



# Quality of Life

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## Content

The Quality of Life Index (QoLI) database is a block group and higher level database that combines many different sources to show where the best places are to live and do business. The database consists of a main index derived from five sub-indexes: economic, health, community, leisure and physical environment. These sub-indexes are based upon specific variables within each category.

## Methodology

The indexes are presented in two separate forms, the first as a 0-1000 score, and the second as a standard 100 based index.

At the block group level, each specific variable is ordered and ranked for all block groups and given a score from zero to 1,000.

The sub-indexes are averages of these ranks weighted by the importance of the specific variables. The main index is the weighted average of the sub-indexes as follows:

Economic	30%
Health	15%
Community	21%
Leisure	21%
Physical Environment	13%

At higher geography levels, the specific variable ranks, the sub-indexes and the main QoLI are all weighted averages based on the populations of the contained block groups (or partially contained block groups).

In the index version, the scores at each geographic level are balanced to a weighted index of 100 nationwide.



# Quality of Life

## Economic Sub-Index

The economic sub-index is the weighted average of rankings of various specific variables relating to income, cost of living, and employment.

The income variables are median household income for the current year (QLSCYMEDIN), change in median household income from 2010 to the current year (QLSCYINCHG), percentage of income from private sources (QLSCYPVTIN) and affluence (QLSCYAFFL).

- QLSCYMEDIN comes directly from our Estimates and Projections database, while QLSCYAFFL comes directly from our Applied Analytics database.
- QLSCYINCHG is a calculation: median household income for the current year minus median household income from 2010.
- QLSCYPVTIN is based on income variables and data from the American Community Survey (ACS).

The Cost of Living variables are general Cost of Living (QLSCYCOSTL), property tax (QLSCYPRTAX), local sales tax (QLSCYSATAX) and state income tax (QLSCYSTTAX).

- QLSCYCOSTL is a combination of analysis of costs for retail goods, shelter, gasoline (for automobiles) and utilities from various sources.
- QLSCYPTAX is calculated using data regarding average home prices and average property tax down at the block group level. If insufficient data was available at the block group level, data was taken for lowest level with data available, either tract, county, or state.
- QLSCYSATAX data comes a database of sales tax at the ZIP code level. The data was brought down to the block group level by cross-referencing block groups and ZIP codes.



# Quality of Life

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- QLSCYSTTAX amounts were calculated for each state by using each state's income bracket rates on the nationwide household by income array. Each state's income bracket rates come from a variety of government sources.

The employment variables are an unemployment rate for the current year (QLSCYUNEMP), change in unemployment from 2010 to the current year (QLSCYUNCHG), the index of dissimilarity of the local employment by industry (QLSCYINDDV), the employment stability value (QLSCYEMPST) and employment opportunity (QLSCYEMPTT).

- QLSCYUNEEMP comes directly from our Estimates and Projections database and represents the number of unemployed people 16+ in the labor force divided by the total number of people 16+ in the labor force including those in the armed forces.
- QLSCYUNCHG is a calculation: unemployment percentage for the current year minus unemployment percentage from 2000.
- QLSCYINDDV is a measure of how different the employment market within a 60-minute drivetime is from the overall labor market in the United States. The higher the index of dissimilarity, the more likely the employment market does not have a good balance of industries.
- QLSCYEMPST is a measure of the health of the industries in the employment market within a 60-minute drivetime. If growing industries are found in the employment market, ESV is higher, if less healthy industries are more represented ESV is lower.
- QLSCYEMPTT represents the total number of employees within a 60-minute drivetime. A higher number of employees means more employment opportunity.



# Quality of Life

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The health sub-index is the weighted average of various specific variables relating to incidence of chronic conditions & risk factors, general health, life expectancy, and availability of medical care.

The chronic condition & risk factor variables - Obesity Rate (QLSCYOBESE), Diabetes Rate (QLSCYDIAB), Cardiac Issues (QLSCYCARD), Cancer Rate (QLSCYCANCER), Depression (QLSCYDEPR), Asthma (QLSCYASMA), and General Health (QLSCYGNHLT) - were derived from CDC estimates at the census tract level (for all but one state and excluding small tracts). Statistical models were constructed at the tract level using the AGS Demographic Dimensions data as predictors. The resulting models were utilized at the block group level, and the results scaled to available state and county totals.

Life expectancy (QLSCYLIFEX) was estimated by utilizing the CDC estimates within a demographic model driven by the AGS Demographic Dimensions database. Results were scaled to published state estimates.

Hospital Access (QLSCYHOSPA) is an accessibility index for hospitals by number of employees within 60 miles of each block group, and Doctor Access (QLSCYDOCTA) is an accessibility index for physicians by number of employees within 30 miles of each block group.

## Community Sub-Index

The community sub-index is the weighted average of various specific variables relating to family makeup, school quality, higher learning education accessibility and crime.

The community variables are married couple family score (QLSCYMCF), Family Stability score (QLSCYFAMST), public school quality index (QLSCYSCHLQ), accessibility to local community colleges and to local universities (QLSCYCOMCL and QLSCYUNIV) and indexes of both personal and property crimes (QLSCYPERSC and QLSCYPROPC).

- QLSCYFAMST is a calculation using data from our Estimates and Projections database: (married population plus widowed population) divided by population that is or has been married.



# Quality of Life

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- QLSCYMCF is a calculation using data from our Estimates and Projections database: married couple family households with children divided by family households with children.
- QLSCYSCHLQ is based on school ratings derived from nationwide data from the National Report Card and school data provided by National Center for Education Statistics. Block groups were given a school quality index scores based on the standardized scores and student teacher ratios of the schools in close proximity.
- QLSCYCOMCL is an accessibility index for community colleges by number of employees within 30 miles of each block group.
- QLSCYUNIV is an accessibility index for universities by number of employees within 30 miles of each block group.

## Leisure Sub-Index

- QLSCYPERSC and QLSCYPROPC are personal and property crime rates, respectively, from our CrimeRisk database.

The leisure sub-index is the weighted average of various specific variables relating to walkability, cultural environment, retail environment, food environment and other leisure activity environment.

Walkability (QLSCYWALK) is based on three main factors: Street intersection density, proximity to public transit stops, and employment and household mix.

The scores for Cultural (QLSCYCULT), Leisure (QLSCTOTHL), Retail Shopping (QLSCYRETL), and Restaurants (QLSCTREST) are all accessibility indexes based on number and size of business locations in proximity to each block group.



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## Physical Environment Sub-Index

The physical environment sub-index is the weighted average of various specific variables relating to climate factors, natural hazards, air quality and population density.

The physical environment variables are climate index (QLSCYCLIMS), earthquake risk (QLSCYQUAK), weather risk (QLSCYWTHR), air quality index (QLSCYAQUAL) and population density (QLSCYPDENS).

- For QLSCYCLIMS one-fifth of the score is determined by the average high temperature month by month, one-fifth by the average low temperature month by month, one-fifth by the cooling degree days, one-fifth by the heating degree days and one-fifth by the average annual rainfall (absolute distance from 15") and the average annual snowfall.
- QLSCYQUAK and QLSCYWTHR come directly from our natural hazards risks database.
- QLSCYAQUAL is an average of the various air pollution indexes. These include ozone, carbon monoxide, lead NO2 and particulate matter.
- QLSCYPDENS is a calculation: current population divided by square miles.