

## GLOSSARY OF SUSTAINABILITY INDICATOR TERMS

**Accuracy:** Refers to how well your measurement of an object or phenomenon reflects its actual state. For example, it is important to have an accurate measurement of your feet in order to select well-fitting shoes. (See also **Bias, Precision and Validity.**)

**Baseline:** Accurate, quantitative data at a stated point in time which marks the beginning of a trend. If you begin to systematically track the property values in a neighborhood in January, 1970 and compare subsequent years' property values with that point, then 1970 is your baseline.

**Benchmark:** A point of reference or a standard against which measurements can be compared. The origin of the term benchmark can be traced historically to woodworking on a bench or table, where a mark was placed as a point of reference from which relative lengths could be measured. Its contemporary use refers to a land surveyor's starting reference point, which is officially recognized as the location and elevation at that point from which the surveyor can determine another location and elevation. In the context of indicators, a benchmark is an accurate data point which is used as a reference for future comparisons (similar to a baseline). Sometimes it also refers to "best practices" in a particular field, and communities compare themselves against those standards. For example, if the best recycling rate for communities in the state of Illinois is 33% of all homes in the jurisdiction, other communities in the state may use that figure as a benchmark to work toward or surpass. (Many groups use benchmark as a synonym **for Indicator or Target.**)

**Benchmarking:** The process of setting "benchmarks," which for the purposes of this project means identifying accurate historical data against with a data set can be compared now and in the future. In some cases the term has come to mean goals, which confuses participants in dialogue about indicators.

**Bias:** The systematic distortion of information, by over- or under -representation of certain kinds of persons or information sources, or by data interpretation with pre-determined expectation or desired outcomes, consciously or unconsciously. This distortion can have a number of underlying causes. One example is the use of telephone surveys, which systematically exclude those without telephones, and may result in drawing an inaccurate sample of the population.

**Correlation:** The extent to which two variables vary together (either in a positive or negative relationship). A positive correlation exists when one variable increases as the other increases. A negative correlation exists when one variable decreases as the other increases. For example, a positive correlation may exist between level of income and credit rating. A negative correlation may exist between level of income and rate of mortgage default. A fundamental principle of statistics is that correlation does not necessarily imply causation. This is easy to forget in the quest to understand relationships between different indicators. An easy way to remember this fallacy: a positive correlation may exist between the amount of graffiti in a neighborhood and the level of violent crime in that neighborhood, but the graffiti does not necessarily cause the violent crime and the absence of graffiti does not guarantee there will be no violent crime in the

neighborhood. In this scenario, additional variables such as employment rate, education level, and police services have to be considered. (See **Linkage**.)

**Comparability:** The extent to which an indicator measures the same thing across time or space. In 1950, the number of households in a given neighborhood with a television would have been an indicator of neighborhood prosperity. In 1990 the indicator would have little value.

**Data:** Individual measurements; facts, figures, pieces of information, statistics, either historical or derived by calculation, experimentation, surveys, etc.; evidence from which conclusions can be inferred.

**Disaggregation:** This does not usually refer to "undoing" the process of aggregating two or more indicators together into an index. Rather, it refers to breaking down a single indicator into subgroups of geographic or demographic variables. For example, instead of simply stating that 15% of people in your city live in poverty, you might break down the population by age, ethnicity or neighborhood of residence.

**Extrapolate:** A method for estimating new data points based on existing measurements, and thereby predicting trends. For example, if the data for 1994 and 1995 are 8 and 9 respectively, one could extrapolate from that data to estimate that in 1996 the figure might be 10. In this case since the extrapolation is over time it is also called **Forecasting**.

**Healthy and Sustainable Community:** A community that develops and maintains a strong quality of life for its residents through consideration of its long-term economic, ecological, social and political well-being.

**Index:** A weighted combination of two or more indicators. An index is designed to be a summary indicator which shows the general trend of a system. By combining a collection of indicators or data into an index, one can depict the general trend of a system, e.g., an "environmental index" that includes data about air quality, water quality, soil quality, etc. Another example is the Leading Index of Economic Indicators which is used to forecast economic activity. Also known as a "composite index."

**Index Number:** A ratio that shows percentage change over time. Usually a benchmark value is set at 100, and the value before and after that year is calculated as a percentage of the baseline. The Consumer Price Index is an example of an index number.

**Indicator:** A measurement that reflects the status of some social, economic, or environmental system over time. The term Indicator is derived from the Latin verb *indicare*, meaning "to point out or proclaim." Generally an indicator focuses on a small, manageable, tangible and telling piece of a system to give people a sense of the bigger picture.

**Interpolate:** A method for estimating data points that fall between points of actual measurement. For example, if the data for 1992 and 1994 are 5 and 10 respectively, one could interpolate from that data that the value was 7.5 (at the midpoint) in 1993.

**Key indicator:** One of a limited number of primary indicators that are supported by secondary indicators and provide an overall picture of the community.

**Leading Indicator:** An indicator whose value changes prior to a change in the larger system of which it is a component. For example, housing starts are often cited as a leading indicator, because home construction usually leads an upturn in the economy.

**Linkage:** A direct or indirect causal relationship between two or more systems, where changes in one affect the status of another. Linkages among systems are often reflected in the indicators that measure the health of those systems. Connections originate from actions, policies, projects, social conditions, economic forces, and environmental changes that affect two or more indicators.

**Mean:** The statistical average. An arithmetic mean is determined by adding up all the data and dividing that sum by the number of data points (n). For example, in the series 1, 2, 6, the arithmetic mean is 3.

**Median:** The figure in an array of data points that falls midway in the series between the highest and the lowest values. For example, in the series 1, 2, 6, the median is 2. (Note the distinction between median and mean.)

**Milestone:** According to Webster's, a milestone is a stone or pillar set up to show the distance in miles to or from a specified place, or when used figuratively, a significant event in history. In the context of indicators, a milestone is an intermediate goal used to evaluate progress toward a final set target. For example, the Minnesota Milestones report outlines 20 goals to achieve over the next 30 years, with more specific Milestones under each (79 in total) that will indicate progress toward that goal.

**Objective Indicator (Also known as a "Quantitative Indicator"):** An indicator based on counting observable phenomena. An objective indicator of crime might be robberies reported to police. Note that although the quantitative nature of an objective indicator gives it an air of precision or certainty, it is not necessarily more valid or accurate than a subjective indicator of the same system. (See **Subjective Indicator.**)

**Per Capita:** Latin for "by heads." A measurement that is presented in terms of units per person, as opposed to a total or aggregate figure.

**Performance Measurement:** Measurement of data that show the progress toward specific results that are the intended outcome of specific actions, thus providing a way to evaluate the actions.

**Precision:** The fineness of the measurement. Values from an instrument that measures parts per million are more precise than one which measures in parts per hundred. More precise measurements are not necessarily more accurate. (See **Accuracy and Bias.**)

**Quality of Life:** The level of enjoyment and fulfillment derived by humans from the life they live within their local economic, cultural, social, and environmental conditions. The Jacksonville Community Council defines quality of life as the "feeling of well-being, fulfillment, or satisfaction resulting from factors in the external environments." Quality of life, in this sense, is most directly measured using subjective indicators. However, objective indicators are often used to track the external conditions which affect quality of life.

**Reliability:** The extent to which a change in value of an indicator is caused by a change in what it measures and not due to measurement error. Reliability of polls or surveys is often an issue, since small changes in the wording of questions can elicit remarkably different responses.

**Report Card:** A document that summarizes a community's indicators. Report cards are commonly issued annually to the community at large to provide feedback on progress.

**Responsiveness:** How sensitive an indicator is to a change in the system it represents.

**Rolling Average:** A statistical technique for smoothing out data trends that are subject to aberrant fluctuations in the short term. For example, a three-year rolling average takes the current year's data and averages it with the two preceding years to minimize sudden dips or spikes that may not be typical of the trend. Quarterly interest rate averages serve as rolling averages of the interest rates for the months within the quarter.

**Stakeholder:** Participant in a community mobilization effort, representing a particular segment of society. School board members, environmental organizations, elected officials, chamber of commerce representatives, neighborhood advisory council members and religious leaders are all examples of local stakeholders.

**Subjective Indicator (Also known as a "Perceptual" or "Qualitative Indicator"):** An indicator that is based on individual community members perceptions of an issue. For example, instead of measuring public safety by the number of crimes in a neighborhood, a community might rely on surveys that report how safe community members feel after dark.

**Supporting Indicator:** A potentially more detailed or finely focused indicator, several of which, when combined, may support a key indicator.

**Sustainability:** A sustainable society is one that is healthy, vital, resilient, and able to creatively adapt to changing conditions over the long-term. Sustainable Seattle defines it as the long-term health and vitality of cultural, economic, environmental and social systems.

**Sustainable Development:** The United Nations World Commission on Environment and Development defines it as "development which meets the needs of the present without endangering the ability of future generations to meet their own needs" (Our Common Future, 1987). Sustainable Seattle describes it as economic and social changes that promote human prosperity and quality of life without causing ecological or social damage.

**System:** A set of actors or entities bound together by a set of rules and relationships into a unified whole. A system's health is dependent on the health of the whole pattern, which can sometimes be reflected (and thus measured) in the status of a key part of the system. (See **Indicator.**)

**Target:** An objective or goal. For example, air quality indicators usually involve air pollution targets such as particulate levels in parts per million.

**Time-series:** Measurements of a phenomenon collected over time and arranged in their order of occurrence.

**Trend:** A direction demonstrated through observation of data and/or indicators over time.

**Validity:** How well an indicator actually represents what one intends to measure. This is similar to accuracy but refers more to the relation between the measurement and its underlying concept. For example, doubts about the validity of the FBI's Crime Index as a measure of public safety led to the creation of the National Criminal Victimization Survey.