# Background

1. **What is the purpose of the opportunity and high-poverty & segregation mapping tools?**

   The mapping tools are intended to advance the state’s affirmatively furthering fair housing (AFFH) objectives. AFFH means combating discrimination and taking meaningful actions that overcome patterns of segregation and foster inclusive communities free from barriers that restrict access to opportunity based on protected characteristics.

   The opportunity map identifies areas in every region of the state whose characteristics have been shown by research to be associated with positive economic, educational, and health outcomes for low-income families—particularly long-term outcomes for children. As such, the map is intended to inform efforts to advance the AFFH objective of increasing access to opportunity.

   The high-poverty and segregated areas overlay identifies places that meet standards for both high or concentrated poverty rates and racial segregation. The use of this overlay is grounded in two guiding AFFH objectives: to avoid further segregation and poverty concentration, and to increase access to opportunity for low-income families.

2. **What has been the process for creating and updating these tools?**

   In February 2017, the Department of Housing and Community Development (HCD) and the California Tax Credit Allocation Committee (CTCAC) convened a range of independent organizations and research centers which provided input on the original creation of the Opportunity Map. Since then, a subset of research partners has continued to update and refine the map over time. HCD, CTCAC, and the research partners annually review and update the mapping tools’ indicators and methodology in response to stakeholder comments and emerging research.
3. Why are there more changes to the draft 2024 mapping tools than in a typical year?

In 2023, HCD launched the Opportunity Framework project aimed at assessing and refining the state’s approach to affirmatively furthering fair housing (AFFH) across different types of neighborhoods and multiple policy areas. As part of this larger project, the research partners undertook an in-depth review of the Opportunity Map’s indicators and methodology in response to previous stakeholder comments. The research partners explored several topics, including:

- The indicators and underlying data for the environmental, educational, and economic domains.
- The overall structure of the indexing methodology and the relative contributions of each indicator to the scoring and categorization of neighborhoods.
- How the segregation and poverty methodology interacts with measures of opportunity.
- Neighborhood-level data sources for violent crime and/or gun violence.
- Methods to ensure rural areas assessed in the map include population centers.
- Accounting for college and graduate students in the poverty indicator.

This in-depth review resulted in more changes to the 2024 mapping tools compared to previous years.

**Opportunity methodology**

1. What motivated the proposed changes in the opportunity mapping methodology?

The revised approach is intended to increase transparency of the map’s underlying methodology. Previous versions of the tool relied on a complex opportunity scoring method that some users perceived as a black box. The revised approach aims to allow users to see how individual factors contribute to the overall opportunity score for a particular tract or block group. The new tool clearly identifies and illustrates which - and how many - indicators are below or above regional medians or specified thresholds for each tract or block group. It also includes new layers that allow users to see important neighborhood characteristics like racial residential segregation.

2. How is opportunity assessed, and what are the primary changes in the methodology?
The Opportunity Map identifies the neighborhoods that score better across eight economic and educational indicators relative to other neighborhoods in the region. These indicators were selected because they have been shown by research to be associated with positive economic, educational, and health outcomes for low-income families—particularly long-term outcomes for children:

<table>
<thead>
<tr>
<th>Economic Indicators</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Above 200 Percent of Poverty</td>
<td>Percentage of population with income above 200% of federal poverty line</td>
</tr>
<tr>
<td>Adult Education</td>
<td>Percentage of adults with a bachelor's degree or above</td>
</tr>
<tr>
<td>Employment</td>
<td>Percentage of adults aged 20-64 who are employed in the civilian labor force or in the armed forces</td>
</tr>
<tr>
<td>Median Home Value</td>
<td>Value of owner-occupied units</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education Indicators</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Math proficiency</td>
<td>Percentage of 4th graders who meet or exceed math proficiency standards</td>
</tr>
<tr>
<td>Reading proficiency</td>
<td>Percentage of 4th graders who meet or exceed literacy standards</td>
</tr>
<tr>
<td>High school graduation rate</td>
<td>Percentage of high school cohort that graduated on time</td>
</tr>
<tr>
<td>Student poverty rate</td>
<td>Percentage of students not receiving free or reduced-price lunch</td>
</tr>
</tbody>
</table>

The Opportunity Map also reflects local environmental conditions by using a subset of data from the CalEnviroScreen 4.0 tool to identify the geographies that have the highest potential – defined here as ranking in the highest 5% of regional environmental burden - to expose vulnerable populations to nearby health and safety threats.

A neighborhood’s opportunity score is determined by how many economic and education indicators fall above the median (50th percentile) tract or block group value within each region. Each indicator that falls above the regional median adds 1 point from an overall score. A point is subtracted when a tract ranks in the highest 5% of environmental burden within its surrounding region.

Using this method, the final scores are divided into four primary categories:
● 9 or 8 = “Highest Resource”
● 7 or 6 = “High Resource”
● 5 or 4 = “Moderate Resource”
● 3 or lower = “Low Resource”

The four primary changes to the 2024 mapping tools’ methodology include:

● Updating the scoring approach to count the number of indicators below the regional median, in order to increase transparency when compared to the prior index-based approach
● Using a subset of four CalEnviroScreen (CES) indicators to create a single indicator that identifies the census tracts that rank as having the highest regional concentration of environmental burdens (more explanation is provided below)
● Transitioning the identification of high-poverty and segregated places from a filter in the CTCAC/HCD Opportunity Map to a separate overlay, to more transparently communicate the underlying opportunity-related characteristics of neighborhoods which meet this definition
● Removing the proximity to jobs indicator for multiple reasons, including its low explanatory power as revealed in a factor analysis

3. Why has the approach for accounting for environmental quality changed so much?

The full CalEnviroScreen (CES) pollution burden dataset used in previous versions of the Opportunity Map includes a number of indicators that complicate the interpretation of environmental burden within a given region. For example, a number of CES variables that measure air quality (like Ozone, PM2.5, and toxic releases) are modeled from either sensors or computer-generated estimates and do not show a great deal of variability within any given region, and as such, do not differentiate conditions at a geographic level that is relevant for local housing siting decisions. For the purpose of protecting affordable housing residents from nearby environmental threats, data that measure the concentration of point sources of pollution are more useful than data that are either modeled or measure factors that are more dispersed on average.

The draft 2024 Opportunity Map responds to the above by using a subset of four CES point-source-based indicators – solid waste sites, groundwater threats, cleanup sites, and hazardous waste facilities – to create a single indicator that identifies the census tracts that rank as having the highest regional concentration of environmental burden. The scores across these four indicators are averaged into a
single indicator to mirror CES’s method of accounting for the cumulative environmental burden that arises when people and places are simultaneously exposed to multiple contaminants from multiple sources. Once averaged, the top 5% of tracts regionally are flagged to identify the places with the highest potential to expose vulnerable populations to nearby health and safety threats. The flagged geographies receive a one point deduction in their opportunity score, which operationalizes the concept that local environmental burden can be a drag on community-level opportunity.

4. Are there any changes to how rural areas are assessed?

The Opportunity Map continues to measure opportunity in rural parts of the state at the block group level, rather than at the tract level as in the rest of the state. Since tracts in rural areas of California are approximately 37 times larger in land area than tracts in non-rural areas, tract-level data in rural areas may mask variation in opportunity and resources within these tracts. Assessing opportunity at the block group level in rural areas allows for finer-grained analysis. Rural block groups continue to be ranked in comparison to other rural block groups within the same county, in contrast to urban tracts, which are ranked in comparison to other urban tracts in their respective regions, which may include more than one county.

The change in the scoring approach to count the number of indicators below the regional median requires a minor methodological change that specifically impacts rural counties with very few block groups and/or few reliable data points; the methodology now includes a minimum of two reliable data points for any given indicator. In Sierra County, for example, only one block group has a reliable measurement for the share of population with a Bachelor’s degree or higher, so a county-derived median is not calculated for this indicator. This is necessary to ensure that county-derived medians and resulting resource designations are meaningful.

An additional change to the methodology is that the population density floor has been raised in an effort to exclude the most sparsely populated rural block groups from being assigned to a resource category. CTCAC, HCD, and the research partners have received feedback over the years expressing concern that some areas categorized as High Resource and Highest Resource in rural parts of the state are mostly unsuitable for affordable housing development for reasons such as being not zoned for residential development (e.g., they are open space, agricultural or grazing land), and having low population. The research partners reexamined the population density floor in response to these concerns and found that while the prior
an additional methodological note is that CalEnviroScreen data are only available at the census tract level, not at the block group level. So, for rural areas, the county-level environmental burden percentile rank is calculated at the census tract level and then assigned to each of the block groups within a given rural census tract. In rural counties with fewer than 20 tracts, the environmental burden indicator is calculated at a state level, and tracts and the block groups they contain are identified as having high environmental burden if they rank in the top 5% of the state.

**High-Poverty & Racially Segregated Areas methodology**

1. **How are high-poverty and racially segregated areas defined?**

A high-poverty and segregated area overlay identifies areas that meet standards for both concentrated poverty and racial segregation. Concentrated poverty is defined as tracts with at least 30% of the population falling under the federal poverty line. Racial segregation is defined as tracts with a racial/ethnic Location Quotient of higher than 1.25 for Black, Hispanic, Asian, or all people of color in comparison to the county. The Location Quotient is a small-area measure of relative segregation calculated at the residential census tract level that represents how much more segregated an area (e.g., a census tract or block group) is relative to the larger area (in this case, the county).

2. **Why is the methodology for identifying high-poverty and racial segregated places now a separate mapping layer?**

The draft 2024 Opportunity Map identifies high poverty and segregated areas using an overlay. In previous iterations, these areas were "filtered" out from the pool of tracts across the state and were not given opportunity scores. The revised approach allows stakeholders to see both whether a tract is in a High-Poverty & Segregated
area as well as its underlying opportunity score and indicator values. The purpose of this change is to increase transparency by communicating the underlying opportunity-related characteristics of segregated areas of concentrated poverty. Under the filter method, stakeholders raised concerns that gentrifying neighborhoods could be caught in the filter if they successfully preserve affordable housing and prevent displacement of high poverty households and people of color. The research partner’s analysis found that the vast majority of segregated areas of poverty were low resource, but in rare cases, gentrifying, moderate-to-high resource neighborhoods were caught in the filter. The overlay approach allows state housing agencies to make explicit policy decisions about how to treat neighborhoods that are both segregated and high poverty, in accordance with their AFFH strategies.