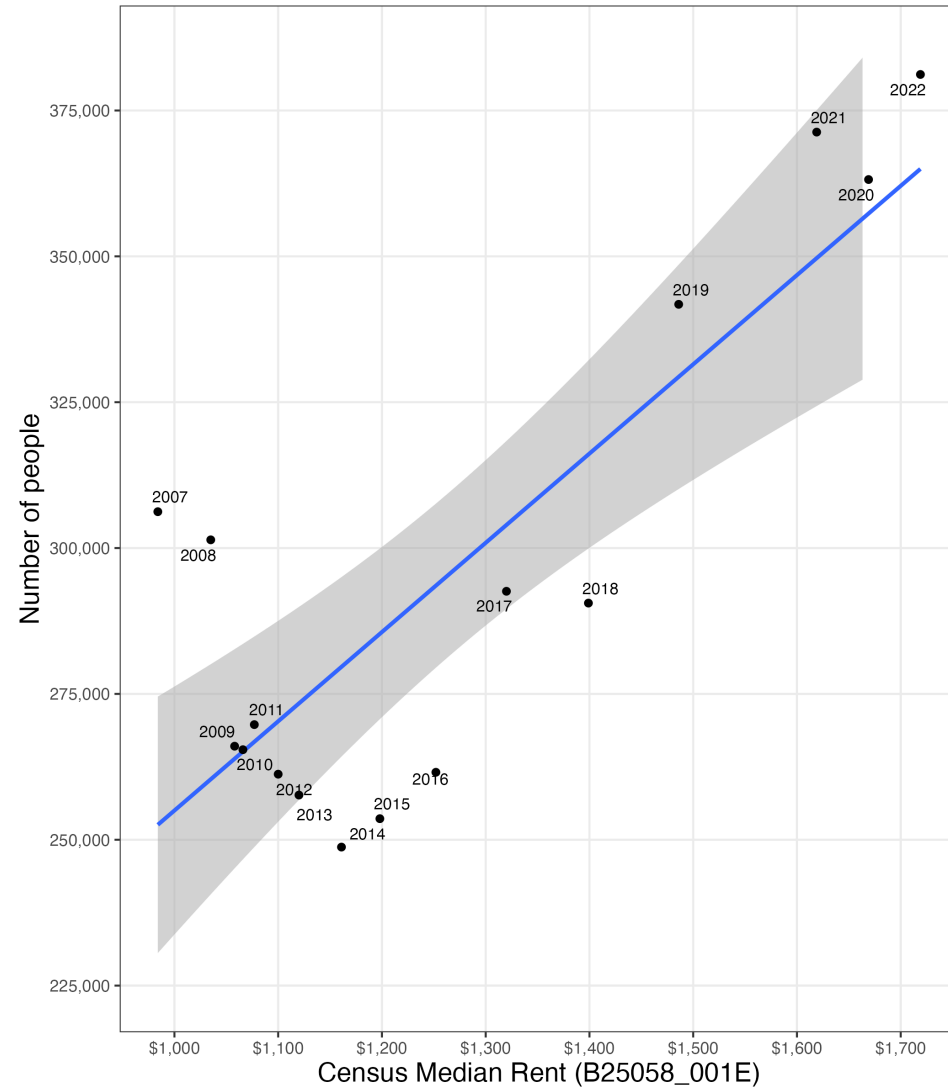
Cost Pressures Drive Housing Insecurity

The Government Accountability Office (GAO) used Census and Point in Time Count (PIT) data to [model a strong correlation](#) between median rent prices and homelessness, and both have risen steeply between 2015 and 2023. While wages have risen, they have not kept pace with rents nor inflation, and over the same time period, nearly 50% of households were likely ['cost burdened,'](#) each year, meaning more than 1/3 of their income goes to housing.

"...median rent increases of \$100 a month were associated with a 9% increase in homelessness in the areas we examined."

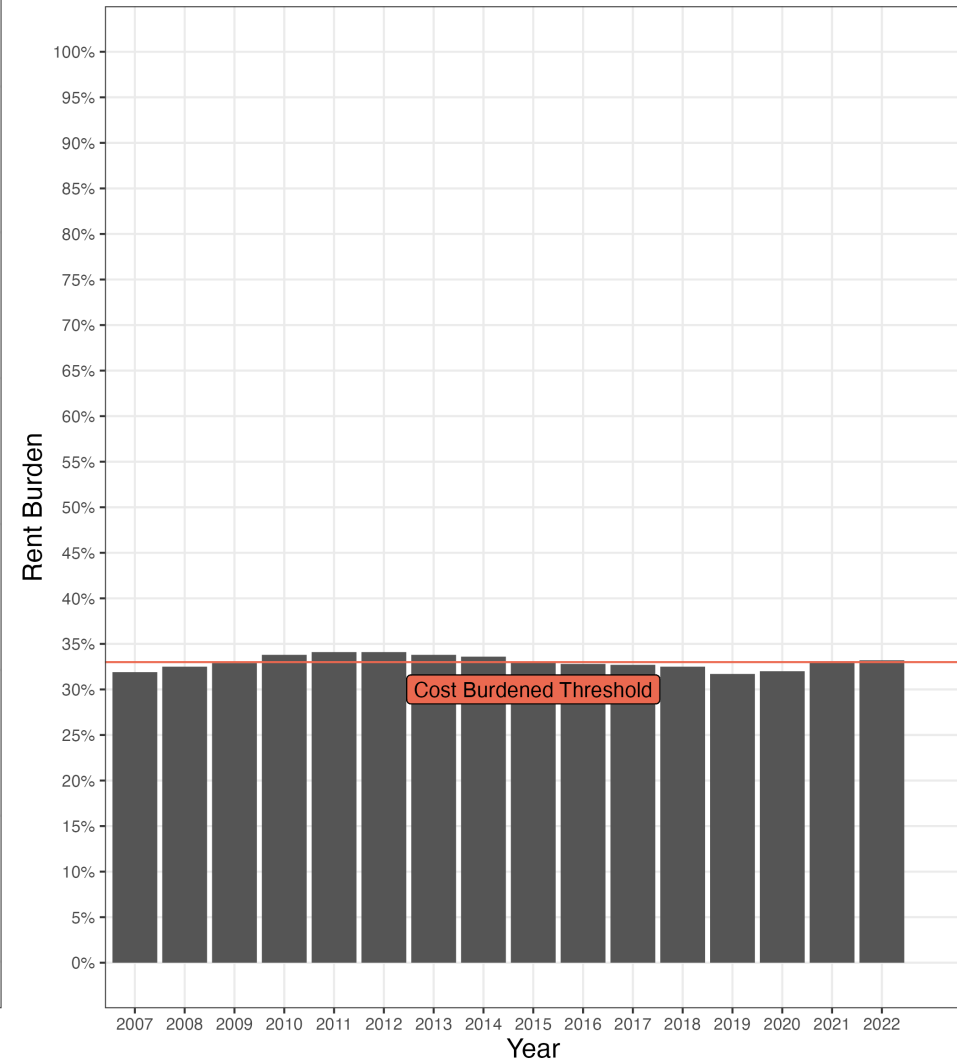
GAO-20-433, August 2020: "Homelessness: Better HUD Oversight of Data Collection Could Improve Estimates of Homeless Population"

Overall Homeless and Median Rent in California, 2007-2023

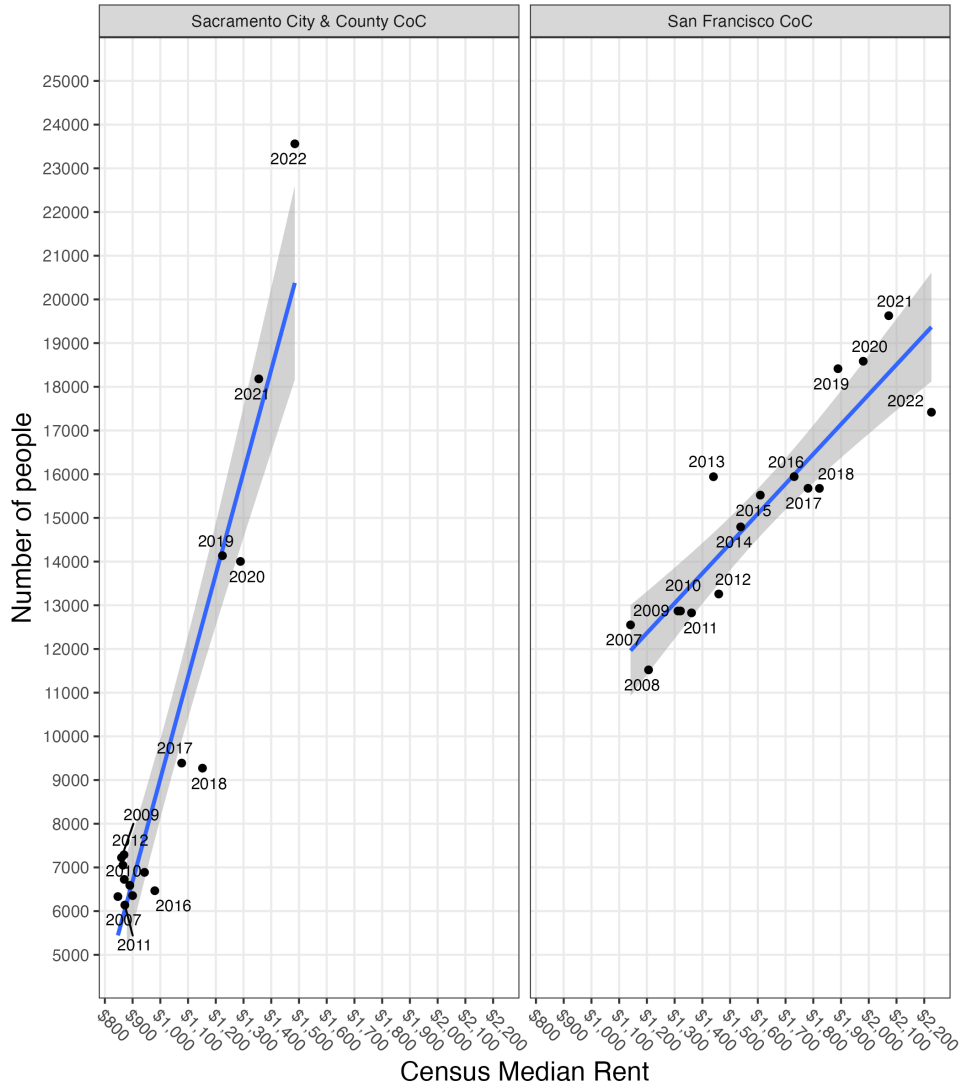


Median Rent Burden* in California, 2007-2022

*Census Median Gross Rent as a percentage of household income over 12 months (B25071_001E)

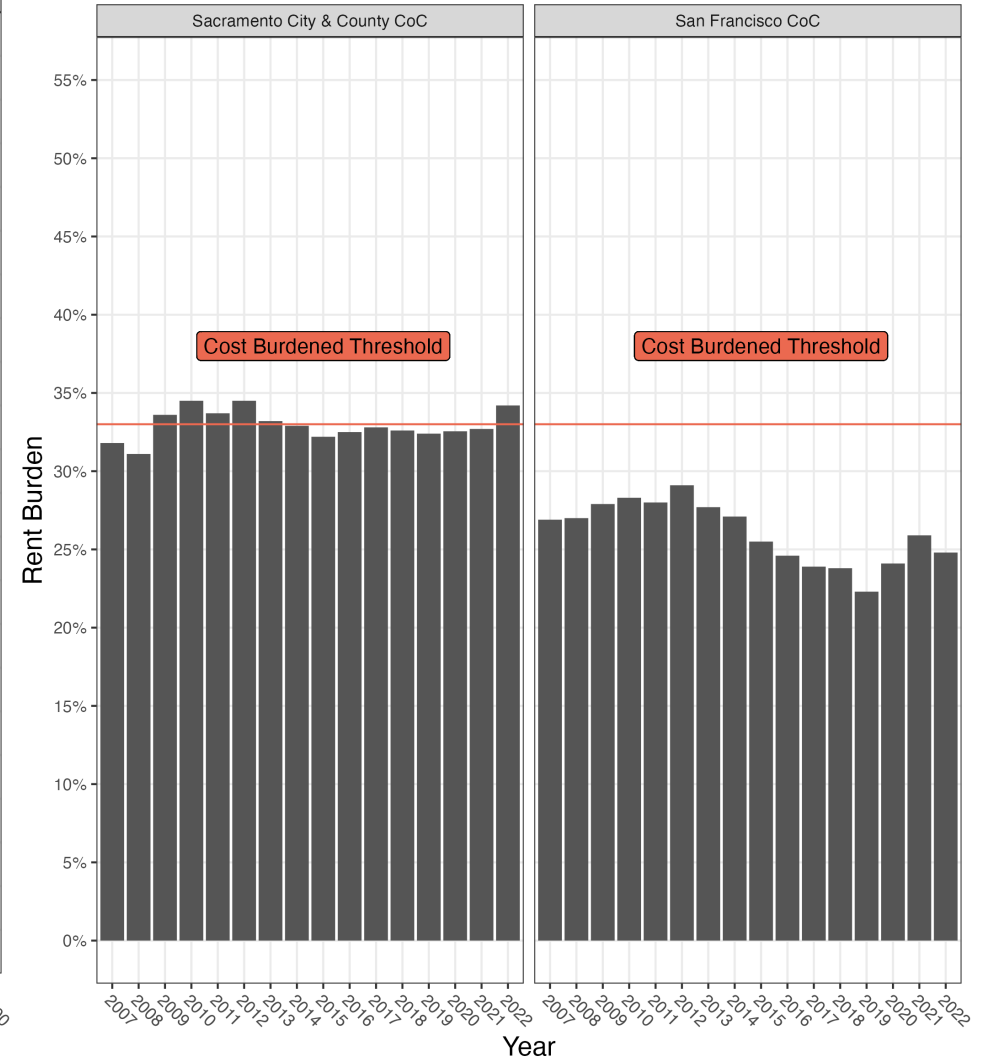


Overall Homeless and Median Rent, 2007-2022



Median Rent Burden*, 2007-2022

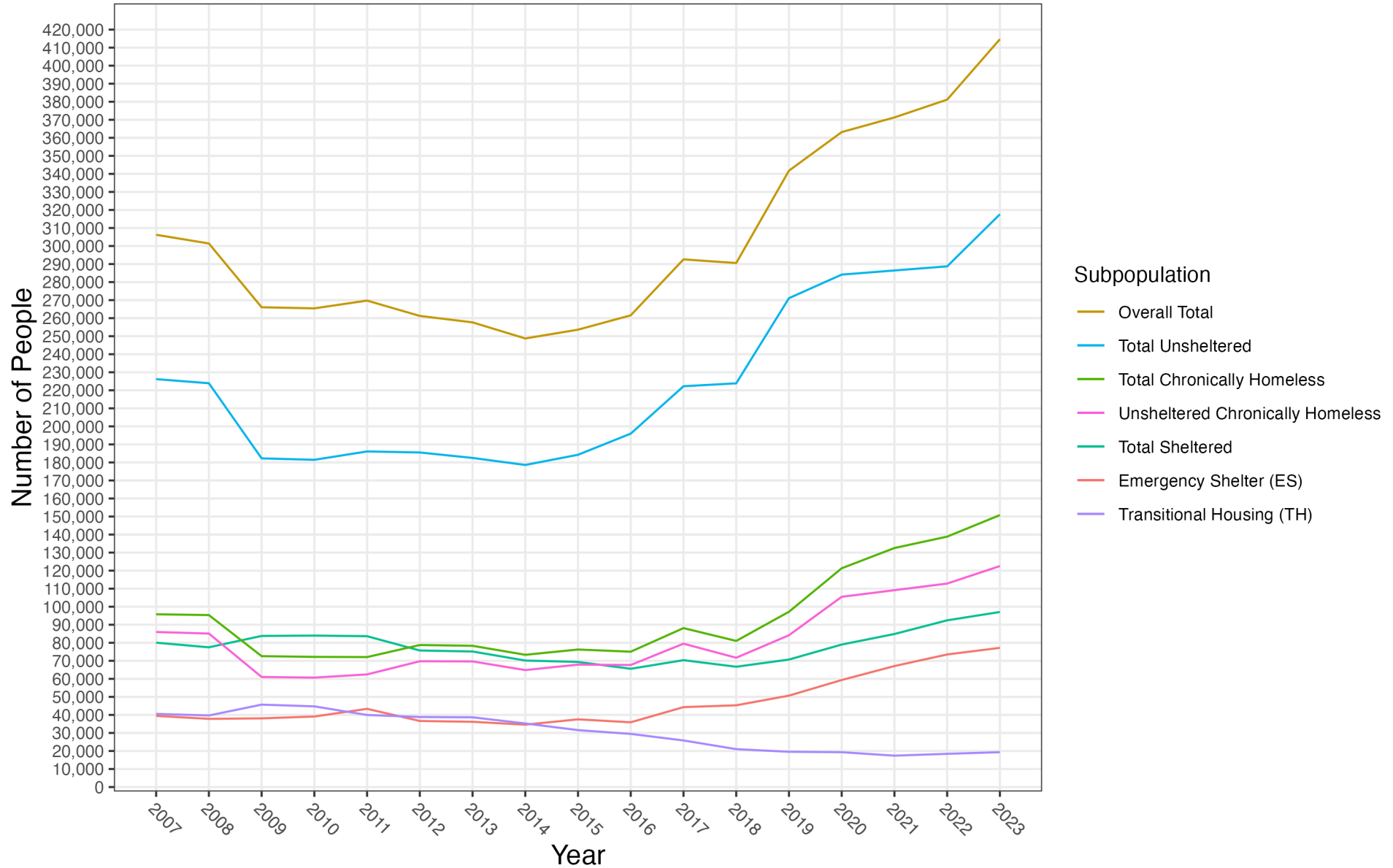
*Census Median Gross Rent as a Percentage of household income over 12 months (B25071_001E)



GAO also found that PIT data "likely underestimate" the homeless population. In fact, a 2022 [PPIC analyses on health costs](#) estimated the actual homeless population in CA could be as large as 300-450,000 based on those who receive care at hospitals and from other 'homeless assistance programs.' As a general correction, unsheltered counts were scaled by 2.5 to create a mid-range estimate, according to PPIC's guidance to scale by "a factor of 2 for the lower-bound estimate and 3 for the upper bound, as this is the consensus estimate from housing and policy researchers."

CA Revised* PIT Homeless Estimates , 2007 to 2023

*Unsheltered counts scaled by 2.5, sheltered by 1.6 to estimate total people who experienced homelessness during that year

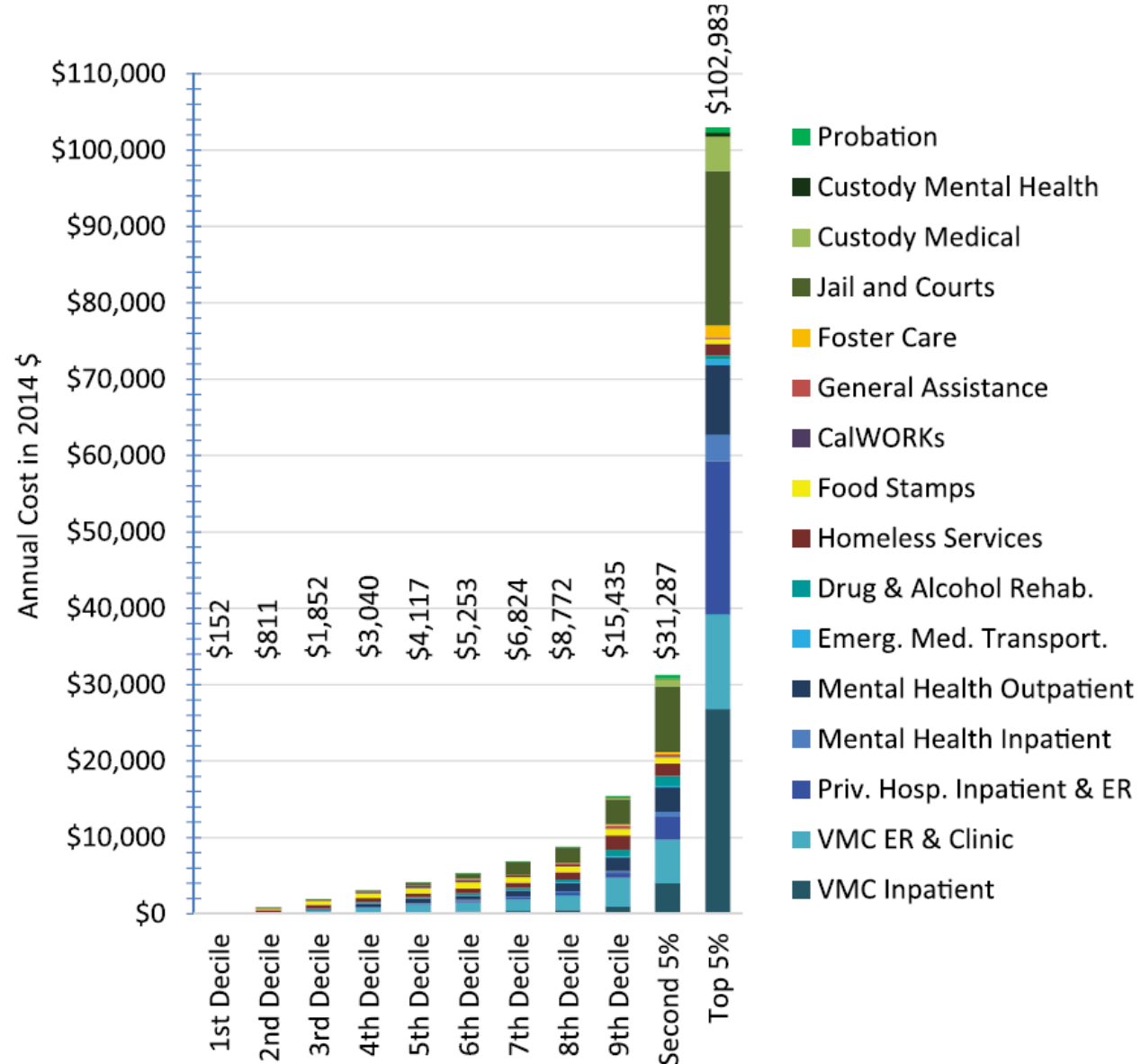


Long wait times for existing shelter, high costs for new housing and fragmented services drive chronic homelessness

Chronic homelessness drives higher costs, as physical and mental health conditions become more acute over time. These costs are likely concentrated in a smaller sub-population of 'super users.'

[Destination SV's 2015 Home not found report](#) estimated that Santa Clara county incurred \$520 million costs over 2012 for services rendered to 104,206 individuals, roughly \$4990 per person, and that these expenses comprised 53% healthcare, 34% justice services (primarily incarceration), 13% social services. The 'super user' population was the top decile - the 10% of the population that consumed 61% of all costs: \$300 million. The top 5% alone accounted for 47% of the total: \$230 million. While the average annual cost per homeless person was \$5,148, those in the top 5% averaged more than \$100,000. Only 20% of the population incurred Justice costs.

FIGURE 3.2:
Annual Cost for Residents Homeless in 2012,
by Cost Decile and Top 5%

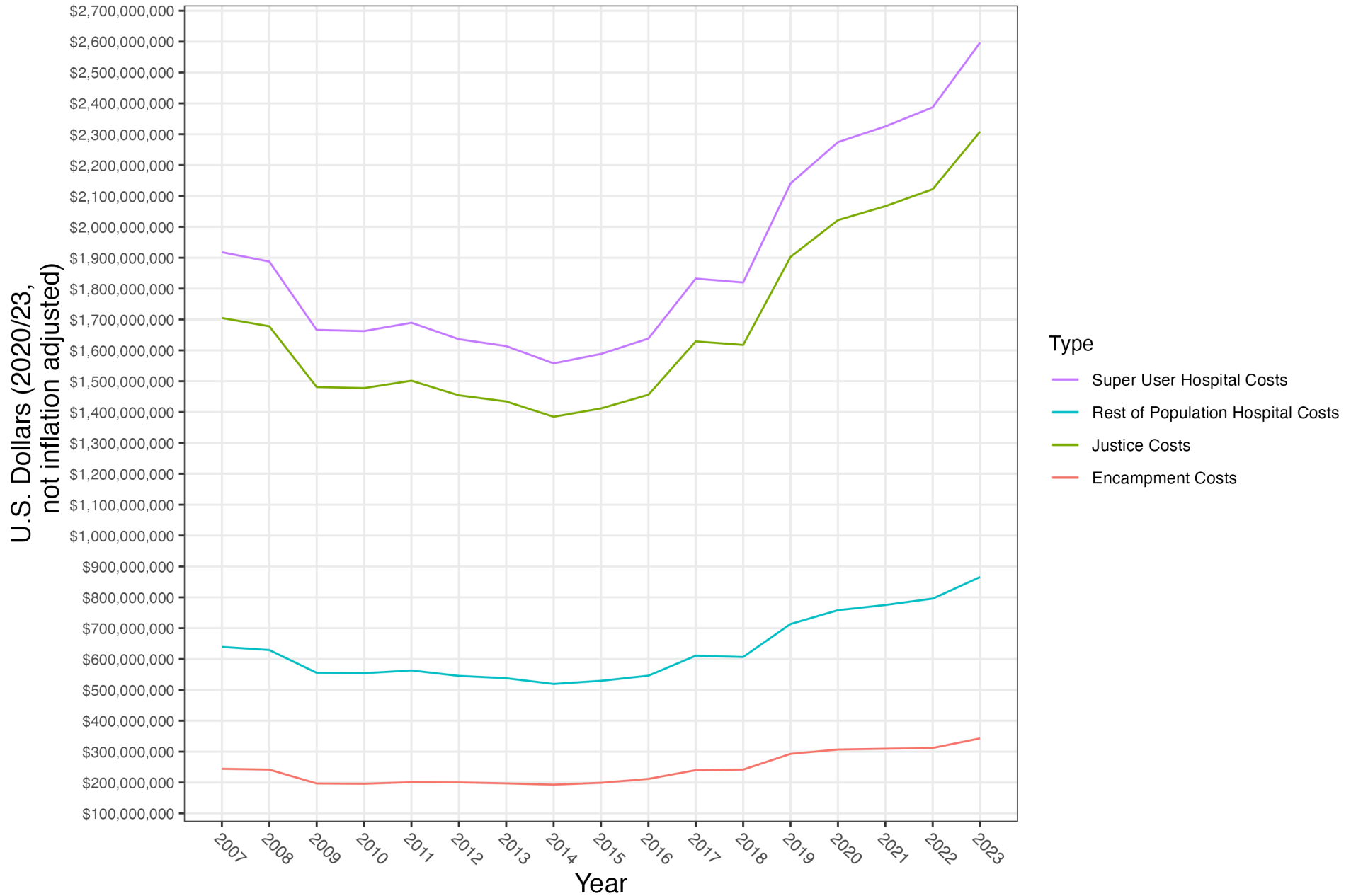


This analysis assumes costs follow a similar 'long tail' distribution where 15% of the total homeless population incurs 75% of healthcare costs, and overall costs comprise 50% healthcare and 33% Justice. After using revised PIT data to estimate population size, we calculate average hospital costs per individual super user and the rest of the population, then estimate justice costs as a 1/3 of the total.

Using California's Department of Health Care Access and Information's (HCAI) 2019-2020 data on emergency department and inpatient hospitalization encounters with homeless individuals, we assumed the average cost of an inpatient hospital stay in California in 2022 was \$18,815, and the average cost for each emergency room visit in California in 2020 was \$2,960. After summarizing the number of encounters by payer, we multiplied by these averages to calculate total costs of emergency room visits and inpatient hospitalizations by payer. We assume the public costs are the sum of those paid by Medi-Cal or Medicare and those not covered by insurance.

If we assume that California's super user population is the top 15% of the total population who account for 75% of total costs (the 'head' of the 'long tail' distribution), in 2020 54,474 super users incurred 75% of just over \$3.08 billion, about \$42,475 each, while the remaining 308,690 non super users incurred about \$2499 each. We used averages of these per capita costs between 2019 and 2020, \$41,753 and \$2456, to estimate all other years, and actual data will vary. We also assume \$1080 per unsheltered person in encampment costs based on [HUD's 2020 San Jose Encampment report](#), which tallied \$8,556,591 for 7922 unsheltered in San Jose in 2019. We further assumed that the costs to the justice system would be 33% of the total costs in proportion to healthcare being 50%, resulting in an average annual per capita cost of \$30,376 if 20% of the total homeless population incurred justice costs.

CA Estimated Hospital, Encampment and Justice Costs

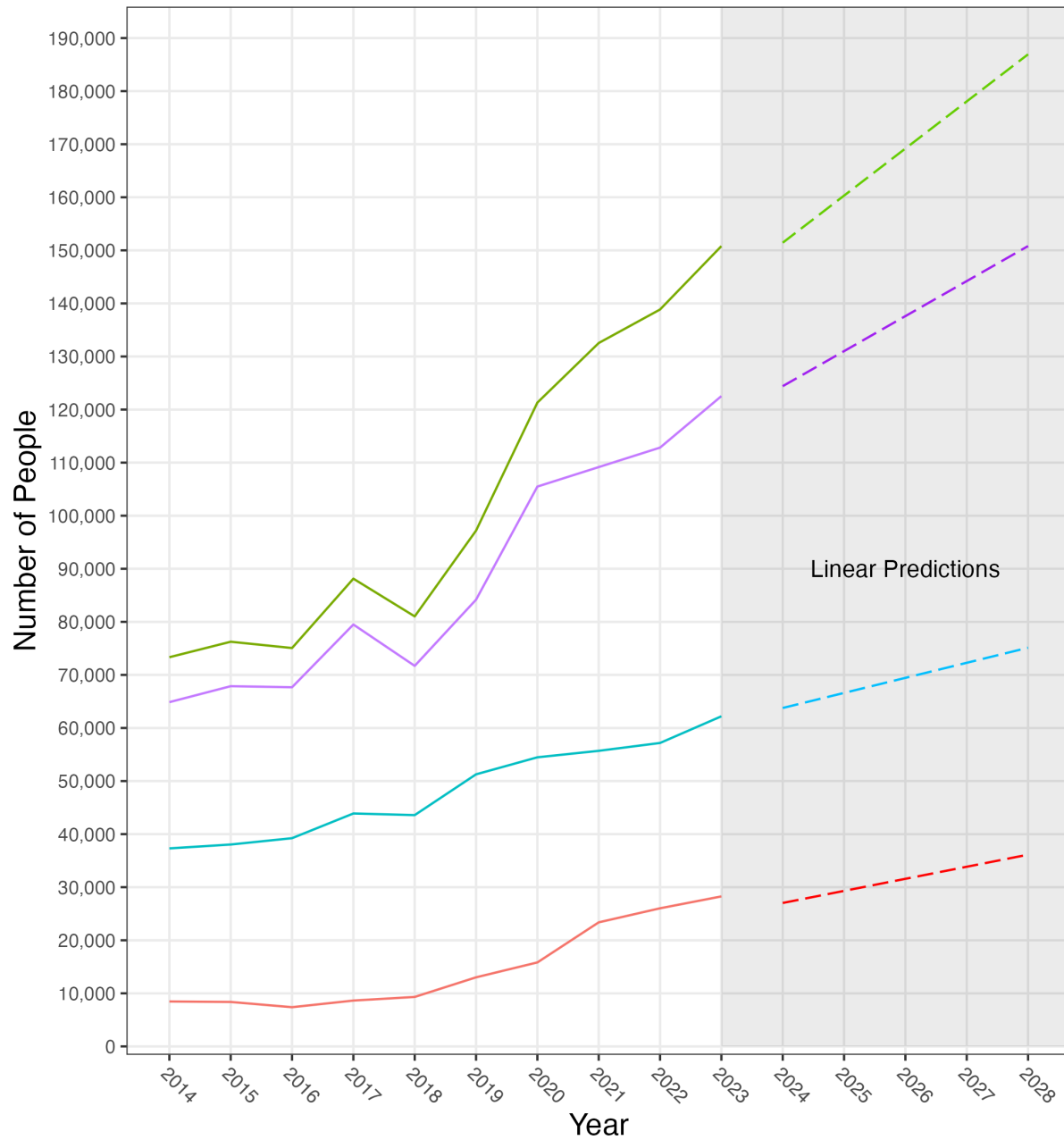


What if the status quo remains unchanged?

Given long wait times for shelter and housing, slow development pipelines for new units and high building/acquisition costs, meeting the current population, much less any future growth, with only permanent units is unlikely and will impose prohibitive development costs while exacerbating public costs to care for a growing super user population. The following projections assume linear growth of populations using median rent price as a predictor and apply the same average unit cost per individual per year.

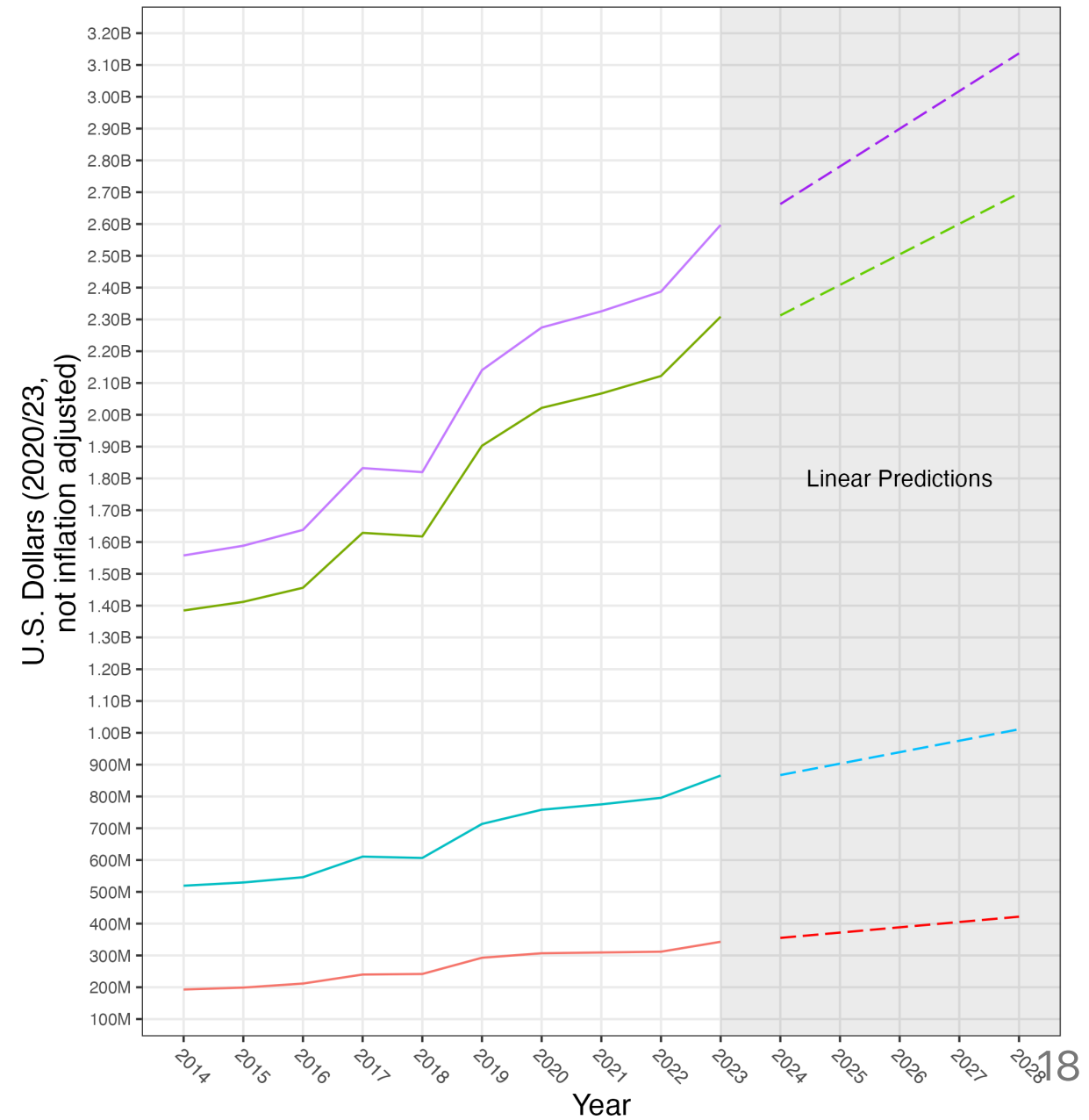
CA Estimated Chronically Homeless Population, 2014-28

Subpopulation — Total Chronically Homeless — Unsheltered — Sheltered — Total Estimated Super Users



CA Estimated Homeless Costs, 2014-28

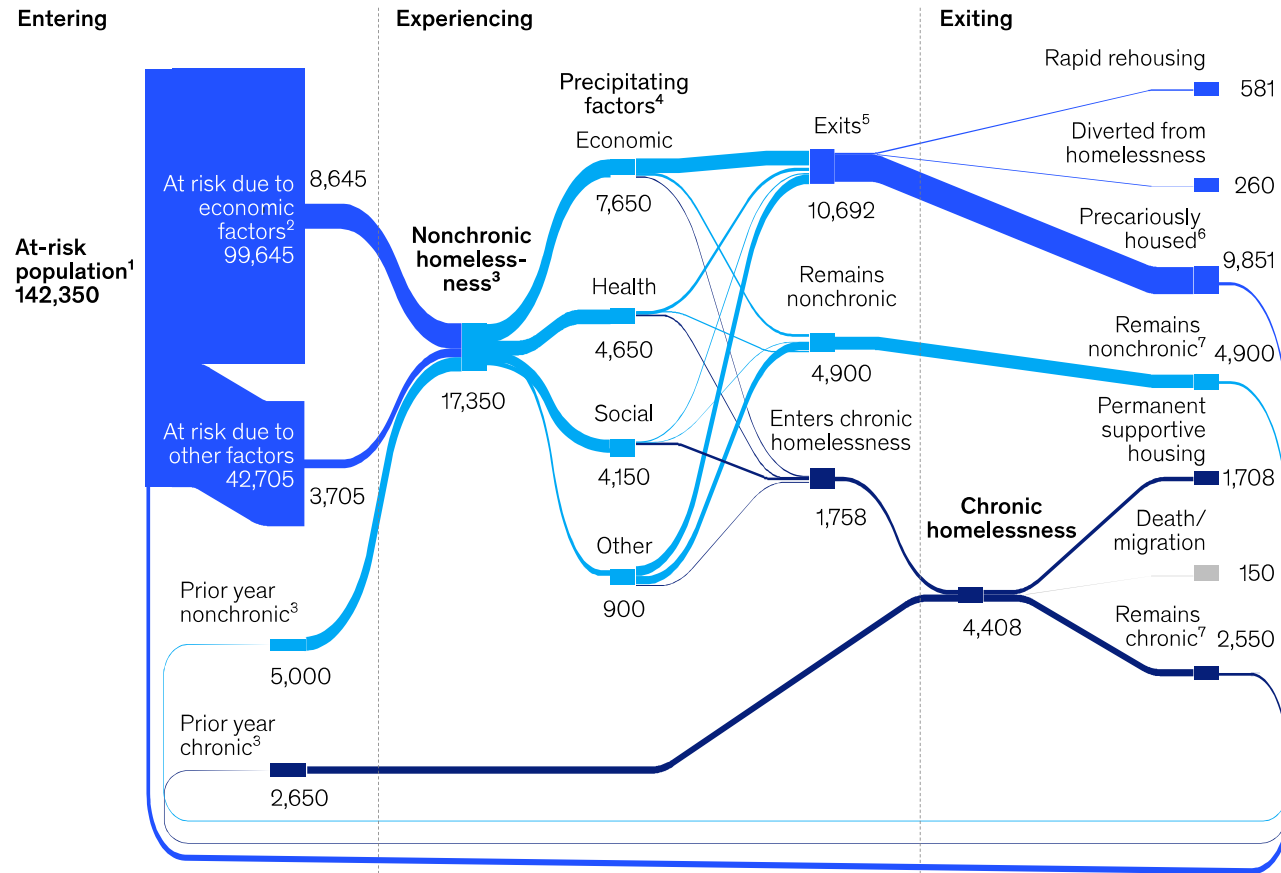
Type — Super User Hospital Costs — Rest of Population Hospital Costs — Justice Costs — Encampment Costs



CoC Examples: San Francisco and Sacramento

An estimated 20,000 individuals experienced homelessness in San Francisco in 2022.

The homelessness cycle in San Francisco in 2022, number of people (illustrative)

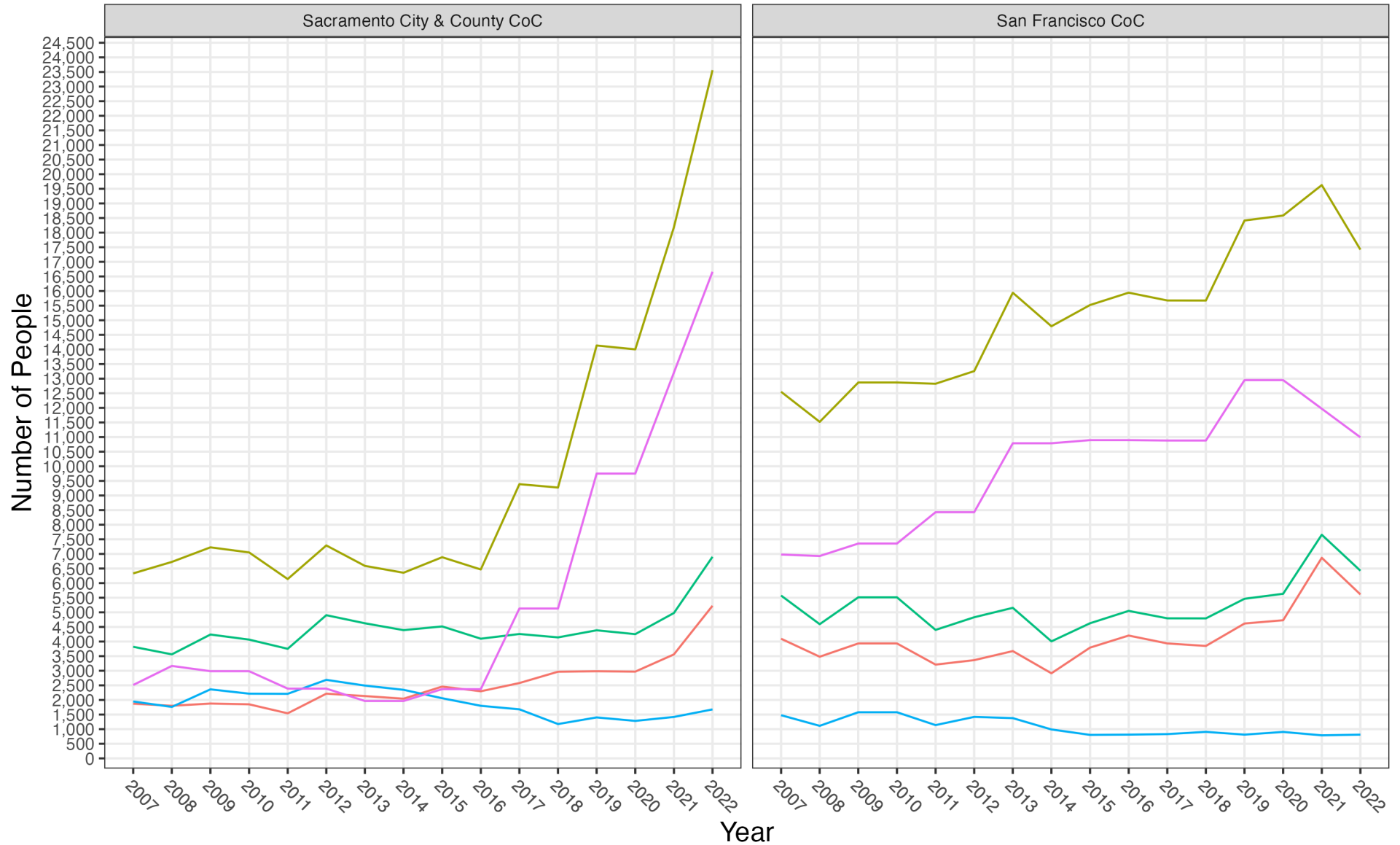


¹Defined as individuals at risk of entering homelessness, categorized as extremely low-income, earning <30% of area median income); *On the edge of homelessness*, Turner Center, University of California, Berkeley, 2021. ²Defined as individuals who are at risk of entering homelessness solely due to economic reasons (eg, income level). ³Entry into nonchronic homelessness plus prior year chronic/nonchronic: this is assumed to be the number of individuals experiencing homelessness each year; 20,000 in San Francisco in 2022. Prior year chronic/nonchronic homelessness: 35% of persons experiencing homelessness in San Francisco identified as chronically homeless (having a disabling condition and homeless > 1 year or at least 12 months over 4 times in 3 years). ⁴Breakdown of nonchronic homelessness by precipitating factor by economic/health/social/other: self-identified primary event/condition for entering homelessness. ⁵Exits: government programs—rapid rehousing, problem solving, and permanent supportive housing (PSH) units (including scattered sites). Assumes PSH units are fully reserved for chronically homeless individuals. ⁶Calculated as individuals not placed in city programs/not continuing to experience homelessness. ⁷Calculation based on assumption of streamlined reduction of ~200 individuals per year.

Source: "Direct homeless exits through city programs," City Performance Scorecards, City and County of San Francisco; "Listen: How access to safe, affordable housing improves outcomes for everyone," *Our America* podcast, Chan Zuckerberg Initiative, July 8, 2022; *San Francisco homeless count and survey: 2022 comprehensive report*, Applied Survey Research and San Francisco Department of Homelessness and Supportive Housing, 2022

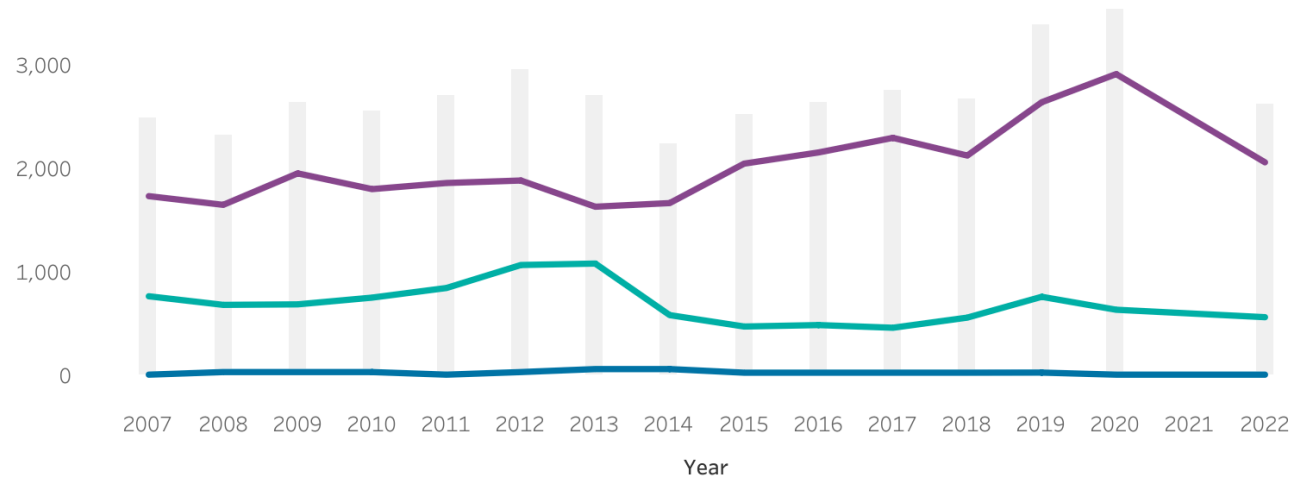
Revised PIT Homeless Estimates, 2007 to 2023

Shelter Type — Overall Total — Unsheltered — Total Sheltered — Emergency Shelter (ES) — Transitional Housing (TH)

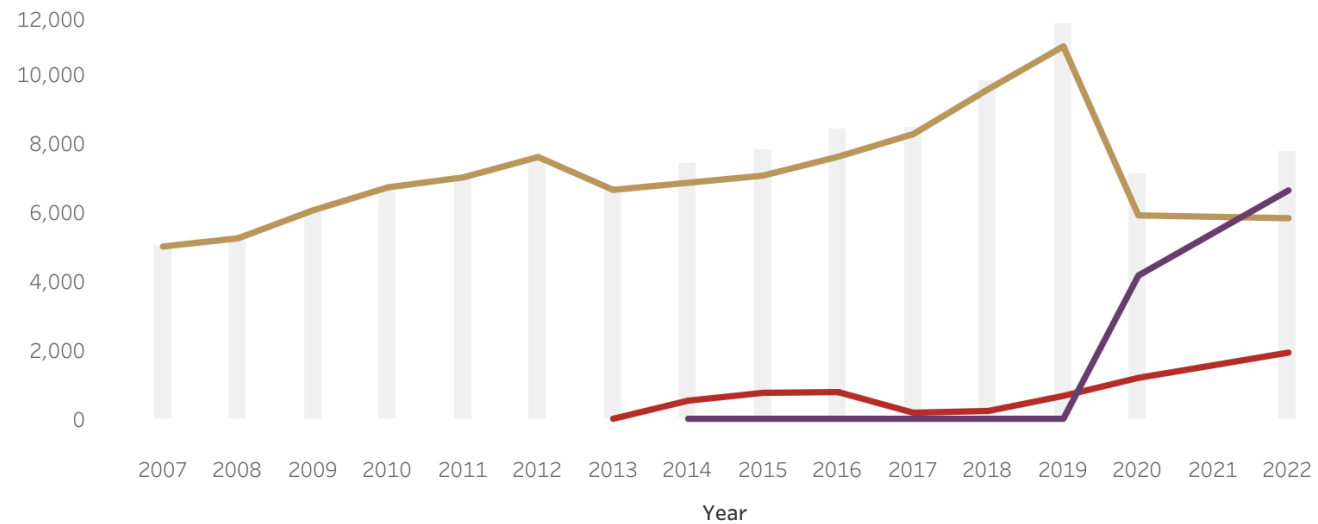


Bed Inventory

Temporary Housing (Total Beds | ES Beds | TH Beds | Safehaven Beds)



Permanent Housing (Total Beds | PSH Beds | RRH Beds | Other Permanent Housing Beds)

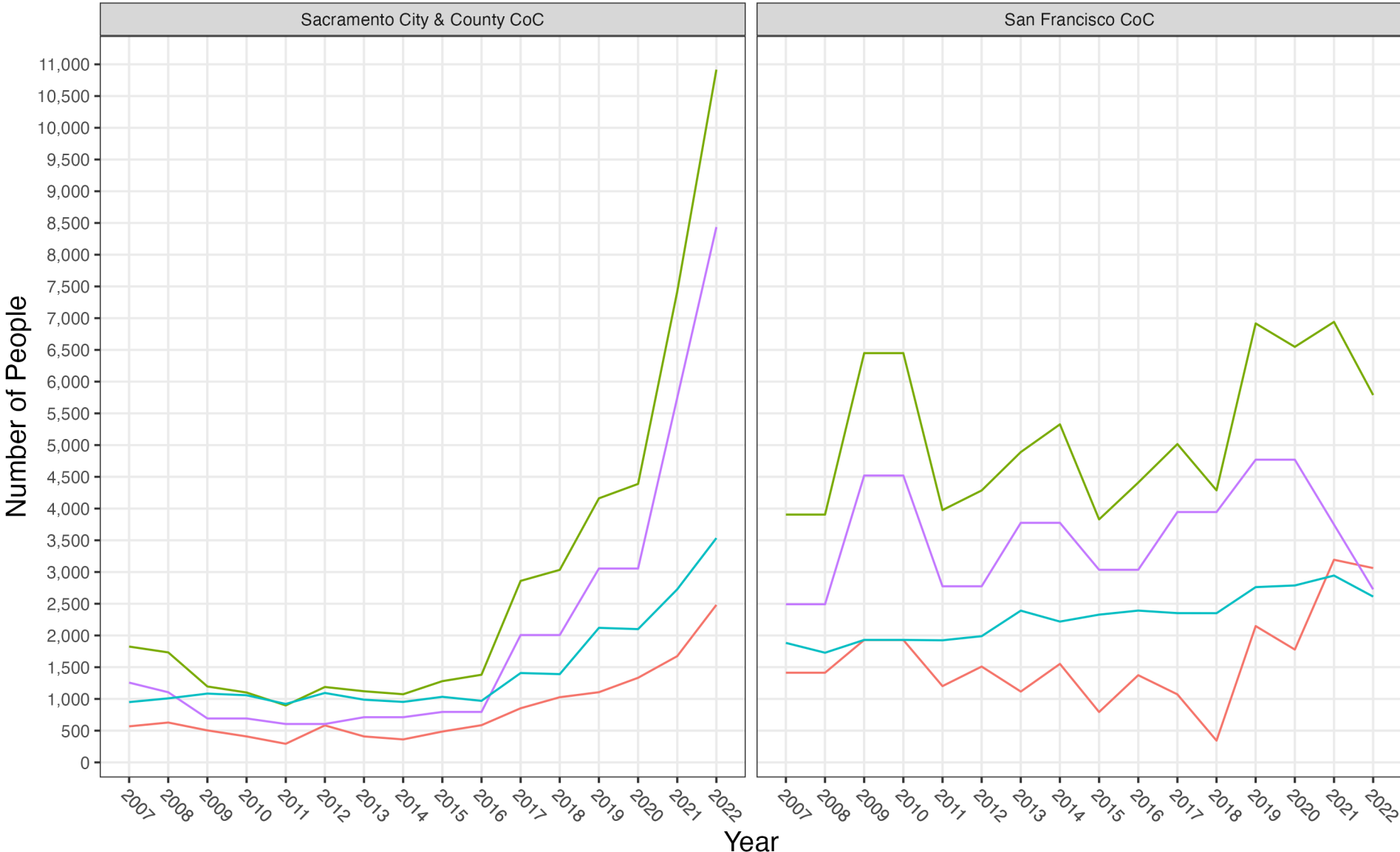


Source: U.S. Department of Housing and Urban Development, 2022 Annual Homeless Assessment Report to Congress (AHAR).
 Note: The Covid-19 pandemic interrupted data collection in 2021 so data for that year is unavailable.



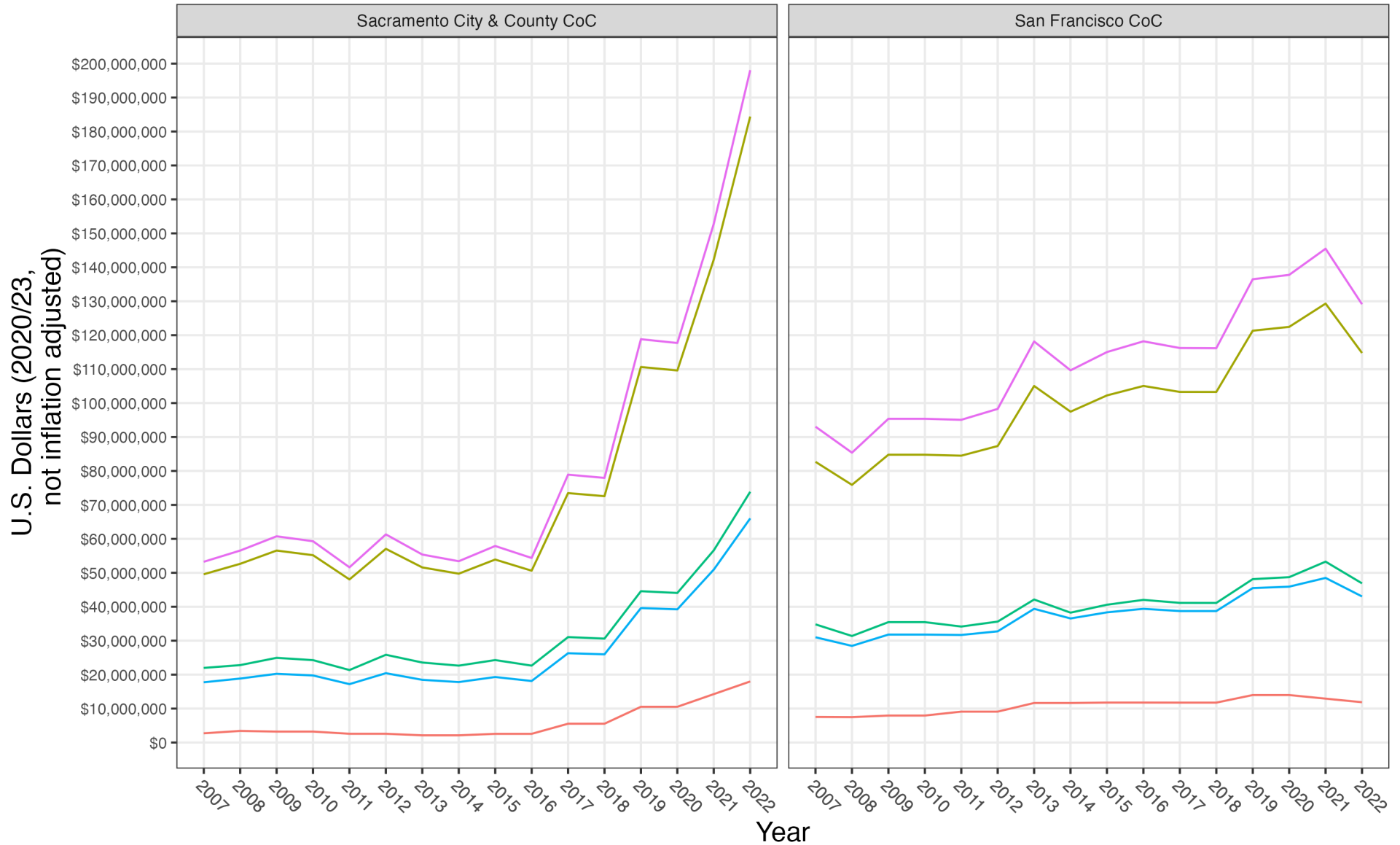
Revised PIT Chronically Homeless and Estimated Super Users, 2007 to 2022

Subpopulation — Total — Unsheltered — Sheltered — Total Estimated Super Users



Estimated Hospital, Encampment and Justice Costs

Type Super User Hospital Costs Rest of Population Hospital Costs Justice Costs Encampment Costs Misc Costs



The intervention projections below assume that between \$88.1 million and \$104.5 million invested in new interim housing with wraparound services will create 2240 units, including \$36-\$40k per unit per year in Operational Expense for services and a one time Capital Expense between \$50 and \$100k amortized over 15 years. We assume that these units will serve 4480 people per year over 5 years to reach 22,000 total, achieve an initial successful exit rate between 80 and 85% and an annualized return rate between 7 and 10%, consistent with the average 24 month 'return rates' HUD SPMs show for each CoC.

Scenario 1 - No targeted intervention: Linear Estimate

- Fewer exits per year
- More chronically homeless, more super users
- Population and costs increase linearly

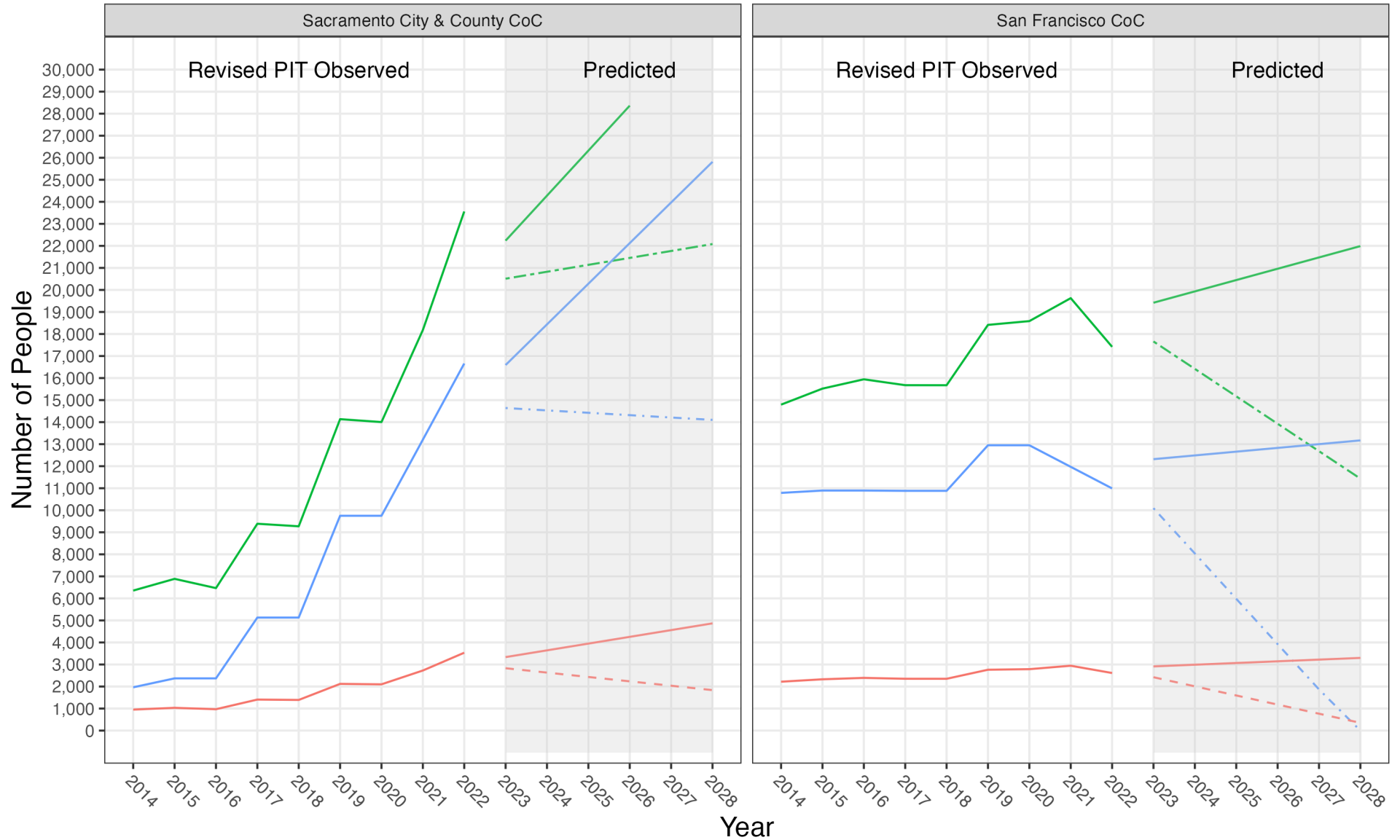
Scenario 2 - Significant investment in interim housing targeting potential super users:

Intervention Estimate

- More exits per year with lower waiting times
- Fewer chronically homeless, fewer super users
- Significant savings on healthcare

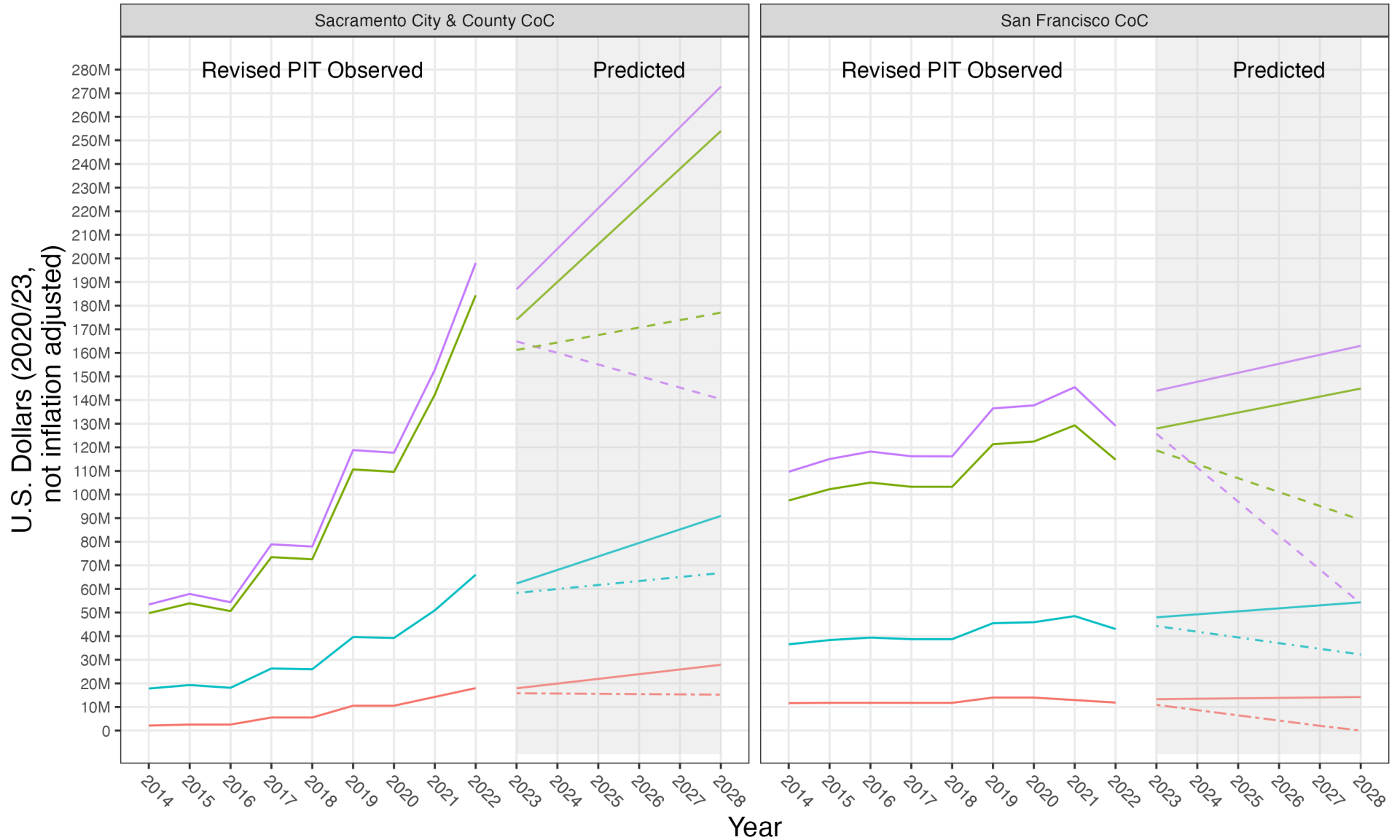
Total Homeless and Estimated Super Users, 2014-28

Linear Estimates — Total — Unsheltered — Estimated Super Users
 Intervention Scenario Estimates - - - Total Homeless - - - Unsheltered - - - Estimated SU



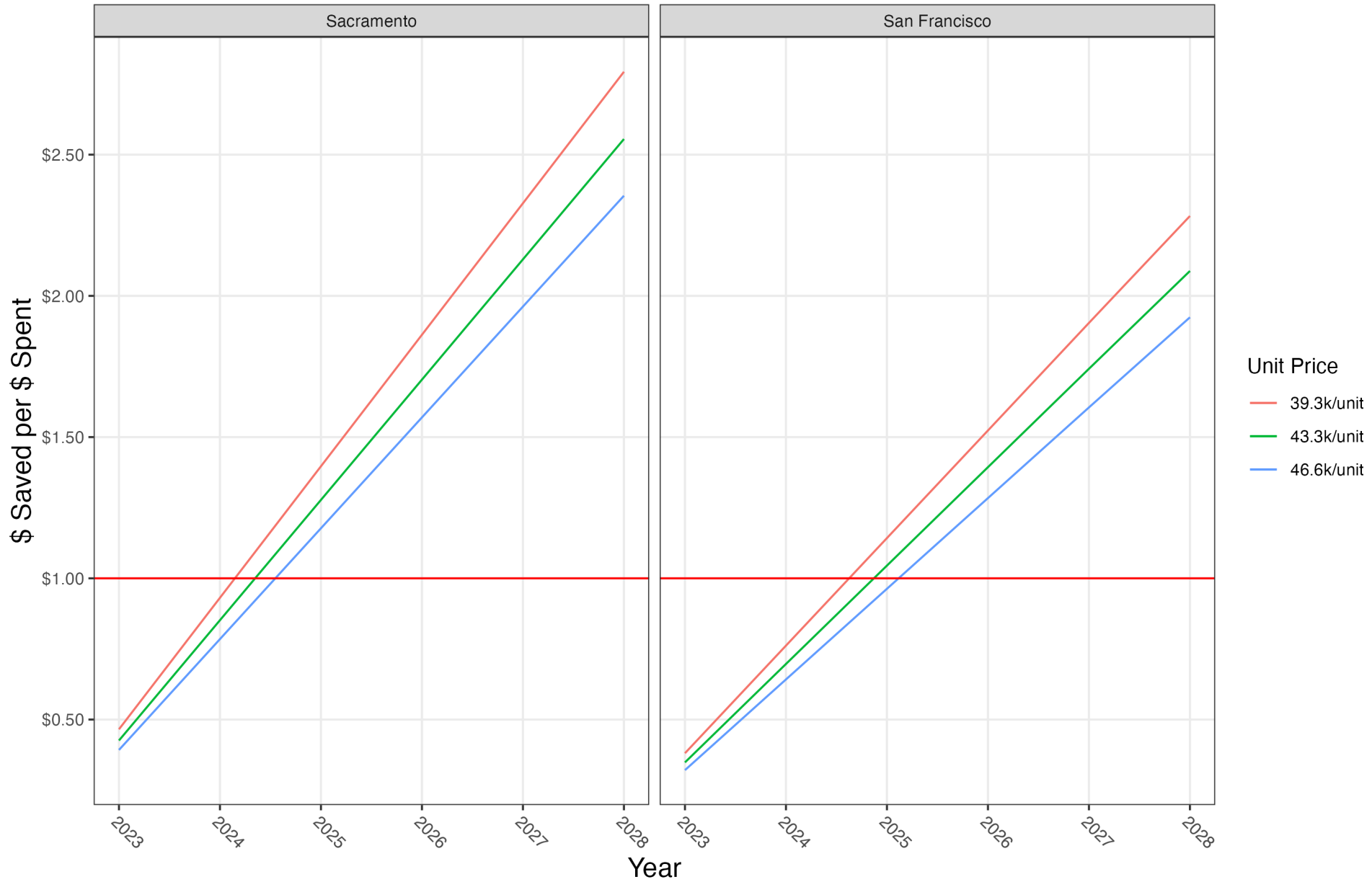
Estimated Hospital, Justice and Encampment Costs 2014 to 2028

Linear Estimates Super User Hospital Costs Rest of Population Hospital Costs Justice Costs Encampment Costs
 Intervention Scenario Estimates SU Hospital Costs Rest Hospital Costs Justice Encampment



Savings:Cost Ratio

Hospital, Justice and Encampment Costs / Annual Unit Cost



Key Findings

- Early analysis based on rough population and cost assumptions shows that significant savings are possible if a sufficient number of 'super users' are diverted into interim housing with wraparound services and incur reduced healthcare and justice costs as a result. A predictive model could identify potential 'super users', who could then be diverted into interim housing quickly and compared longitudinally to a control group for more precise cost savings and outcome evaluations.
- While California's highest oversight body on homelessness, the [California Inter-agency Council on Homelessness \(CA ICH\)](#), recognizes that housing affordability is a significant driver of homelessness, its [Homelessness Data Integration System \(HDIS\)](#) has yet to present a clear, holistic view of homelessness at the state level. While [HUD's national Point in Time Count \(PIT\)](#) is valuable to compare different Continuums of Care (CoCs) consistently, it could benefit from statistical correction and ultimate integration into the U.S. Census.
- Local data collection at the city/county/Continuum of Care (CoC) level has been designed more intentionally to create learning feedback loops; however, better data collection, broader data lakes and predictive modeling based on these larger, more comprehensive datasets from all public agencies at every level could make the HDIS a powerful tool to defer preventable hospitalization and incarceration.