Permanent Supportive Housing in Los Angeles County: A Map-Based Tool

Technical Appendix

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About This Report

Despite the rising supply of permanent supportive housing (PSH) in Los Angeles and the growing focus on policies and reforms aimed at increasing this housing stock, there is a notable lack of information on the number of units available or under construction, the funding sources related to these efforts, and barriers to construction. Without this information, policymakers and services providers can neither evaluate the efficacy of policy interventions nor, more importantly, adequately place and serve the unhoused. “Permanent Supportive Housing in Los Angeles County: A Map-Based Tool” is a database that aggregates administrative data from various city, county, and state agencies; real estate databases; media reports; and other sources. To our knowledge, it represents the first comprehensive attempt to combine financing, land use, and service operation records for PSH projects across all of Los Angeles County into a publicly available map-based Tool that allows the data to be sorted, filtered, or downloaded by the user. We constructed the database by merging administrative data from multiple sources by project address. We conducted a substantial data validation effort to correct inaccuracies across identified projects, which led to significant improvement in the data quality. The purpose of this Tool is to provide a comprehensive set of information to facilitate planning, policymaking, and research related to the supply of PSH aimed at addressing chronic homelessness in the Los Angeles region. We expect that the database will be maintained and updated over time, and we welcome contributions and corrections from users, who may have more accurate knowledge of project specifics than we could glean from public records.

Community Health and Environmental Policy Program

RAND Social and Economic Well-Being is a division of the RAND Corporation that seeks to actively improve the health and social and economic well-being of populations and communities throughout the world. This research was conducted in the Community Health and Environmental Policy Program within RAND Social and Economic Well-Being. The program focuses on such topics as infrastructure, science and technology, community design, community health promotion, migration and population dynamics, transportation, energy, and climate and the environment, as well as other policy concerns that are influenced by the natural and built environment, technology, and community organizations and institutions that affect well-being. For more information, email chep@rand.org.

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Overview

*Permanent Supportive Housing in Los Angeles County: A Map-Based Tool* (PSH Database) is a database that aggregates administrative data from various city, county, and state agencies; real estate databases; media reports; and other sources. The most common data source used to document permanent supportive housing (PSH) in Los Angeles (LA) County, the Housing Inventory Count (HIC) (Los Angeles Homeless Services Authority [LAHSA], 2022), often has incomplete or inaccurate data on such basic information as the developer and operator of a property or the number of PSH units it contains. To our knowledge, our Tool represents the first comprehensive attempt to combine financing, land use, and service operation records for PSH projects across LA County into a publicly available map-based Tool that allows the data to be sorted, filtered, or downloaded by the user. We constructed the database by merging publicly available administrative data from multiple sources by project address. We conducted a substantial data validation effort to correct inaccuracies across identified projects that led to significant improvement in the data quality. The purpose of this Tool is to provide a comprehensive data set to facilitate planning, policymaking, and research related to the supply of PSH aimed at addressing chronic homelessness in the LA region. We anticipate that the database will be maintained and updated over time, and we welcome contributions and corrections from users, who may have more accurate knowledge of project specifics than we could glean from public records.
Background and Motivation

The Crisis of People Experiencing Homelessness in Los Angeles County

On any given night, more than one-quarter of all people experiencing homelessness in the United States are in California, and nearly 40 percent of these individuals are in LA County (LAHSA, 2020; Moses, 2020). Homelessness refers to the lack of a fixed, regular, and adequate nighttime residence (HUD Exchange, 2019). Recent estimates suggest that about three-quarters of people experiencing homelessness in LA County lack nighttime shelter, and more than 38 percent of these individuals are chronically homeless (LAHSA, 2020), indicating the individual has a documented disability and has lived continuously without adequate nighttime residence for 12 months or longer or four or more times in the past three years for up to a total of at least 12 months (Department of Housing and Urban Development, 2015).

One of the primary solutions to end chronic homelessness is PSH (National Academies of Sciences, Engineering, and Medicine, 2018). PSH couples a long-term housing rental subsidy with case management services to assist individuals in accessing the care they may need to manage their disability (or disabilities) and maintain housing (HUD Exchange, 2022). Recent initiatives, such as the landmark passing of Proposition HHH, a ballot initiative to raise $1.2 billion through a property tax levy to expand the stock of PSH in the City of LA, were developed to address this need. It was estimated that the initiative would create up to 10,000 units of PSH in LA (Ward, 2021). However, assessing the effects of these and other changes to the policy and fiscal environment has been difficult because of the lack of a central source of information about the PSH stock in LA County, including such features as its size, location, funding source(s), developer and operator, and the rate at which projects are progressing through the predevelopment, construction, and lease-up phases. Information about the PSH stock needs to be collected from myriad sources, including the LAHSA, the California Tax Allocation Committee, the City of LA’s “Tracking HHH” database, and California’s Project Homekey funding reports. To date, this type of data collection and synthesis has been done on an ad hoc basis by policymakers, researchers, journalists, and others. The purpose of this Tool is to provide a more permanent source of data on the PSH stock in LA County that can serve as a one-stop source for policymakers, program planners, researchers, and the general public to better understand the PSH landscape in LA County.

Analyzing the Distribution of Permanent Supportive Housing Across Los Angeles County

This Tool maps the distribution of PSH units across jurisdictions in LA County and within different neighborhoods in the City of LA. It can support the planning and construction of
additional PSH projects by identifying key developers and operators, average project size and costs, funding sources, and needs for specific subpopulations of the unhoused. Users can filter projects by any variable contained in the data set, including location (both geographic and political jurisdictions), target population, operational status, or unit size. Furthermore, it can be used to provide empirical evidence regarding the equitable distribution of PSH projects across different jurisdictions.
Current Coverage

This initial version of the Tool primarily incorporates data from the 2019 and 2020 HIC provided by the LAHSA, plus projects that were funded through city and state funding mechanisms, as described in detail in the following sections.

Geography

This Tool covers the LA Continuum of Care, which includes all of LA County absent the cities of Glendale, Pasadena, and Long Beach.
Types of Projects

Existing Permanent Supportive Housing

In the current iteration of the Tool, we have limited our scope to PSH projects. As mentioned previously, PSH combines housing assistance with supportive services aimed at helping individuals with disabilities achieve housing stability (Electronic Code of Federal Regulations, 2022). As a baseline, we started with housing that was classified as PSH in the HIC in 2019 or 2020. The HIC is a point-in-time inventory of programs and projects in the region that provide beds and housing units for people experiencing homelessness or who have experienced homelessness. It is used to garner federal funding. In the HIC data set, housing classified as PSH is further categorized as single-site, scattered-site, or tenant-based voucher programs. The scattered-site and tenant-based voucher housing programs listed in the HIC do not refer to PSH projects that provide housing units but rather indicate funded organizations that aid individuals in obtaining housing in the private rental market. Thus, we only included single-site PSH projects in our Tool, because we were interested in documenting the location of multiunit PSH housing developments and their related characteristics, rather than focusing on organizations assisting individuals with finding apartment units in the private rental marketplace. The PSH projects listed in the HIC provide an estimate of total housing units in a given year.

In the future, a next logical step would be to expand the scope of the Tool to other types of housing that people experiencing homelessness might access. However, the purpose of this version of the Tool is to provide a resource of where existing and planned PSH projects are located, along with other relevant details regarding funding, size, target population, and involved parties.

Funding

We included information about all federal-, state-, and county-level government funds for new PSH construction for which we could find data. This included the following programs:

1. California Tax Credit Allocation Committee (CTCAC)—responsible for administering the state’s Low Income Housing Tax Credit (LIHTC) apportionment; projects funded since inception of the program in 1987–2019 (California State Treasurer Fiona Ma, 2019).
2. City of LA Measure HHH—all projects funded since the inception of program in 2017 (Garcetti, 2021b).
3. City of LA Non-HHH Affordable Housing Managed Pipeline—all projects funded through multiple local non-HHH funding programs from July 2013 to 2021 (Garcetti, 2021a).
4. California Affordable Housing and Sustainable Communities grant program—notice of Funding Availability (NOFA) rounds 1–5 from 2014 to 2021 (Marcus and Rosenfeld, 2021)

5. California Infill Infrastructure Grant (IIG) program—NOFA rounds 3, 4, and 5 from Fiscal Year 13/14 through the present (California Department of Housing and Community Development, 2022).

6. California Supportive Housing Multifamily Housing Program NOFA round 2018

7. California Project Homekey—we manually collected data for this program from media and public sources that were available in early 2021 (Urbanize Los Angeles, undated). This program is rapidly being implemented and adapted to funding changes from the various emergency federal coronavirus disease 2019 (COVID-19) aid packages that supplied most of the resources for the first round. It is likely that further rounds of the program will materialize as the State of California continues to use this policy option. Therefore, a more systematic data approach might be possible in the future.

We intend to include additional data sources in future updates of the Tool, including cost certification data on completed projects that used LIHTC funding.

**Time Span**

The funding time for PSH included in our Tool varies depending on the category of administrative data used. Where possible, funding source data generally provide information on all projects funded over the history of the source program. For instance, the CTCAC data cover many projects built or renovated since the inception of the federal LIHTC, covering projects from 1987 to 2019. Other State of California or City of LA funding programs tend to have temporal coverage over approximately the past ten years, the 2010s into the 2020s, and the dates of inclusion are noted in the previous section (i.e., funding). For example, Measure HHH was approved by voters in the City of LA in November 2016 as a major funding source for PSH projects; we have included its contributions toward many of the most recent projects in the database. As a result of this pastiche of data sources, some projects in our database might be missing variable entries that are present for other projects. Through aggregating multiple sources, we have tried to minimize this issue, but comprehensive information across all variables on all projects was not always available for inclusion.

We initially analyzed California Environmental Quality Act (CEQA) cases from 2016 through 2020. We also reviewed Community Impact Statements submitted by Neighborhood Councils in the City of LA from 2013 to 2020, inclusive. These efforts yielded relatively little useful data. This may reflect the fact that, in the case of CEQA, many PSH projects were granted various exemptions from the statute and, in the case of neighborhood council proceedings, many

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1 We searched the term “homekey” on the Urbanize Los Angeles website and abstracted all the relevant details from relevant projects. Another source was the LA County Board of Supervisors. We abstracted information from the Board of Supervisors motion dated September 29, 2020, approving the county’s implementation of Homekey sites at eight locations throughout the county (Los Angeles County Board of Supervisors, 2020).
PSH projects might have sought informal approval and might not have ended up being the subject of a formal Community Impact Statement submission.
Data Aggregation

Stata statistical software was used for assembling the tabular data. The interactive visualization Tool was developed in RShiny.

Summary of Key Data Steps

Below is a high-level summary of the data aggregation and cleaning process undertaken in developing the PSH Database. In each of the steps enumerated below, it is implied that basic variable synchronization and fact-checking is conducted. These steps are not explicitly spelled out in each step to avoid redundancy.

1. Existing Projects: Merging HIC Data for 2019 and 2020

The foundational data source for this database is the 2019 and 2020 LAHSA’s HIC. Relevant project information from the HIC includes project name, target population, target gender, project address, U.S. Department of Housing and Urban Development geographic code, and project type (e.g., PSH, Other Permanent Housing, or Rapid-Rehousing). We started constructing the PSH Database by selecting all PSH, Other Permanent Housing, and Rapid-Rehousing single-site or multi-site (usually, courtyard apartments that were converted to PSH) projects that appear in either the 2019 or 2020 iterations of the HIC. Two years of data were used because some projects appeared in only one of these data sets, due either to nonreporting or other reasons we were unable to ascertain. We merged these two data sets using the Homeless Management Information System Project Identification (ID) variable, which uniquely identifies projects across years. This produced only one copy of each matched project but also kept unmatched projects. A small number of projects were duplicated because they had different Project ID variables despite being the same property. These duplicates were identified and removed in subsequent cleaning.

2. Funding for Project Development

Because the HIC only contains limited financial information for listed projects, funding details are sourced primarily from CTCAC. These data were initially merged with the HIC data using a probabilistic matching algorithm (the Stata package “RECLINK” [Blasnik, 2010]). The process used all components of the address, the organization name of record, and the project name if provided. This approach allowed us to match some projects for which, for example, different casing was used or a different street address number was present in the two data sources for the same project (as sometimes happens with new construction over multiple parcels of land).

We supplement existing PSH projects listed in the HIC that received CTCAC monies with projects funded through Proposition HHH in various stages of development. These data are
sourced from the City of LA’s “Tracking HHH” Database, which contains information about project characteristics, including the number and type of units, funding information, and projected dates for land acquisition, construction, and openings. Furthermore, to avoid excluding newer projects that were neither listed in the HIC nor received Proposition HHH funds, we aggregated projects funded across LA County through other various state and local initiatives, including Project Homekey, the California Affordable Housing and Sustainable Communities grant program, and California Supportive Housing Multifamily Housing Program, among others (see Funding under the Type of Housing section for complete details). This funding information was also merged to the main database using RECLINK because project names have slight inconsistencies across data sources.

After these distinct sources were merged, we applied more-stringent exclusion criteria, keeping only projects across the various sources classified as PSH and single-site in the HIC. In total, roughly 60 percent of the observations in our database contain funding data aggregated from the sources discussed above.

3. Public Statements and Legal Challenges

One goal of the PSH Database was to analyze legal barriers to the construction of PSH projects throughout LA County. To this end, the Center on Housing and Homelessness in Los Angeles (CHHLA) developed a program to analyze human-readable legal documents en masse and flag specific instances where it found evidence of political and legal opposition to proposed PSH projects. The program used an optical character recognition tool to intake court documents into machine-readable format and then uploaded them to our index. We then searched for the terms “permanent supportive housing” and “supportive housing” using an approach in which the text of each case-level file had been “tokenized.” This yielded many CEQA-related filings for LA County in 2016–2020. After manually reviewing documents flagged by the program, we found only one instance of a PSH project being challenged under CEQA. Aside from direct legal challenges brought against projects through CEQA, the CHHLA also examined LA Neighborhood Council Community Impact Statements submitted to the City Council in support for or opposition to a proposed PSH project using the same program discussed above (kegel.com, 2022). Similarly, after manually reviewing flagged incidences, we concluded that most “hits” were for projects outside the scope of this project.
Data Validation

Because of well-known data quality limitations with HIC data, an extensive data validation effort was performed prior to the publication of this Tool. We are unaware of any systemic process for validating data sourced from the HIC, so we relied on our own knowledge of major providers of PSH in LA County and consulted with service providers to spot potential discrepancies in the underlying data sources. For example, we observed inaccurate address data (e.g., multiple projects using the address of the headquarters of the organization developing them; using a single address for adjacent, but distinct, projects; and more basic errors in the provided data fields). Variables from observations flagged as potentially incorrect were checked against information readily available online, including from developer’s websites, government organizations’ public records, and news articles. We encourage all users of the database to contact the authors with potential corrections at chhla@rand.org.
The PSH Database includes 40 variables that users may use to filter projects, which were sourced from disparate public records. For the user’s reference, we provide a spreadsheet-formatted codebook (available for download on the website, www.rand.org/pubs/tools/TLA1757-1.html) containing variable names, variable labels, and data sources. Variables in the codebook are organized as follows:

1. Project Characteristics—including details such as project name and location, development stage, associated organizations, number of units, and target population
2. Finance—funding source, award amount, or credit type
3. Application—CTCAC or Infill Infrastructure Grant application number and stage
4. Jurisdiction—political geographic boundaries within which projects are located
5. Community Input—statements of opposition to or support for the project
6. Intermediate and Administrative—a set of variables created by the team to assist with the aggregation documentation process (these are not included in the Tool).
Geospatial Database

Geographic information is encoded using the addresses of each PSH development. This is done in R using the ggmap package to interface with Google’s geocoding application programming interface (API). An R script for doing this called geocode_addresses.R can be found on the project’s GitLab page. To run the script, the user must first acquire an API key from Google’s developer platform. Google’s geocoding API is not free to use. However, as of May 2022, Google’s geocoding API qualifies for a $200 monthly credit that is more than sufficient to encode the developments tracked in the database. For more information about Google’s geocoding API and a guide to getting started, visit https://developers.google.com/maps/documentation/geocoding.

After generating latitude and longitude information from the addresses, we then classified each development into various jurisdictions by merging their locations with the relevant shapefile of a given jurisdiction. This was done in R using the sf package to merge spatial points with spatial polygons. An R script for doing this called prep_shapefiles.R can be found on the project’s GitLab page. The jurisdictions of interest included LA city boundary, LA city Community Planning Areas, LA City Council districts, LA County municipalities, LA County supervisorial districts, LA County Service Planning Areas (SPAs), California state assembly districts, California state senate districts, California federal congressional districts, and U.S. census tracts. Where relevant, we encoded jurisdictions using boundaries drawn after both the 2010 Census and the 2020 Census. Table A.1 details where the spatial data were obtained for this iteration of the Tool.

Table A.1. Spatial File URLs

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<th>2010 URL</th>
<th>2020 URL</th>
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<td>California federal congressional district</td>
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</table>
How to Use the Tool

In this section, we provide some guidance for using the Tool, describing the different functions, default, and optional settings.

Map Overview

When the user first opens the website, a map of the entire LA County area will appear that provides an overview of the number of included projects, color-coded by their location.

- The user can place the mouse pointer on any area of the map to shift the map area being displayed on screen.
- The user can click on the “+” or “−” signs located in the upper left-hand corner of the map to zoom in or zoom out of a particular area of the map.
- Using the layer icon on the upper right-hand corner of the screen, the user can choose to overlay a jurisdictional boundary mapping. The map defaults to displaying the eight Service Planning Areas that the county uses to manage service delivery. By clicking on this layer icon, the user can choose different jurisdictional boundaries to display municipalities, supervisorial districts, City of LA boundaries, city council districts or Community Planning Areas, or California state assembly or state senate districts.

Selecting, Displaying, and Downloading Data

The left-hand side of the screen contains functions that can be used to select or filter specific housing project information to be displayed on the map or to be downloaded.

- A set of five filter options are available:
  - Project Characteristics
  - Finance
  - Application
  - Jurisdiction
  - Community Input.

- For each of these five filter types, once a selection is made, additional options will be displayed to narrow the data to display or download. For example, if the user makes the selection Total Low Income Units in Project under the Characteristics filter, a slide bar appears. The user can move the end points of the bar to set the range of values to be displayed or downloaded.
- Alternatively, the entire data set can be downloaded by clicking on the “Download Data” button without any variables being selected.
- Once adjusted, the user clicks or taps the “Apply Filter” option to display the selected data.
• The user can then continue adding more filters from any of the five options, selecting “Apply Filter” each time to apply the selection. More than one filter can be applied from each of the five sections.
• Selected filters will appear under “Active Filters” at the top of the filter menu. Tapping or clicking the X next to a filter will remove that selection; selecting “Remove All Filters” will remove all at once.
• The user can maneuver the mouse pointer to hover over the selected project(s) on the map to see the project name, address, total number of units, supportive housing units, developer name, and operation status (depending on this information being available in the database).
• The user can also click on the site information box to select the “Download Data” function and download what is included in the database for this particular project site.
• The user can also download the project information associated with the selected filtered data set by clicking on the “Download Data” box on the left-hand side of the screen. In other words, there are a few places where the user can choose to download data: on the main screen, on the left-hand side, or, if a user wants data for a specific project, the user can hover over the project displayed on the map and click on it to then select the “Download Data” option for that particular project site.
Tool Limitations and Next Steps

The Tool is based on administrative data from multiple sources; there are likely to be errors beyond what we were able to ascertain from our validation efforts. As noted earlier, we encourage input from the community to correct any errors. The project is currently supported to update the Tool through early 2023. We are exploring the feasibility of continuing to update it over time and expanding on it to include other housing supports that people experiencing homelessness may access, including more-temporary forms of housing and shared housing. The Tool also does not display such information as vacancy rates; again, we will explore the feasibility of this option in a future iteration.
Conclusion

This map-based Tool of PSH is designed to bring together disparate sources of information about the current PSH housing stock in LA County. It can be used by policymakers, community residents, and advocates to identify areas in need of improvement, such as areas that need more PSH. It can also be used by researchers to identify patterns that could provide information for a more-detailed study of PSH and support for people experiencing chronic homelessness in LA. Although this version of the database includes data through 2021, we envision updating the database over time and potentially expanding it to include other housing options that people experiencing homelessness could use in LA County.
## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<td>CEQA</td>
<td>California Environmental Quality Act</td>
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<tr>
<td>CTCAC</td>
<td>California Tax Credit Allocation Committee</td>
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<td>HIC</td>
<td>Housing Inventory Count</td>
</tr>
<tr>
<td>LA</td>
<td>Los Angeles</td>
</tr>
<tr>
<td>LAHSA</td>
<td>Los Angeles Homeless Services Authority</td>
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<td>LIHTC</td>
<td>Low Income Housing Tax Credit</td>
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<td>NOFA</td>
<td>Notice of Funding Availability</td>
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<td>PSH</td>
<td>permanent supportive housing</td>
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<td>PSH Database</td>
<td><em>Permanent Supportive Housing in Los Angeles County: A Map-Based Tool</em></td>
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