Community Development Index Methodology
Created for the Coalition for Responsible Community Development (CRCD)
by USC's Neighborhood Data for Social Change (NDSC)

Motivation

The primary goal of the Community Development Index is to visually communicate the need for investment within the South LA All In (SLAAI) Initiative's catchment compared to other neighborhoods in Los Angeles County across SLAAI's four priority areas:

- Housing Stability & Affordability
- Access to Capital
- Good Jobs
- Education

The CRCD team envisioned an index that provides a composite score across the four areas as well as an individual score for each priority area.

Metrics

Three metrics were selected for each priority area based on conversations between the CRCD and USC team as well as current data availability. Each metric is equally weighted both within each priority area's score and in the larger index. All metrics were aggregated from the census tract level to the neighborhood level using a population weighted crosswalk, then normalized to either rates or percentages to allow for cross comparison across neighborhoods of different sizes. The metrics for each priority area are shown below:

Housing Stability & Affordability

Metric Name	Definition	Source
Rate of Homelessness	The number of individuals experiencing sheltered and unsheltered homelessness per 10,000 residents in an area	2022 Greater Los Angeles Homeless Count; 2020 American Community Survey 5-year Estimates
Overcrowding	The percentage of households with more than one person per one room of their housing unit	2020 American Community Survey 5-year Estimates
Severe Rent Burden	The percentage of renter households paying more than 50 percent of their monthly income on rent and utilities	2020 American Community Survey 5-year Estimates

Access to Capital

Metric Name	Definition	Source
Mortgage Approval Rate	The number of approved mortgage loans per 10,000 residents in an area	2020 Home Mortgage Disclosure Act, 2020 American Community Survey 5-year Estimates
Homeownership	The percentage of housing units occupied by the owner of the unit	2020 American Community Survey 5-year Estimates
Average Small Business Loan Amount	The average annual dollar amount of loans administered to small businesses in an area from 2016 to 2020 per small business employee in the area*	2016-2020 Community Reinvestment Act (CRA) loans, 2020 Small Business Administration (SBA) Paycheck Protection Program (PPP) loans, 2016-2020 SBA 504 loans, 2016-2020 SBA 7a Loans, 2018 Longitudinal Employer-Household Dynamics

*see "Methodology" section for additional details

Good Jobs

Metric	Definition	Source
Unemployment Rate	The percentage of the labor force that is unemployed (labor force is defined as all non-institutionalized civilians 16 years old and over who are either employed or unemployed and actively looking for work)	2020 American Community Survey 5-year Estimates
Jobs per Worker	The number of jobs in an area per 100 people in the civilian labor force	2018 Longitudinal Employer-Household Dynamics , 2020 American Community Survey 5-year Estimates
Median Earnings per Worker	Median earnings in 2020	2020 American Community Survey 5-year Estimates

Education

Metric	Definition	Source
Opportunity Youth	The percent of youth ages 16 to 24 who are neither working nor in school	2020 American Community Survey 5-year Estimates
College Enrollment	The percentage of the population between the ages of 18 and 24 enrolled in public or private school (individuals enrolled in vocational and trade schools are not included in this percentage)	2020 American Community Survey 5-year Estimates
Postsecondary Graduation	The percentage of the population ages 25 and older who have an associate's degree or higher level of education	2020 American Community Survey 5-year Estimates

Methodology

General Index Methodology

Elements of the methodology described below were pulled from methodologies used in the Opportunity Index and the Portrait of Los Angeles.

The index was developed for the neighborhoods in Los Angeles County defined by the LA Times "Mapping LA" project. Out of the total 272 possible neighborhoods, the index was calculated for 254 neighborhoods. Certain neighborhoods were filtered via the following criteria (in order):

- Total population less than 1200 people were dropped, due to deceptively extreme population-adjusted measures (23 neighborhoods)
- Similarly, neighborhoods with other extremely small populations used as denominators to generate adjusted measures were not dropped, but the relevant metrics were omitted. For example, the unemployed percent is calculated by dividing the count of unemployed individuals by the total labor force. If a neighborhood has a labor force of less than 100 individuals, the unemployment percent is replaced with a missing value in order to lessen the effects of a deceptively extreme percentage on the index calculations. For all 12 metrics, this impacted a total of 11 values across all neighborhoods.
- Neighborhoods that were missing data for more than 1 out of 3 metrics in any of the four priority areas were dropped, as the methodology would not be able to accurately calculate a sub-score without at least two metrics (0 neighborhoods).

Together, the neighborhoods included in the analysis account for 99.92% of the county's total population.

First, each of the twelve metrics were calculated at the census tract level and then aggregated to neighborhoods using a population-weighted crosswalk. The initial distribution of each metric was examined at the neighborhood level, and metrics that were drastically skewed to the right were log transformed in order to normalize the distributions, including: jobs per worker, rate of homelessness, average loan amount, and mortgage approval rate. Each metric was then transformed onto a common scale from 1-100, using its min/max:

$$Individual\ Metric\ Score = \frac{actual\ value - minimum\ value}{maximum\ value - minimum\ value} * 100$$

This transformation maintained the distribution of the individual datasets while establishing a common scale across all metrics. The directionality of each indicator was adjusted – meaning the neighborhood with the highest values of categorically "bad" measures were scaled to be low (near 0), but neighborhoods with the lowest values of "good" measures were scaled to be low (near 0) in the same manner. The chart below shows the directionality of each indicator, with "Standard" indicating a metric where a score of 0 indicates a low value and 100 indicates a high value, and "Reversed" indicating a metric where a score of 0 indicates a high value and 100 indicates a low value.

Metric	**Directionality** Standard: 0 = low value, 100 = high value Reversed: 0 = high value, 100 = low value
Rate of Homelessness	Reversed
Overcrowded Household Rate	Reversed
Severe Rent Burden Rate	Reversed
Mortgage Approval Rate	Standard
Homeownership Rate	Standard
Average Small Business Loan Amount	Standard
Unemployment Rate	Reversed
Jobs per Worker	Standard
Median Wages Amount	Standard
Opportunity Youth Rate	Reversed
College Enrollment Rate	Standard
Educational Attainment Rate	Standard

Next, the 0-100 score of each of the three metrics within each area of priority was averaged together, generating a score for each priority area. Finally, the four sub-scores for each neighborhood were averaged again to generate the overall index score. Each of the priority area score as well as the final

index score were sorted into deciles (the bottom 10% of index values are assigned the value of 1, the next 10% are assigned the value of 2, etc.). This results in five index scores, expressed as a whole number value from 1-10.

Average Small Business Loan Amount Methodology

The methodology for this metric was developed by Brett Theodos, Carl Hedman, Brady Meixell, Eric Hangen of the Urban Institute in their paper Opportunity Zones: Maximizing Return on Public Investment. It is briefly described below, and further details can be accessed via the link shared.

At the neighborhood level, we compiled the list of small business loans for the past 5 years of full data available (2016-2020). Small business loans were obtained from the following sources:

- Reported lender-level loans from private banks are captured in the **2016-2020 Community Reinvestment Act (CRA) loans** data, which is reported every year through the Federal Financial Institutions Examination Council
- Government loans from US Small Business Administration are captured in the **2016-2020 SBA 7a & 504 loans** data, which is reported every year
- Government loans from the SBA that were distributed over the COVID-19 pandemic are captured in the **2020 Small Business Administration (SBA) Paycheck Protection Program (PPP) loans** data, which is reported in 2020 when the PPP loan program began

After aggregating loans from these various sources, five years of data was collapsed to obtain a total sum of loan dollars received by each neighborhood over the five-year period. Dividing this sum by 5 yielded an annual small business loan amount. Finally, using the 2018 Longitudinal Employer-Household Dynamics data, this annual amount was divided by the number of small business employees in each neighborhood. A small business employee is defined as "a private-sector employee working at a firm with up to 19 employees." This yielded the final value of the average small business loan amount, scaled per small business employee to allow for comparisons across different neighborhoods.

For questions about the Community Development Index, please contact Elly Schoen, Systems & Data Manager, at ebschoen@usc.edu.