The 2019 Opportunity Index & 2020 Indicators Preview Technical Supplement

Introduction

The Opportunity Index is a composite measure that draws upon important economic, educational, health and civic indicators of Opportunity. The Index was launched in 2011 and has since been updated regularly. It provides insight into the multidimensional nature of opportunity in the United States. In addition, its detailed geographic breakdown measures opportunity for individual states and counties and is designed to aid policymakers and other local stakeholders as they work to increase opportunity in our nation.

The Opportunity Index continues to incorporate the important structural updates made in 2017, including the addition of the Health dimension and a number of indicator updates (detailed information on this update can be found in the 2017 Technical Supplement). For the 2019 Index release, we have also disaggregated several indicators, by race/ethnicity and by gender, at the national level.

Because the indicators comprising the Opportunity Index are released at varying points in the year, this release represents a *complete* 2019 Index (i.e., all indicators were updated as expected) and a *partial* 2020 Index (i.e. some indicators do not have 2020 Index data available at the time of release). We were able to calculate Opportunity Scores, Opportunity Grades and Dimension (Economy, Education, Health and Community) Scores for the 2019 data, but not for 2020.

Methodology

Indicators

The Opportunity Index is a valuable data resource that summarizes statistics on opportunity across four dimensions: Economy, Education, Health and Community. Each dimension includes three to seven indicators—the specific measurements used to quantify opportunity.

One important use of the Opportunity Index is to track progress over time across indicators, dimensions and overall opportunity. However, updates made to the Index in 2017 mean it is inadvisable to make direct comparisons with Index years prior to 2016. Data for the 2016 Opportunity Index were recalculated to incorporate the updated Index structure and are therefore appropriate for comparison with more recent data.

The table on the following page shows the structure of the Opportunity Index.

Table 1. Opportunity Index Indicators

Dimension	Indicator	Description	2020 Preview
Economy	Jobs	Unemployment rate (percentage of the population ages 16 and older who are not working but available for and seeking work)	
	Wages	Median household income (in 2010 dollars)	✓
	Poverty	Percentage of the population below the federal poverty level (the amount of pretax cash income considered adequate for an individual or family to meet basic needs)	✓
	Income inequality	80/20 ratio (ratio of household income at the 80th percentile to that at the 20th percentile)	✓
	Access to banking services	Number of banking institutions (commercial banks, savings institutions and credit unions) per 10,000 residents	
	Affordable housing	Percentage of households spending less than 30 percent of their income on housing-related costs	✓
	Broadband internet subscription	Percentage of households with subscriptions to broadband internet service	✓
Education	Preschool enrollment	Percentage of 3- and 4-year-olds attending preschool	✓
	High school graduation	On-time high school graduation rate (percentage of freshmen who graduate in four years)[1]	✓
	Postsecondary education	Percentage of adults ages 25 and older with an associate's degree or higher	✓
Health	Low birth weight	Percentage of infants born weighing less than 5.5 pounds	✓
	Health insurance coverage	Percentage of the population (under age 65) without health insurance coverage	✓
	Deaths related to alcohol/drug use and suicide	Deaths attributed to alcohol or drug poisoning, or suicide (age-adjusted rate per 100,000 population)	✓
Community	Volunteering	Percentage of adults (ages 18 and older) who reported they volunteered during the previous year (national and state-level only)	
	Voter registration	Percentage of adults ages 18 and older who are registered to vote (national and state-level only)	
	Youth disconnection	Percentage of youth (ages 16–24) not in school and not working	✓
	Violent crime	Incidents of violent crime reported to law enforcement agencies (per 100,000 population)[1]	✓
	Access to primary health care	Number of primary care physicians (per 100,000 population)	
	Access to healthy food	Number of grocery stores and produce vendors (per 10,000 population)	
	Incarceration	Number of people incarcerated in jail or prison (per 100,000 population 18 and older) (national and state-level only)	

[1] Preview only available at national and state levels.

Calculating the Index

The Opportunity Index draws upon statistics from a variety of sources, including the U.S. Census Bureau, U.S. Department of Labor Statistics and the U.S. Department of Justice. Calculating Opportunity Scores for states and grades for counties entails three steps: 1) Rescaling indicators, 2) Calculating dimension scores, and 3) Calculating Opportunity Scores and grades.

Rescaling Indicators

The diverse indicators that comprise the Opportunity Index include percentages, rates, and dollar values. To include them in a composite measure such as the Opportunity Index, we transform each of these statistics to enable comparisons on a common scale. The Opportunity Index uses a simple rescaling procedure based on the minimum and maximum values obtained for each indicator.[1]

Each state or county's performance on an indicator is compared with the highest and lowest scores obtained on that indicator, excluding outliers (extreme values).[2] The following formula is used to calculate a value from 0 to 100 for each indicator:

$$Observed\ value\ rescaled = \left(\frac{Observed\ value - Lowest\ Value}{Highest\ value - Lowest\ Value}\right) \times 100$$

The indicators in the Opportunity Index vary in their directionality. For example, median household income is an indicator for which higher values are more desirable, but the unemployment rate is better when lower. For negative indicators,[3] the rescaling procedure also standardizes their directionality:

$$Observed\ value\ rescaled = 1 - \left[\left(\frac{Observed\ value - Lowest\ Value}{Highest\ value - Lowest\ Value}\right) \times 100\right]$$

This way, for all indicators, higher values are more desirable. The highest and lowest reference values based on the 2016 Index standard for each indicator are presented below; values outside of this range for subsequent Index years are top- or bottom-coded. Disaggregated demographic data is not included in calculation of the Index, so these indicators are not rescaled.

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[1] The natural logs of the data for median household income and violent crime are used in this process to normalize their highly skewed data distributions.

[2] The maximum and minimum values for each indicator are based on an examination of variance and skewness. For indicators with long tails on either or both sides of the normal distribution curve, maximum and minimum values are set to fall within the long tails, with values outside of this range treated as equivalent to the minimum or maximum in the rescaling process.

[3] Negative indicators are the following: unemployment, poverty level, income inequality, low birth weight, lack of health insurance, deaths from drugs/alcohol or suicide, youth disconnection, violent crime and incarceration.

Table 2. Highest and Lowest Indicator Reference Values

Dimension	Indicator	Description	Lowest Value	Highest Value
Economy	Jobs	Unemployment rate (percentage of the population ages 16 and older who are not working and are seeking work and available to work)	0.0	16.0
	Wages	Median household income (in 2010 dollars)	$19,000	$95,000
	Poverty	Percentage of the population below the federal poverty level	2.0	30.0
	Income inequality	80/20 ratio (ratio of household income at the 80th percentile to that at the 20th percentile)	2.0	7.0
	Access to banking services	Number of banking institutions (commercial banks, savings institutions and credit unions) per 10,000 residents	0.0	10.5
	Affordable housing	Percentage of households spending less than 30 percent of their Income on housing-related costs	40.0	95.0
	Broadband internet subscription	Percentage of households with subscriptions to broadband internet service	50.0	100.0
Education	Preschool enrollment	Percentage of 3- and 4-year-olds attending preschool	0.0	100.0
	High school graduation	On-time high school graduation rate (percentage of freshmen who graduate in four years)	55.0	100.0
	Postsecondary education	Percentage of adults ages 25 and older with an associate's degree or higher	0.0	75.0
Health	Low birth weight	Percentage of infants born weighing less than 5.5 pounds	4.0	11.5
	Health insurance coverage	Percentage of the population (under age 65) without health insurance coverage	0.0	30.0
	Deaths related to alcohol/drug use and suicide	Deaths attributed to alcohol or drug poisoning, or suicide (age-adjusted rate per 100,000 population)	0.0	60.0
Community	Volunteering	Percentage of adults (ages 18 and older) who reported volunteering during the previous year (national and state-level only)	0.0	65.0
	Voter registration	Percentage of the population ages 18 and older who are registered to vote (national and state-level only)	35.0	90.0
	Youth disconnection	Percentage of youth ages 16–24 not in school and not working	0.0	30.0
	Violent crime	Incidents of violent crime reported to law enforcement agencies (per 100,000 population)	0.0	12.0
	Access to primary health care	Number of primary care physicians (per 100,000 population)	0.0	175.0
	Access to healthy food	Number of grocery stores and produce vendors (per 10,000 population)	0.0	6.3
	Incarceration	Number of people incarcerated in jail or prison (per 100,000 population ages 15–64) (national and state-level only)	300.0	1500.0

Calculating Dimension Scores

At the state level, the Opportunity Index is made up of 20 indicators across the four dimensions (Economy, Education, Health and Community). In each dimension, the rescaled values for indicators are averaged to create dimension-level Opportunity Scores, also ranging from 1 to 100. Because data for some indicators are not available at the county level,[4] the county Opportunity Index is made up of 17 indicators. As with states, indicators in each dimension are averaged to create dimension-level Opportunity Scores ranging from 0 to 100.

Calculating Opportunity Scores and Grades

Each state also has an overall Opportunity Score that summarizes performance across the four Index dimensions. To calculate these, we averaged each state's four dimension scores with equal weighting. Final opportunity scores represented as values from 0 to 100; we use these values to rank the 50 states and the District of Columbia on the Opportunity Index. To create county opportunity scores, we averaged the four dimension scores with equal weighting. Counties are also assigned Opportunity Grades that correspond to their scores, ranging from A+ to F.

In 2011, Opportunity Grade cut-off points were based on the distribution of raw, final numerical outcomes of the 2011 Opportunity Index for counties and county equivalents; groupings were done according to standard deviations above or below the average. The same cut-off points were used to assign Opportunity Grades for the 2012 to 2016 indices, allowing comparison across years.

However, in 2017, because of the significant update to the dimensions and indicators comprising the Opportunity Index, we recalculated the relationship between final numerical values and Opportunity Grade assignments. New cut-off points for assigning grades were based on the distribution of numerical scores of the updated Opportunity Index in 2016 for counties and county equivalents. Grades in the 2017 Index and subsequent releases were assigned according to these new cut-off points. Thus, it is valid to compare county grades between the updated 2016 Index and subsequent Index releases. Opportunity Grades from 2011 to 2015 were based on the 2011 cut-off points, so county grades from these years (or from the original 2016 Index) should not be compared with those from the updated 2016 Index or later Indexes. The assignment of county-level Opportunity Grades, based on the standardized scores is summarized in the table below.

Table 3. County Opportunity Grade assignments based on standardized scores

Opportunity Grade	Minimum Standardized Score (rounded)	Maximum Standardized Score (rounded)
A+	80.0	100.0
A	67.5	79.9
A-	64.0	67.4
B+	60.5	63.9
B	57.1	60.4
B-	53.6	57.0
C+	50.1	53.5
C	46.6	50.0
C-	43.1	46.5
D+	39.6	43.0
D	36.2	39.7
D-	32.7	36.1
F	0.0	32.6

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[4] These indicators are volunteering, voter registration and incarceration rate, all within the Community dimension.

Data Notes

Given the large number of geographic areas and the many indicators that comprise the Opportunity Index, it is not surprising that there are instances of missing data. If a county is missing data for more than two indicators, or for two or more indicators within the same dimension, then an Opportunity Grade is not calculated for that county.[5] If a county is missing data for one or two indicators, with no more than one missing indicator per dimension, then the rescaled state average is substituted for the missing data point. Of a total of 3,142 counties and county equivalents, 1,077 counties were excluded from the 2018 Opportunity Index due to missing or unreliable data. Missing data was highest for the low birthweight and broadband internet indicators.

Most indicators in the Opportunity Index are based on survey data; thus, they are statistical estimates and may be subject to sampling and non-sampling error. Differences in dimension scores, Opportunity Scores and Opportunity Grades between different geographic areas and across different years are not necessarily statistically significant, and comparisons should be made with caution.

Opportunity Index Data Sources

The indicators that comprise the Opportunity Index are derived from a number of sources: Census Bureau data and statistics compiled by reputable nonprofit organizations.

A note on data lag: Because it takes time for agencies to validate and prepare their data for public release, the indicators comprising the Opportunity Index are subject to data lags of varying length. The lag represents the time between the year the data were collected and the Index year.

Economy

Jobs
• **Definition:** The total number of people without jobs who actively looked for work within the four weeks preceding the April survey, and were available to take a job, as a percentage of the total number in the labor force (those working or unemployed but seeking work).   • **Source:** Bureau of Labor Statistics, Local Area Unemployment Statistics and news releases (http://www.bls.gov/lau/)   • **Years:** 2019 Index refers to April 2019.   • **Note:** Rates are not seasonally adjusted.   • **Relevance:** Economies with large disparities in access to good jobs are associated with rising dependence on social safety nets, disruptions of local job networks, and decline in mental and physical health. Lower unemployment rates correlate with better health and well-being, better community and family structure, and better economic growth. [6]

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[5] For a county missing data for two or more indicators in the same dimension, a Dimension Score for that dimension is not calculated.
[6] Nichols, A., Mitchell, J., & Lindner, S. (2013). *Consequences of long-term unemployment.* Washington, DC: The Urban Institute.

Wages

- **Definition:** Median household income. The income level that falls at the midpoint of the total distribution of households, ranked from highest to lowest. Household income includes work earnings from jobs or self-employment, as well as income from interest, dividends, rent, Social Security, pension payments, unemployment compensation, cash welfare benefits and other forms of money regularly received by any member of the household.
- **Source:** U.S. Census Bureau, American Community Survey (https://data.census.gov/cedsci/).
- **Years:** 2019 Index refers to 2017 data; 2020 Preview refers to 2018 data.
- **Note:** Because income is not distributed evenly across households, the average (mean) is much higher than the median, and thus the median is generally considered to give a fairer picture of income for a "typical" household. To adjust for inflation and facilitate year-to-year comparisons, income figures in the Opportunity Index are presented in 2010 dollars. In the 2019 Opportunity Index, median household income data at the state level refer to 2017; for counties, data refer to the average of 2013–2017. In the 2020 preview, median household income data at the state level refer to 2018; for counties, data refer to the average of 2014-2018. Because households may include individuals of more than one gender, race or ethnic background, this indicator is not disaggregated by gender or race/ethnicity.
- **Relevance:** Median household incomes correlate positively with socioeconomic status, although correlation varies by state and locality as certain areas have different costs of living. Neighborhoods within the same state with higher median household income can be indicative of a higher quality of life,[7] better infrastructure,[8] increased access to health care, better access to banking and loans due to higher credit scoring,[9] and better educational opportunities.[10]

Poverty

- **Definition:** Percentage of people of all ages living with family incomes below the federal poverty line.
- **Source:** U.S. Census Bureau, American Community Survey (https://data.census.gov/cedsci/).
- **Years:** 2019 Index refers to 2017 data; 2020 Preview refers to 2018 data.
- **Note:** The federal poverty line is the amount of pretax cash income considered adequate for an individual or family to meet basic needs. It is updated annually for inflation, based on Consumer Price Index changes, and is adjusted for family size and composition. In 2017, a four-person family with two children would be considered to live in poverty at an income less than $24,858. Poverty rate data in the 2019 Opportunity Index for states and the nation refer to 2017; county data refer to the average of 2013–2017. For the 2020 preview, the 2018 poverty threshold was used. A four-person family with two children would be considered to live in poverty at an income less than $25,100. Poverty rate data for states and the nation refer to 2018; county data refer to the average of 2014-2018. This indicator is disaggregated by race/ethnicity and gender in the 2019 Opportunity Index and 2020 preview.

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[7] Kahneman, D., & Deaton, A. (2010). High income improves evaluation of life but not emotional well-being. *Proceedings of the national academy of sciences*, *107*(38), 16489-16493.

[8] Suecoff, S. A., Avner, J. R., Chou, K. J., & Crain, E. F. (1999). A comparison of New York City playground hazards in high-and low-income areas. *Archives of pediatrics & adolescent medicine*, *153*(4), 363-366.

[9] Frame, W. S., & Woosley, L. (2004). Credit scoring and the availability of small business credit in low-and moderate-income areas. *Financial Review*, *39*(1), 35-54.

[10] Owens, A., & Candipan, J. (2019). Social and spatial inequalities of educational opportunity: A portrait of schools serving high-and low-income neighbourhoods in US metropolitan areas. *Urban Studies*, *56*(15), 3178-3197.

Poverty, cont.

- **Relevance:** High poverty rates affect multiple facets of an economy, such as overall earnings later in life, increases in crime, and lower health quality. Ideally, the lower the poverty rate in a community, the greater chance an individual has at succeeding in life. [11]

Income inequality

- **Definition:** 80/20 ratio (ratio of household income at the 80th percentile of income to that of the 20th percentile). The 80/20 ratio is a measure of income inequality describing the disparity in income between the household at the 80th percentile of income and the household at the 20th percentile. The 80/20 ratio for the United States is 4.9, meaning that the wealthiest fifth of households (those at the 20th percentile) have incomes nearly five times higher than those of households in the poorest fifth (the 80th percentile).
- **Source:** U.S. Census Bureau, American Community Survey (https://data.census.gov/cedsci/).
- **Years:** 2019 Index refers to 2017 data; 2020 Preview refers to 2018 data.
- **Note:** 80/20 ratio data in the 2019 Opportunity Index for states and the nation refer to 2017 income; data for counties use the average of 2013–2017 income. Nation and state data refer to 2018 in the 2020 preview; data for counties refer to the average of 2014-2018. Because households may include individuals of more than one gender, race or ethnic background, this indicator is not disaggregated by gender or race/ethnicity.
- **Relevance:** Economies with greater disparities in household incomes are associated with poorer health and well-being,[12] weaker economic growth,[13] and increased community violence.

Access to banking services

- **Definition:** The number of commercial banks, savings institutions and credit unions per 10,000 residents.
- **Source:** Child Trends' analysis of data from the U.S. Census Bureau, County Business Patterns (https://www.census.gov/programs-surveys/cbp.html) and Population Estimates (https://www.census.gov/programs-surveys/popest.html).
- **Years:** 2019 Index refers to 2017 data
- **Note:** Banking institutions included in this indicator include those with the following NAICS codes: 522110, 522120 and 522130. In the 2019 Opportunity Index, data for this indicator refer to 2017. Because banking institutions may serve individuals of more than one gender and racial/ethnic background, this indicator is not disaggregated by those characteristics.
- **Relevance:** This indicator reflects access to banking institutions. Being unbanked (not having a checking or saving account), or under banked (having an account but using services such as check cashing or payday loan), results in the use of alternative financial services that charge high fees and can contribute the cycle of poverty. Physical access remains important even as use of mobile banking and online banking has increased because both banked and unbanked households regularly report using physical branches. Both banked and unbanked households can benefit from more accessible institutions and education about banking services.[14]

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[11] Holzer, H., Schanzenbach, D. W., Duncan, G. J., & Ludwig, J. (2007). The economic costs of poverty in the United States: Subsequent effects of children growing up poor. *Washington, DC: Center for American Progress*.

[12] Kahn, R. S., Wise, P. H., Kennedy, B. P., & Kawachi, I. (2000). "State income inequality, household income and maternal mental and physical health: Cross-sectional national survey." *BMJ, 321*, 1311–1315.

[13] Standard & Poor's Rating Services. (2014). *How increasing income inequality is dampening U.S. economic growth, and possible ways to change the tide*. Retrieved from http://www.ncsl.org/Portals/1/Documents/forum/Forum_2014/Income_Inequality.pdf.

[14] Apaam, G., Burhouse, S., Chu, K., Ernst, K., Fritzdixon, K., Goodstein, R., & Weinstein, J. (2017). FDIC national survey of unbanked and underbanked households. *Federal Deposit Insurance Corporation*.

Affordable housing

- **Definition:** The percentage of households spending less than 30 percent of their income on rent and utilities (for households who rent), or on mortgage payments and other housing-related costs, such as real estate taxes or condo fees (for those who own homes).
- **Source:** U.S. Census Bureau, American Community Survey (https://data.census.gov/cedsci/).
- **Years:** 2019 Index refers to 2017 data; 2020 Preview refers to 2018 data
- **Note:** A widely accepted cut-off for housing affordability is housing-related costs that are no more than 30 percent of household income. Housing units for which costs and/or household income could not be determined are excluded from the calculation. For the nation and states, data refer to 2017; data for counties refer to 2013–2017. Nation and state data refer to 2018 in the 2020 preview; data for counties refer to the average of 2014-2018. Because households may include individuals of more than one gender, race or ethnic background, this indicator is not disaggregated by gender or race/ethnicity.
- **Relevance:** Affordable housing can have a range of effects on local economies that can reverberate throughout the community, affecting employment, family health and wellbeing, and school performance in children.[15] Communities where a smaller percentage of the populations spend more than 30% of their income spend more within their local economies and see a reduced amount of property foreclosures.

Broadband internet subscription

- **Definition:** The percentage of households with subscriptions to broadband internet service (including both cable and DSL).
- **Source:** U.S. Census Bureau, American Community Survey (https://data.census.gov/cedsci/)
- **Years:** 2019 Index refers to 2017 data; 2020 Preview refers to 2018 data
- **Note:** Broadband internet data in the 2019 Opportunity Index are from 2017 and data for the 2020 preview are from 2018. Because households may include individuals of more than one gender, race, or ethnic background, this indicator is not disaggregated by gender or race/ethnicity.
- **Relevance:** Increasing broadband infrastructure in a community can have positive effects on the economic growth of the locality, either by increasing the GDP [16] or by positively influencing the labor markets across the community through increased connectivity outside of physical spaces (this is most apparent in rural areas).[17]

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[15] Wardrip, K., Williams, L., & Hague, S. (2011). The role of affordable housing in creating jobs and stimulating local economic development. *Journal of Planning Literature*, *21*(4), 371-385.

[16] Czernich, N., Falck, O., Kretschmer, T., & Woessmann, L. (2011). Broadband infrastructure and economic growth. *The Economic Journal*, *121*(552), 505-532.

[17] Prieger, J. E. (2013). The broadband digital divide and the economic benefits of mobile broadband for rural areas. *Telecommunications Policy*, *37*(6-7), 483-502.

Education

Preschool enrollment

- **Definition:** The percentage of children, ages three and four, enrolled in public or private nursery school, preschool or kindergarten.
- **Source:** U.S. Census Bureau, American Community Survey (https://data.census.gov/cedsci/).
- **Years:** 2019 Index refers to 2017 data; 2020 Preview refers to 2018 data
- **Note:** In the 2019 Opportunity Index, data on preschool enrollment for states and the nation refer to 2017; data for counties refer to the average of 2013–2017. The 2020 preview uses national and state-level data from 2018 and county-level data from 2014-2018. For both the 2019 Opportunity Index and the 2020 preview, this indicator has been disaggregated by gender and racial/ethnic background.
- **Relevance:** The benefits of education begin in early childhood when participation in a good-quality childcare or preschool program gives children a head start on the social, emotional, and learning skills they will need in school and beyond. In addition, increased pre-school enrollment has positive effects across the socioeconomic spectrum, such as increased active engagement of playing and reading between mother and child, and reduced spending on child-care. Additionally, increases in preschool enrollment result in increased lifetime earnings and reduced crime and reliance on public assistance.[18]

High school graduation

- **Definition:** The percentage of high school freshmen who graduate after four years of high school.
- **Source:** National and state data are from EDFacts' Adjusted Cohort Graduation Rate (ACGR) (https://www2.ed.gov/about/inits/ed/edfacts/data-files/index.html); county data are taken from the Robert Wood Johnson Foundation's County Health Rankings' analysis of school district-level ACGR data from the EDFacts site (http://www.countyhealthrankings.org/resources/2017-chr-measures-data-sources-and-years).
- **Years:** 2019 Index refers to 2017 data; 2020 Preview refers to 2018 data

- **Note:** The ACGR is calculated as "the number of students who graduate in four years with a regular high school diploma, divided by the number of students who form the adjusted cohort of the graduating class. From the beginning of 9th grade (or the earliest high school grade), students who are entering that grade for the first time make up a cohort that is 'adjusted' by adding any students who subsequently transfer into the cohort and subtracting any students who subsequently transfer out, emigrate to another country or die."[19] National and state-level data for this indicator refer to the 2016-17 school year for the 2019 Opportunity Index and the 2017-2018 school year for the 2020 preview. County-level data for the 2019 Index refer to the 2017-2018 school year, and the 2020 preview data is unavailable for counties. Data for this indicator are disaggregated by racial/ethnic background, but not gender, in the 2019 Index and the 2020 preview. Prior to 2015, the Opportunity Index used a different measure, the Average Freshmen Graduation Rate, that is not comparable to the ACGR. The Department of Education stopped updating the Average Freshman Graduation Rate in 2012, adopting the ACGR as their preference, which is the indicator used in the Index since 2015.

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[18] Cascio, E. U., & Schanzenbach, D. W. (2013). *The impacts of expanding access to high-quality preschool education* (No. w19735). National Bureau of Economic Research.

[19] U.S. Department of Education. (2015). *Regulatory Four-Year Adjusted Cohort Graduation Rates - School Year 2013-14, EDFacts Data Documentation*. Washington, DC: U.S. Department of Education. Retrieved from http://www.ed.gov/edfacts.

High school graduation, cont.

- **Relevance:** Exiting high school without a degree can result in significant challenges for individuals throughout their lives, such as by increasing the likelihood of being unemployed, increasing the probability of living below the poverty line, increasing the likelihood of teen pregnancy, and negative effects on health and wellbeing. [20]

Post-secondary education

- **Definition:** The percentage of adults ages 25 and older who have completed an associate's degree or higher.
- **Source:** U.S. Census Bureau, American Community Survey (https://data.census.gov/cedsci/).
- **Years:** 2019 Index refers to 2017 data; 2020 Preview refers to 2018 data
- **Note:** For the 2019 Index, data for states and the nation refer to 2017; county-level data refer to 2013–2017. The 2020 preview uses national and state-level data from 2018 and county-level data from 2014-2018. Disaggregated data, by gender and racial/ethnic background, are also available for the 2019 Opportunity Index and the 2020 preview.
- **Relevance:** Educational attainment, and its related skills, are associated with greater lifetime earnings and better health and life satisfaction.[21]

Health

Low birth weight

- **Definition:** The percentage of live births where the infant weighed less than 2,500 grams (approximately 5 lbs., 8 oz.).
- **Source:** CDC WONDER (https://wonder.cdc.gov/natality-current.html)
- **Years:** 2019 Index refers to 2017 data; 2020 Preview refers to 2018 data
- **Note:** The 2019 Index data for states and the nation refer to 2017; data for counties refer to the average of 2013–2017. In the 2020 preview, state and nation level data refer to 2018 and, for counties, the average of 2014-2018 is used. Data disaggregated by mother's racial/ethnic background are included in the 2019 Index and the 2020 preview.
- **Relevance:** Infants born with low birth weight can live lives with increased negative effects when compared to their normally weighted counterparts. Low birth weight can be connected to difficulties in physical and social functioning,[22] as well as an decrease in overall mental health.[23]

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[20] Messacar, D., & Oreopoulos, P. (2013). Staying in school: A proposal for raising high-school graduation rates. *Issues in Science and Technology, 29*(2), 55-61.

[21] 2016). *Educational attainment*. Bethesda, MD: Child Trends. Retrieved from https://www.childtrends.org/wp-content/uploads/2016/12/06_Educational_Attainment.pdf.

[22] Zwicker, J. G., & Harris, S. R. (2008). Quality of life of formerly preterm and very low birth weight infants from preschool age to adulthood: a systematic review. *Pediatrics, 121*(2), e366-e376.

[23] Mathewson, K. J., Chow, C. H., Dobson, K. G., Pope, E. I., Schmidt, L. A., & Van Lieshout, R. J. (2017). Mental health of extremely low birth weight survivors: a systematic review and meta-analysis. *Psychological bulletin, 143*(4), 347.

Health insurance coverage

- **Definition:** The percentage of the population under age 65 not covered by health insurance.
- **Source:** U.S. Census Bureau, American Community Survey (https://data.census.gov/cedsci/)
- **Years:** 2019 Index refers to 2017 data; 2020 Preview refers to 2018 data
- **Note:** Data for states and the nation refer to 2017 in the 2020 Opportunity Index; data for counties refer to the average of 2013–2017. The 2020 preview uses national and state-level data from 2018 and county-level data from 2014-2018. Disaggregated data, by gender and racial/ethnic background, are also available for the 2019 Opportunity Index and the 2020 preview. To capture important disparities in senior health insurance coverage, disaggregated data also include individuals over the age of 65
- **Relevance:** Increased health insurance coverage can be linked to increase in access to care,[24] and greater access to treatments for chronic illnesses[25] and overall better health outcomes.

Deaths related to alcohol/drug use or suicide

- **Definition:** The age-adjusted number of deaths, per 100,000 population, due to poisoning from drugs (including recreational and prescription drugs) or alcohol, or suicide.
- **Source:** CDC WONDER (https://wonder.cdc.gov/ucd-icd10.html)
- **Years:** 2019 Index refers to 2017 data; 2020 Preview refers to 2018 data
- **Note:** This indicator refers to several reported underlying causes of death compiled by CDC Wonder. The following ICD-10 codes are included: X40-X45, X60-X84 and Y10-Y15. Age-adjusting accounts for localities' variation in their age composition. In the 2019 Opportunity Index, data for states and the nation refer to 2017; data for counties refer to the average of 2013–2017. State-level and national data for the 2020 preview refer to 2018, and county data refer to the average of 2014-2018. Data are available disaggregated by gender and racial/ethnic background for the 2019 Opportunity Index and 2020 preview.
- **Relevance:** Deaths of despair reflect personal and social struggles that may plague individuals in certain communities. Some areas can be ravaged by substance abuse (whether through alcoholism or narcotics use) while also showing decreases in mental health and stability due to job loss, financial stress, and other anxieties. The combination of these features points towards a decrease in opportunity for individuals that can have long lasting effects on their community as well. [26]

Community

Volunteering

- **Definition:** The percentage of adults ages 18 and older who reported performing volunteer work through or for an organization at any time in the previous year.
- **Source:** Child Trends' analysis of data from the U.S. Census Bureau, Current Population Survey and Volunteering Supplement. Due to sample-size limitations of the survey data, this indicator is calculated at the national and state levels only.
- **Years:** 2019 Index refers to averages of 2015 and 2017 data (same as 2018)

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Volunteering, cont.

- **Note:** Two years of survey responses were pooled to increase the sample available for analysis. This makes for more stable estimates.
  - More recent data from the Current Population Survey and Volunteering supplement was not available at the time of index generation, so data in the 2019 Opportunity Index refer to the average of 2015 and 2017, the same years used in the 2018 Opportunity Index. Data disaggregated by gender and racial/ethnic background are included in the 2019 Index.
  - This indicator was updated slightly for the 2018 Opportunity Index and draws from two survey questions: "In the past 12 months, did you spend any time volunteering for any organization or association?" and "Some people don't think of activities they do infrequently or for children's schools or youth organizations as volunteer activities. In the past 12 months, have you done any of these types of activities?
  - In 2016 and 2017, the questions this indicator drew from had different wording: "Since September 1 of last year, have you done any volunteer activities through or for an organization?" and "Sometimes people don't think of activities they do infrequently or activities they do for children's schools or youth organizations as volunteer activities. Since September 1 of last year, have you done any of these types of volunteer activities?" Prior to 2016, this indicator relied on the single question, "Since September 1 of last year, have you done any volunteer activities through or for an organization?"
- **Relevance:** Volunteering amongst people of all ages has a positive correlation with an individual's well-being through increasing the health and well-being[27] of older adults and improving academic and social skills of adolescents.[28] Increases in health and increases in educational attainment have also been shown to improve outcomes and opportunity in people's lives. Volunteering can also reflect community connectedness.

Voter registration

- **Definition:** The percentage of the adult population registered to vote.
- **Source:** U.S. Census Bureau, Voting and Registration (https://www.census.gov/data/tables/time-series/demo/voting-and-registration/p20-580.html)
- **Years:** 2019 Index refers to an average of 2016 and 2018 data
- **Note:** Historically, voter registration is higher in presidential election years than in midterm election years. This indicator is updated biannually so that each update provides a rolling average that includes the most recent presidential election year and midterm election year. Because of this, data in the 2019 Opportunity Index are the average of registration rates for 2016 and 2018. Because counties and congressional districts frequently follow different borders, this indicator is calculated at the national and state levels only. Data disaggregated by gender and some racial/ethnic backgrounds are included in the 2019 Opportunity Index.
- **Relevance:** Voting in elections, both locally and nationally, have long term effects on communities. Higher voter registration numbers indicate a high level of civic engagement.

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Youth Disconnection

- **Definition:** The percentage of the population ages 16 to 24 who are not enrolled in school and not working or not currently seeking employment.
- **Source:** Child Trends' analysis of data from the U.S. Census Bureau, American Community Survey, PUMS Microdata (https://www.census.gov/programs-surveys/acs/data/pums.html) and custom tabulations for county and county equivalents provided by special arrangement with the U.S. Census Bureau.
- **Years:** 2019 Index refers to 2017 ACS Data
- **Note:** Data in the 2019 Opportunity Index for states and the nation refer to 2017; data for counties refer to the average of 2013–2017. For the 2020 preview, national and state-level data are from 2018 and county-level data are from 2014-2018. Data disaggregated by gender and racial/ethnic background are included in the 2019 Index.
- **Relevance:** High rates of disconnection can be a result of growing up in a low opportunity area where crime and poverty are high. Areas with low disconnection are often those where education, wealth, and opportunities are higher.[29]

Violent crime

- **Definition:** Total number of violent crimes reported to local law enforcement agencies, per 100,000 people. Violent crimes include homicide, rape, robbery and assault.
- **Source:** State and national data are from the U.S. Department of Justice, Federal Bureau of Investigation Uniform Crime Reporting, Crime in the U.S. (https://ucr.fbi.gov/crime-in-the-u.s/); county data from the County Health Rankings analysis of data from the U.S. Department of Justice, Federal Bureau of Investigation Criminal Justice Information Services. County Health Rankings is a project of the University of Wisconsin Population Health Institute in collaboration with the Robert Wood Johnson Foundation. Crime data are based on report data provided by nearly 17,000 law enforcement agencies (LEAs) across the United States. Due to the number of reporting agencies, there is a reporting lag; not all LEAs report and some data reported may be incomplete.
- **Years:** 2019 Index national and state level data refers to 2017; 2019 Index county level data refer to an average of 2014 and 2016 data.
- **Note:** Data in the 2019 Opportunity Index for states and the nation refer to 2017. Because new data was unavailable for counties, the 2019 Index refer to the average of 2014 to 2016, which is the same as the 2018 Index. Because this indicator represents a population-level rate, data are not disaggregated by gender or race/ethnicity.
- **Relevance:** Violent crime is a symptom of inequality.[30] Areas with high poverty and decreased social support often fall into the categories of high crime areas as well.[31]

Access to primary care

- **Definition:** Number of primary care physicians per 100,000 population.
- **Source:** Bureau of Health Workforce, Area Health Resources Files (https://datawarehouse.hrsa.gov/data/datadownload.aspx)
- **Years:** 2019 Index refers to 2017 Data

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Access to primary care, cont.

- **Note:** Data in the 2019 Opportunity Index refer to 2017. State and national statistics for this indicator are derived from the county-level Area Health Resources Files. The number of primary care physicians includes non-federal physicians who are not currently in a residency program and who are younger than age 75. Because primary care physicians may serve patients of more than one gender or racial/ethnic background, this indicator is not disaggregated by those characteristics.

- **Relevance:** Increased access to primary care physicians can lead to increased access to care, resulting in living healthier lives and increased wellbeing amongst the communities. By having more primary care physicians available, more people can access medical care without taxing the system in place.[32]

Access to healthy food

- **Definition:** The number of supermarkets, grocery stores and produce stands per 10,000 residents.
- **Source:** Child Trends' analysis of data from the U.S. Census Bureau, County Business Patterns and Population Estimates Program (http://www.census.gov/econ/cbp/index.html and http://www.census.gov/popest/).
- **Years:** 2019 Index refers to 2017 Data
- **Note:** NAICS codes 445110 and 445230 are used to gather the number of supermarkets, grocery stores and produce stands. Data in the 2019 Opportunity Index refer to 2017. Because grocery stores and produce vendors may serve individuals of more than one gender or racial/ethnic background, this indicator is not disaggregated by those characteristics.
- **Relevance:** Increased access to grocery stores and fresh produce allow populations to eat healthier food and stay away from junk and unhealthy food that could have serious long-term effects on their health and wellbeing. Areas with very little access to supermarkets or fresh produces, or Food Deserts, are often found in lower income communities of color.[33]

Incarceration

- **Definition:** The number of people incarcerated in jails or prisons per 100,000 residents ages 18 and older.
- **Source:** Bureau of Justice Statistics, Correctional Populations in the United States (https://www.bjs.gov/index.cfm?ty=tp&tid=11).
- **Years:** 2019 Index refers to 2016 data
- **Note:** Updated data was not available for this indicator for the 2019 Opportunity Index, so it uses the same data as the 2018 Index. Updated data is anticipated for the 2020 Index. Data are available at the national and state level only. Data disaggregated by gender and ethnic background are provided for the 2018 Index.
- **Relevance:** Incarceration can have both short term and long terms effects. Some include increased psychological trauma,[34] as well as reduced employment opportunities down the line. Areas with high incarceration rates experience disruptions in family structure and employment networks, resulting in increased social costs for the community.[35]

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