

Inclusive Growth Score™ Methodology

INTRO

The Inclusive Growth Score is a public-access, web-based service that enables users to learn about measures of inclusion and growth within census tracts across the United States. The Score is a means by which users can benchmark existing levels of inclusion and growth within census tracts, and by which they can measure whether actions, policies, and investments increased or decreased measures of inclusive growth.

The map presents an Inclusive Growth Score for each census tract. The Score is based on 18 metrics from multiple data sources, including census data, firmographic data from 3rd parties, and anonymized and aggregated Mastercard transaction data (see [DATA SOURCES](#) for more details). The Score ranks a given census tract in comparison to census tracts across the country, within the same state, and the same level of urbanization as measured by the USDA Urban-Rural Continuum (see [BENCHMARKING](#) for more details). The higher a census tract's Inclusive Growth Score, the greater the composite parts of inclusion and growth (see [SCORE METHODOLOGY](#) below for more details)

SCORE METHODOLOGY

The Inclusive Growth Score is composed of three pillars: Place, Economy, and Community. Pillars are composed of Growth (level of change) and Inclusion (rate/distribution) metrics. The measures of Growth provide detailed views into how communities are changing over time. While measures of inclusion are static figures speaking to the accessibility of resources or community assets. For more details on which metrics classify as Growth and Inclusion, please see [PILLARS / METRICS](#) below.

The Inclusive Growth Score, Pillars, and underlying metrics are transformed into percentile ranks (0-100) relative to a user selected base (see [BENCHMARKING](#) for more details). To calculate the ranks, all census tracts are rank ordered according to the metric value. The Score is calculated by taking the tract's

relative position, divided by the total number of tracts in the benchmark, and multiplied by 100. An illustrative example of the calculation –

Track 1, Metric A's rank = 500
Total number of tracts in Track 1's State = 1000
Score = $500/1000 * 100 = 50$

The average score, as in the illustrative example above, is 50. Per metrics, the distribution of values varies greatly. Across the 18 metrics powering the Inclusive Growth Score, some metrics have even distributions, wide variation, and tight distribution.

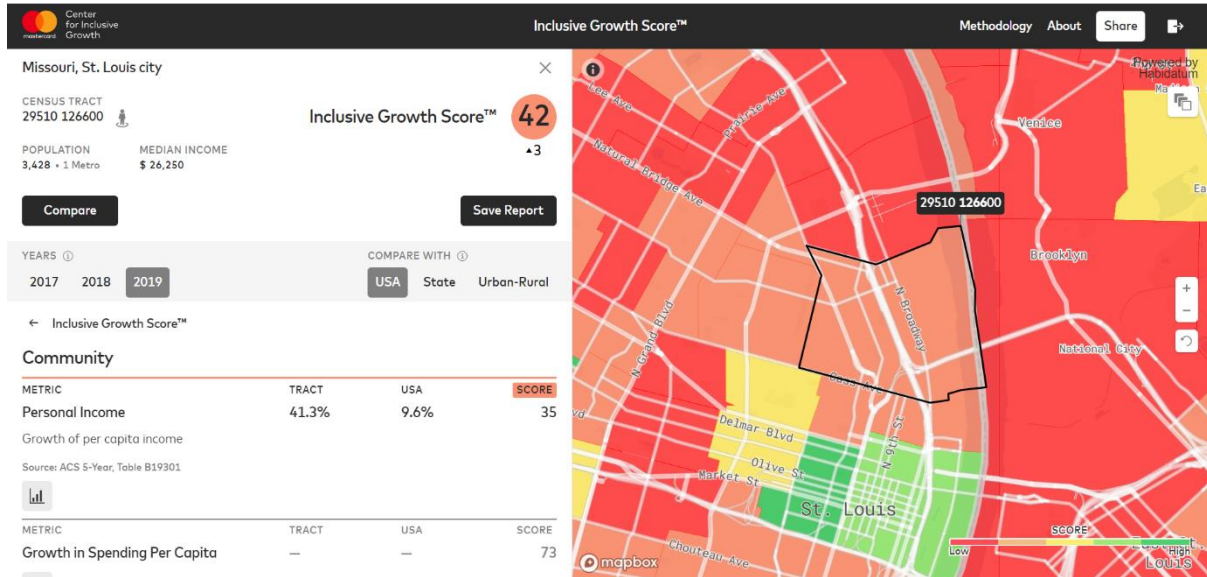
The Place, Economy, and Community Pillar values are the average value of the pillar's six metrics. The average of the metric percentiles across the three pillars (Place, Economy, and Community) produces the Inclusive Growth Score. Scores are distributed equally on the map into 5 equal color bins from red (lowest score) to green (highest score). Each color bin has an equal (1/5th) number of census tracts represented.

For Inclusion metrics the Score follows the ranking calculation detailed above. For Growth metrics, the score is a weighted average of the ranking in the base year (2017) and the ranking in the recent year.

$$Growth = \frac{1}{3} * Rank \text{ for Base Year} + \frac{2}{3} Rank \left(\frac{Recent \text{ Year} - Prior \text{ Year}}{Prior \text{ Year}} \right)$$

The weighting of the base year helps account for magnitudes of growth based on census tracts varying 'starting points' in recent years, beginning with IGS's starting year (2017). For example, census tracts with very little commerce will exhibit high magnitudes of growth (on the scale of +100%) as the starting level of commerce is so small, whereas more commerce heavy tracts will likely show slower progression. This calculation enables a measure of relative improvement, with a common anchor used for each new year of data available. As a result of this calculation, it is common to see Growth measures with metric values greater than the benchmark, but a Score lower than 50; this is a direct consequence of the baseline weighting detailed above. For example, per the screenshot below, Personal Income in St. Louis tract 29510126600 grew 41.3% from 2018 to 2019,

in comparison to the 9.6% average growth across the United States. The Personal Income Score is 35 – this indicates that though this community in St. Louis has seen substantial growth, the starting personal income was low.



For each of the 18 metrics, there is a Score as well as the underlying data, presented in the units of the measure, except for the two mastercard spending metrics where underlying values are not available.

The Inclusive Growth Score is constructed to deliver a yearly release. For metrics with missing years, data is pulled from the adjacent prior year. For ACS survey metrics, multi-year aggregation is applied to normalize the survey data and scores applied to the year following the latest survey date. For Mastercard data, metrics reflect the year selected. See [METRIC YEARLY FORMULA](#) for more information).

BENCHMARKING

Within the platform, the 'Compare With' functionality enables three calculations of the Score: USA, State, Urban – Rural. The Score ranks a given census tract in comparison to census tracts across the country, within the same state, and the same level of urbanization as measured by the USDA Urban-Rural Continuum.

The USDA Urban – Rural Continuum is a scale of 1 through 9 measuring the population size and metro designation of each county in the US.¹

- 1: Metro - Counties in metro areas of 1 million population or more,
- 2: Metro - Counties in metro areas of 250,000 to 1 million population,
- 3: Metro - Counties in metro areas of fewer than 250,000 population,
- 4: Nonmetro - Urban population of 20,000 or more, adjacent to a metro area
- 5: Nonmetro - Urban population of 20,000 or more, not adjacent to a metro area
- 6: Nonmetro - Urban population of 2,500 to 19,999, adjacent to a metro area
- 7: Nonmetro - Urban population of 2,500 to 19,999, not adjacent to a metro area
- 8: Nonmetro - Completely rural or less than 2,500 urban population, adjacent to a metro area
- 9: Nonmetro - Completely rural or less than 2,500 urban population, not adjacent to a metro area

Note: Puerto Rican census tracts only have the state benchmark (relative to Puerto Rico) figures for Spend Growth and Spending per Capita metrics.

¹ <https://www.ers.usda.gov/data-products/rural-urban-continuum-codes.aspx>

DATA SOURCES

[Mastercard](#) – Mastercard is a leading global payments & technology company that connects consumers, businesses, merchants, issuers & governments around the world. The Inclusive Growth Score includes insights based on Mastercard's anonymized and aggregated transaction and merchant location data

Leading POI (point of interest) data providers for firmographic data – POI providers have vital information on owner diversity and commercial diversity not publicly available or present in Mastercard's aggregated and anonymized transaction data

[TPL](#) – The Trust for Public Land (TPL) is a U.S. nonprofit organization with a mission to "create parks and protect land for people, ensuring healthy, livable communities for generations to come."

[PAD](#) – The U.S. Geological Survey Protected Areas Dataset (PAD) is America's official national inventory of U.S. terrestrial and marine protected areas that are dedicated to the preservation of biological diversity and to other natural, recreation and cultural uses, managed for these purposes through legal or other effective means. The Inclusive Growth Score limits PAD location that are Open Access, used to supplement the Trust for Public Land dataset.

[HUD](#) – The United States Department of Housing and Urban Development (HUD) is a Cabinet department in the Executive branch of the United States federal government. The Inclusive Growth Score uses HUD's Labor Force Engagement Index.

[ACS](#) – The American Community Survey (ACS) is the premier source for information about America's changing population, housing and workforce. The Inclusive Growth Score uses several data points from ACS including percentage of affordable housing and internet access.

[FFIEC](#) – The Federal Financial Institutions Examination Council (FFIEC) is a formal U.S. government interagency body composed of five banking regulators that is "empowered to prescribe uniform principles, standards, and report forms

to promote uniformity in the supervision of financial institutions". The Inclusive Growth Score leverages a metric on the change in number of business loans.

PILLARS / METRICS

PLACE

Housing, infrastructure, and the built environment

NET OCCUPANCY – Growth Metric

Percentage growth in population of renter and owner-occupied housing units

Source: ACS 5-Year, Table B25008

RESIDENTIAL REAL ESTATE VALUE – Growth Metric

Percentage growth of value of residential real estate

Source: ACS 5-Year, Table B25082

ACRES OF PARK LAND – Inclusion Metric

Percentage of designated tract land area that is park land

Source: Trust for Public Land, PAD-US

AFFORDABLE HOUSING – Inclusion Metric

Percentage of renter and owner-occupied housing units where monthly costs are lower than 30 percent of income

Source: ACS 5-Year, Table B25106

INTERNET ACCESS – Inclusion Metric

Percentage of households with an internet subscription

Source: ACS 5-Year, Table B28011

TRAVEL TIME TO WORK – Inclusion Metric

Percentage of workers with travel time to work under 35 minutes

Source: ACS 5-Year, Table B08303

ECONOMY

Business growth, jobs, and spending

NEW BUSINESSES – Growth Metric

Percentage growth of net new businesses based on anonymized and aggregated location data

Source: Mastercard Places

SPEND GROWTH – Growth Metric

Percentage growth of spending based on anonymized and aggregated indexed transaction data

Source: Mastercard GeoInsights

SMALL BUSINESS LOANS – Growth Metric

Percentage growth of the number of small business loans

Source: FFIEC

MINORITY/WOMEN OWNED BUSINESSES – Inclusion Metric

Percentage of minority or women-owned businesses out of all businesses

Source: Commercial Data Provider

LABOR MARKET ENGAGEMENT INDEX – Inclusion Metric

Index representing the combined employment, labor force participation, and percentage with bachelor's degree

Source: HUD, ACS 5-Year Table B23025

COMMERCIAL DIVERSITY – Inclusion Metric

Percentage of industries represented

Source: POI Provider

COMMUNITY

Economic and social conditions

PERSONAL INCOME – Growth Metric

Percentage growth of per capita income

Source: ACS 5-Year, Table B19301

SPENDING PER CAPITA – Growth Metric

Percentage growth of average spend per account based on anonymized and aggregated indexed transaction data

Source: Mastercard GeoInsights

GINI COEFFICIENT – Inclusion Metric

Gini coefficient of income inequality (lower coefficient denotes lower inequality) represented through a percentage

Source: ACS 5-Year, Table B19083

EARLY EDUCATION ENROLLMENT – Inclusion Metric

Percentage of population under the age of five enrolled in early education programs

Source: ACS 5-Year, Tables B14001, B01001

FEMALE ABOVE POVERTY – Inclusion Metric

Percentage of females living above the poverty

Source: ACS 5-Year, Table B17001

HEALTH INSURANCE COVERAGE – Inclusion Metric

Percentage of the eligible population with health insurance coverage

Source: ACS 5-Year, Table B27020

METRIC YEARLY FORMULAS

Title	Metric Type	2017	2018	2019	2020
NET OCCUPANCY	Growth	Growth: AVG 2014-2016 vs AVG 2011-2015 Base: AVG 2014-2016	Growth: AVG 2015-2017 vs AVG 2012-2016 Base: AVG 2014-2016	Growth: AVG 2016-2018 vs AVG 2013-2017 Base: AVG 2014-2016	Growth: AVG 2017-2019 vs AVG 2014-2016 Base: AVG 2014-2016
RESIDENTIAL REAL ESTATE VALUE	Growth	Growth: AVG 2014-2016 vs AVG 2011-2015 Base: AVG 2014-2016	Growth: AVG 2015-2017 vs AVG 2012-2016 Base: AVG 2014-2016	Growth: AVG 2016-2018 vs AVG 2013-2017 Base: AVG 2014-2016	Growth: AVG 2017-2019 vs AVG 2014-2016 Base: AVG 2014-2016
ACRES OF PARK LAND	Inclusion	2020	2020	2020	2020
AFFORDABLE HOUSING	Inclusion	AVG 2014-2016	AVG 2015-2017	AVG 2016-2018	AVG 2017 -2019
INTERNET ACCESS	Inclusion	AVG 2014-2016	AVG 2015-2017	AVG 2016-2018	AVG 2017 -2019
TRAVEL TIME TO WORK	Inclusion	AVG 2014-2016	AVG 2015-2017	AVG 2016-2018	AVG 2017 -2019
NEW BUSINESSES	Growth	Growth: 2018 vs 2017 Base: 2017	Growth: 2018 vs 2017 Base: 2017	Growth: 2019 vs 2018 Base: 2017	Growth: 2020 vs 2019 Base: 2017
SPEND GROWTH	Growth	Growth: 2017 vs 2016 Base: 2017	Growth: 2018 vs 2017 Base: 2017	Growth: 2019 vs 2018 Base: 2017	Growth: 2020 vs 2019 Base: 2017
SMALL BUSINESS LOANS	Growth	Growth: 2016 vs 2015 Base: 2017	Growth: 2017 vs 2016 Base: 2017	Growth: 2018 vs 2017 Base: 2017	Growth: 2019 vs 2018 Base: 2017
MINORITY/WOMEN OWNED BUSINESSES	Inclusion	2019	2019	2019	2020
LABOR MARKET ENGAGEMENT INDEX	Inclusion	AVG 2014-2016	AVG 2015-2017	AVG 2016-2018	AVG 2017 -2019
COMMERCIAL DIVERSITY	Inclusion	2019	2019	2019	2020
PERSONAL INCOME	Growth	Growth: AVG 2014-2016 vs AVG 2011-2015 Base: AVG 2014-2016	Growth: AVG 2015-2017 vs AVG 2012-2016 Base: AVG 2014-2016	Growth: AVG 2016-2018 vs AVG 2013-2017 Base: AVG 2014-2016	Growth: AVG 2017-2019 vs AVG 2014-2016 Base: AVG 2014-2016
SPENDING PER CAPITA	Growth	Growth: 2017 vs 2016 Base: 2017	Growth: 2018 vs 2017 Base: 2017	Growth: 2019 vs 2018 Base: 2017	Growth: 2020 vs 2019 Base: 2017
GINI COEFFICIENT	Inclusion	AVG 2014-2016	AVG 2015-2017	AVG 2016-2018	AVG 2017 -2019
EARLY EDUCATION ENROLLMENT	Inclusion	AVG 2014-2016	AVG 2015-2017	AVG 2016-2018	AVG 2017 -2019
FEMALE ABOVE POVERTY	Inclusion	AVG 2014-2016	AVG 2015-2017	AVG 2016-2018	AVG 2017 -2019
HEALTH INSURANCE COVERAGE	Inclusion	AVG 2014-2016	AVG 2015-2017	AVG 2016-2018	AVG 2017 -2019