

2024 Oakland Community Stressors Index







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Community Stressors Index Design



Community Stressors Index Background

- Oakland's Human Services Department (HSD) contracted with RDA Consulting (RDA) to update the 2019 Community Stressors Index
- The Oakland Stressors Index provides a snapshot of 22 risk factors impacting community stress across a range of domains, including (1) Access to Resources, (2) Crime & Violence, (3) Demographics, (4) Education & Employment, (5) Health; (6) Household; and (7) Housing.

Community Stress: The experience of chronic stress, violence, and trauma that has serious negative consequences on communities and individuals. It leads to lower social capital and decreased collective efficacy and impacts individuals' psychological development, health, and well-being.

Risk Factor: something associated with community stress



RAND Community Stress Framework

Community Stress: The experience of chronic stress, violence, and trauma that has serious negative consequences on communities and individuals. It leads to lower social capital and decreased collective efficacy and impacts individuals' psychological development, health, and well-being.

Risk Factor: something associated with community stress

NOTE: NGO = nongovernmental organization.

RAND ##2559-5.1

Chandra, A., Cahill, et al. (2018). Toward an initial conceptual framework to assess community allostatic load: Early themes from literature review and community analyses on the role of cumulative community stress. RAND Corporation. Santa Monica, CA. xiii.



Vetting Criteria:

- Impact: Strong evidence that the indicator has a high impact on community stress based on its theoretical alignment with RAND's community stress framework across three stages: (1) foundational issues, (2) chronic stress, and (3) acute shocks.
- 2. Usefulness & Credibility: Captures information that helps inform the City's strategies, priorities, or programming and has been recommended or used by HSD staff.
- **3. Feasibility**: Data can be obtained with reasonable effort and cost and are expected to be collected again.
- **4. Reliability**: Data accurately and reliably measures the intended risk factor.
- **5. Distinctiveness**: The indicator lacks redundancy and is not already captured in other indicators, e.g., evaluated with statistical tests.

Risk Factor: something associated with community stress

Indicator: the direct measurement of a risk factor (e.g., with Census data collection)

Indicator Vetting Process:







Risk Factor: something associated with community stress

Indicator: the direct measurement of a risk factor (e.g., with Census data collection)

Domain: a thematic group of indicators (e.g., housing, grouped together because they measure similar risk factors)

Index: an estimate of some phenomenon (e.g., community stress, calculated by adding together several indicators to facilitate simple comparisons)

>>> Indicators & Data Sources

| Domain | Indicator | Measure | Year | Data Source | |
|------------------|------------------------------|--|-----------|---|--|
| 0 % | Access to Services | Number of community resources available per 1,000 population | 2024 | Oakland Human Services Department (HSD) | |
| cess h | Access to Food | Number of grocery stores or supermarkets available per 1,000 population | 2024 | | |
| Ac | Access to Internet | Estimated population with limited (i.e., cellular data only) or no access to the internet | 2018-2022 | U.S. Census Bureau American Community Survey (ACS) Five- Year Estimates | |
| ne & ence | Violent Crimes | Violent crime (e.g., homicide, assaults, robbery, rape, other sex offenses) reported to OPD per 1,000 population | 2023 | Oakland Police Department | |
| Crin Viole | Domestic Violence | Domestic violence calls reported to OPD per 1,000 population | 2022 | (OPD) | |
| 5 | Black or African American | Estimated population of individuals identified as Black or African American alone, not Hispanic or Latino | | | |
| aphic | Hispanic or Latino | Estimated population of individuals identified as Hispanic or Latino, from specific origins selected by HSD | | | |
| Demogr | Asian or Pacific Islander | Estimated population of individuals identified as Asian or Pacific Islander alone, from specific origins selected by HSD | 2018-2022 | ACS Five-Year Estimates | |
| | Recent Immigrant | Estimated population of non-citizen individuals born outside of the United States, arriving in 2010 or later | | | |
| ition & yment | Unemployment | Estimated unemployed civilian population 16 years/over | | | |
| Educa Emplo | Less than High School | Estimated population 25-64 years that did not graduate high school | 2010-2022 | ACS rive-rear Estimates | |



Indicators & Data Sources Continued

| Domain | Indicator | Measure | Year | Data Source | |
|------------------|---|---|-----------|--|--|
| | Asthma E.D. Visits | Age-adjusted ED visits for Asthma per 10,000 population | | California Office of | |
| Follution Burden | | Estimated pollution burden as a weighted aggregation of individual exposure and environmental effect indicators | 2021 | Environmental Health Hazard Assessment (OEHHA) | |
| l ž | Low Birth Weight | Share of infants born with a low birth weight | | CalEnvrioScreen 4.0 | |
| | Lack Insurance | Estimated population without health insurance coverage | 2018-2022 | ACS Five-Year Estimates | |
| ehold | Households Below 30% HUD Area Median Income | Estimated households with income at or below 30% of the HUD-calculated area median income | 2016-2020 | U.S. Department of Housing and Urban Development (HUD) Consolidated Planning Comprehensive Housing Affordability Strategy (CHAS) | |
| Hous | Older Adults Living Alone | Estimated individuals 65 years and over living alone | 2018 2022 | ACS Five-Year Estimates | |
| | Youth with Disabilities | Estimated noninstitutionalized youth under 18 years with a disability | 2010-2022 | | |
| | Severe Cost Burden | Percent of households paying more than 50% of monthly household income towards housing costs | | HUD CHAS | |
| using | Housing Affordability | Estimated units (rent/own) affordable to a household at 50% of household area median family income (i.e., HAMFI) AND available or occupied by a household at 50%/less of HAMFI | 2016-2020 | | |
| 위 위 | Housing Instability | Renter occupied with 1+ persons per room, household income 50%/less of HAMFI, and non-family household/family household with 1+ subfamily | | | |
| | 1937 HOLC Grades | Lowest 1937 HOLC grade for the corresponding census tract(s) | 1937 | Nelson, R. K., Winling, L., et al. (2023). Mapping Inequality. | |



The 2024 Oakland Community Stressors Index is designed to be rigorous with available data. The following data and methodological limitations should be considered when interpreting the results:

- . Comparability
- 2. Data Availability
- 3. Geographic Transformation

Discussion





Community Stressors Index Findings





- The following slides will display tables of results from the updated stressors index, each table cell displays percentage estimates in parentheses and/or raw counts.
- In 20 percentile point intervals, 114 census tracts were assigned to one of five community stress groupings:
 - Highest stress (80-100th percentile),
 - Second-highest stress (60-79th percentile),
 - Middle stress (40-59th percentile),
 - Second-lowest stress (20-39th percentile), and
 - Lowest stress (1-19th percentile).



| | Highest (80-100 th percentile) | Second- Highest (60-79 th percentile) | Middle (40-59 th percentile) | Second- Lowest (20-39 th percentile) | Lowest (1-19 th percentile) |
|---------------------|--|---|--|--|---|
| Census Tracts | 23 (20%) | 23 (20%) | 23 (20%) | 23 (20%) | 22 (19%) |
| Total Population | 107,143 (24%) | 80,592 (18%) | 85,473 (20%) | 82,469 (19%) | 82,073 (19%) |

>>> Race/Ethnicity Breakdown

| | Highest (80-100 th percentile) | Second- Highest (60-79 th percentile) | Middle (40-59 th percentile) | Second- Lowest (20-39 th percentile) | Lowest (1-19 th percentile) |
|---|--|---|--|--|---|
| Black or African American Residents | 27,918 (30%) | 24,791 (27%) | 17,223 (18%) | 17,183 (18%) | 6,327 (7%) |
| Hispanic or LatinX Residents | 56,047 (48%) | 24,269 (21%) | 19,296 (17%) | 9,597 (8%) | 7,331 (6%) |
| White Residents | 8,248 (7%) | 11,803 (9%) | 22,352 (18%) | 34,693 (27%) | 49,644 (39%) |
| Asian Residents | 10,661 (15%) | 13,889 (20%) | 19,628 (28%) | 13,350 (19%) | 11,389 (17%) |
| Pacific Islander Residents | 583 (28%) | 444 (22%) | 473 (23%) | 160 (8%) | 388 (19%) |
| Native Residents | 253 (15%) | 379 (23%) | 437 (27%) | 368 (22%) | 202 (12%) |
| Residents Identifying "Other" Race/Ethnicity | 347 (12%) | 719 (24%) | 811 (27%) | 711 (24%) | 428 (14%) |
| Residents Identifying 2+ Race/Ethnicities | 3,086 (12%) | 4,298 (17%) | 5,253 (21%) | 6,407 (25%) | 6,364 (25%) |



| | Highest (80-100 th percentile) | Second- Highest (60-79 th percentile) | Middle (40-59 th percentile) | Second- Lowest (20-39 th percentile) | Lowest (1-19 th percentile) |
|------------|--|---|--|--|---|
| District 1 | - | - | 14,658 (21%) | 23,713 (34%) | 32,052 (46%) |
| District 2 | 3,138 (5%) | 12,674 (21%) | 18,037 (30%) | 10,829 (18%) | 16,064 (26%) |
| District 3 | 5,045 (8%) | 20,488 (31%) | 19,517 (29%) | 18,636 (28%) | 2,909 (4%) |
| District 4 | - | 4,531 (8%) | 12,661 (23%) | 10,580 (20%) | 26,379 (49%) |
| District 5 | 24,850 (43%) | 15,351 (26%) | 13,360 (23%) | - | 4,669 (8%) |
| District 6 | 38,101 (62%) | 4,791 (8%) | 7,240 (12%) | 11,551 (19%) | - |
| District 7 | 36,009 (55%) | 22,757 (35%) | - | 71,60 (11%) | - |



| Neighborhood | Total Residents | Neighborhood | Total Residents |
|------------------------|-----------------|----------------|-----------------|
| 1) Arroyo Viejo | 33,293 | 8) Highland | 4,291 |
| 2) Coliseum Industrial | 12,108 | 9) Harrington | 4,053 |
| 3) Frick | 11,444 | 10) Castlemont | 3,238 |
| 4) Fremont | 10,786 | 11) Clinton | 3,138 |
| 5) Cox | 9,636 | 12) Clawson | 3,035 |
| 6) Hawthorne | 5,072 | 13) Acorn | 2,010 |
| 7) Brookfield Village | 5,039 | | |

Highest Rank Census Tracts

| Neighborhood | Total Residents |
|------------------------|-----------------|
| 1) Arroyo Viejo | |
| *Census Tract 4084 | 4,077 |
| *Census Tract 4085 | 5,634 |
| Census Tract 4086 | 6,519 |
| *Census Tract 4088 | 7,968 |
| *Census Tract 4089 | 3,956 |
| *Census Tract 4096 | 5,139 |
| 2) Coliseum Industrial | |
| Census Tract 4061 | 4,939 |
| *Census Tract 4073 | 2,459 |
| Census Tract 4094 | 4,710 |
| 3) Frick | |
| *Census Tract 4075 | 3,988 |
| Census Tract 4087 | 7,456 |
| 4) Fremont | |
| *Census Tract 4072 | 6,544 |
| *Census Tract 4074 | 4,242 |
| 5) Cox | |
| *Census Tract 4093 | 5,743 |
| *Census Tract 4103 | 3,893 |

| Neighborhood | Total Residents |
|-----------------------|-----------------|
| 6) Hawthorne | |
| *Census Tract 4062.01 | 5,072 |
| 7) Brookfield Village | |
| *Census Tract 4090 | 5,039 |
| 8) Highland | |
| *Census Tract 4095 | 4,291 |
| 9) Harrington | |
| *Census Tract 4071.01 | 4,053 |
| 10) Castlemont | |
| Census Tract 4102 | 3,238 |
| 11) Clinton | |
| *Census Tract 4059.02 | 3,138 |
| 12) Clawson | |
| *Census Tract 4015 | 3,035 |
| 13) Acorn | |
| *Census Tract 4025 | 2,010 |

Asterisk (*) indicates census tract is highest rank in both the 2024 index update and an additional analysis that was executed to confirm stress rankings.

Discussion





Using the Interactive Stressors Tool



>>> Introduction to the Updated Tool

Story Map: a series of visualizations, such as dashboards, that tell a story

Dashboard: a collection of maps, other graphics, and/or text viewed on a single page

- Results of the 2024 Community Stressors Index are available through Tableau Public as a Story Map with nine dashboards, including three interactive maps and two interactive bar charts
- The 2024 update is optimized to view on a browser



https://public.tableau.com/shared/6FWX6FZTK?:showVizHome=no

>>> Interactive Dashboard Descriptions

Story Map: a series of visualizations, such as dashboards, that tell a story

Dashboard: a collection of maps, other graphics, and/or text viewed on a single page

- 1) Community Stress in Oakland: The updated index findings reporting each census tract's stress score and ranking are available for exploration in the Community Stress in Oakland Dashboard's interactive map and corresponding circle plot.
- 2) Explore the Community Stress Indicators: The 22 community stress indicators are available for individual exploration in the Individual Indicators Dashboard's interactive map.
- 3) Explore Population Parameters: Some variables not included in the updated index calculation have been made available in the Population Parameter Dashboard's interactive map. Examples of these variables include the distribution of veterans and older adults.
- 4) Community Stress by Race/Ethnicity: Compare the share of racial/ethnic groups in each community stress rank with interactive bar charts in the Community Stress by Race/Ethnicity Dashboard.
- 5) Community Stress by District: Compare the share of residents in each community stress rank by Council District with interactive bar charts in the Community Stress by District Dashboard.





measure their relative stress. Tracts that with an overall percentiles are experiencing the "Highest" stress, while

score in the 1-19th percentile are experiencing the "Low

Click on a census tract in the map above to see its community stress score and how the tract compares to the rest of Oakland in the distribution below. Click on a circle below to see its community stress score and where the census tract is located in the map of Oakland above.

Distribution of Stressor Scores & Census Tract Total Population





Distribution of Stressor Scores & Census Tract Total Population



Location search icon, enter a city and map zooms to it (Note: data only displays for Oakland)

- Zoom in button
- Zoom out button
 - Zoom home button, returns map to original view
 - Additional map view and selection tools (see right)





A hand-drawn selection

A circular selection

A rectangle selection

Pan tool, pivot the map view

Zoom to rectangular selection

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>>> Interacting with Maps: Selections

Community Stress by

Community Stress by Methodology

Measuring Community Stress in the City of Oakland

Community Stress

in Oakland

This map selection was made using the **lasso selection tool** found in the map view toolbar and **highlights** the selected map census tracts and their corresponding tracts in the distribution of Community Stress Scores at the bottom of the screen. Circles in the distribution are sized according to their total population (i.e., the larger the circle, the larger the total population).

Clicking on a single circle on the distribution or a single census tract on the map **highlights** that tract alone.

Council District (AII) Lafayette Orinda Neighborhood Berkeley Mount Diabl (AII) Community Stress Ranking Highest Moraga Second-Highest Canyon **Hovering** over the right-most highlighted circle in the score distribution for this multi-San Leandro Watershed tract selection shows us a **tooltip** with the Alamed basic details of the most stressed tract. Hovering over the left-most circle would show details of the least stressed tract. an Leandro nce; (3) Demographics

Click on a census tract in the map above to see its community stress core and how the tract compares to the rest of Oakland in the distribution below.

Click on a circle below to see its community stress score and where the ansus tract is located in the map of Oakland above.

Distribution of Stressor Scores & Census Tract Total Population

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|-------------------------------------|
| District 3 |
| king: Highest |
| Census Tract 4015 |
| Clawson |
| e: 93 |
| 3,035 |
| |

Organization & Data

Acknowledaments





displayed in the **Neighborhood Filter**.

Interacting with Maps: Legend

text to limit data displayed.

Distribution of Stressor Scores & Census Tract Total Population

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Individual Indicators Dashboard

Measuring Community Stress in the City of Oakland

Population Parameters Dashboard

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Measuring Community Stress in the City of Oakland

Community Stress by Race/Ethnicity

Compare the share of

Community Stress by Council District

Compare the share of

Discussion

Thank you!