Green Metrics

Common Measures of Sustainable Economic Development

INTERNATIONAL ECONOMIC DEVELOPMENT COUNCIL

USDN | urban sustainability directors network

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Introduction

Too often, sustainability and economic development are viewed as mutually exclusive – yet one does not have to be sacrificed to achieve the other. In fact, in many situations, an investment in sustainability results in positive economic development outcomes, and vice versa. Another misconception is that sustainability relates only to the natural environment.

Sustainability is a broad term that means different things to different groups. At the International Economic Development Council's 2016 Annual Conference in Cleveland, Ohio, IEDC's Sustainability Advisory Committee and the Urban Sustainability Directors Network held a joint convening of economic development and sustainability directors. One outcome of that meeting was agreement on the following definition of sustainable economic development:

The investment in business, social, built, and natural environments that creates increasing prosperity for all, now and into the future.

Working with this definition, this paper is designed to help communities demonstrate and measure the economic development returns of investing in sustainability. Sustainability is not an easy concept to measure. Many aspects are intangible, but others can, in fact, be quantified. As performance metrics are a hallmark of any high-performing economic development organization, this paper attempts to bring similar rigor to the concept of sustainable economic development.

What follows is a compilation of the performance metrics or indicators most commonly found during a review of sustainability and economic development metrics used by 10 North American communities. Many (but not all) of these communities use the STAR Communities framework, which includes 500-plus measurable indicators to certify sustainable cities.[1] Some communities organize their metrics into online data portals, while others communicate progress in annual or semi-regular reports. Many also track certain indictors across peer cities in order to benchmark performance. The communities included in this paper represent diverse population sizes and geographic regions, and include:

Austin, Texas
Brookings, South Dakota
Cleveland, Ohio
Fort Collins, Colorado
Iowa City, Iowa
Madison County, New York
Santa Monica, California
West Palm Beach, Florida
Portland, Oregon
Vancouver, British Columbia

This report focuses primarily on metrics that communities of any size or budget can use. As well, most of the metrics can be used both by communities that have been engaged in sustainability efforts for a long time and those that are just getting started. Wherever possible, links are provided to sources where these data can be collected. Many are free and many come from federal databases, including the Census Bureau, the Bureau of Labor Statistics, and the Bureau of Economic Analysis.

[1] For more information, visit http://www.starcommunities.org/.

The metrics are organized into eight categories:

- **Local Economic Growth**
- **Local and Small Business Growth**
- **Greening Real Estate and the Built Environment**
- **Sustainable Workforce**
- **Transportation**
- **Equitable Growth**
- **Quality of Life**
- **Green Economy**

A number of the metrics could easily fall into more than one category; in adapting them locally, users are encouraged to choose those that are most applicable and to organize them in the way that best reflects their community's priorities and circumstances. Further, a list of "advanced metrics" is included toward the end of this document. Advanced metrics include those that are more difficult to collect or may require extra capacity from a community. All 59 metrics are listed in the chart below.

Local Economic Growth	Local & Small Business Growth	Greening Real Estate & the Built Environment	Sustainable Workforce	Equitable Growth	Transportation	Quality of Life	Green Economy
Unemployment Rate	Net New Business Establishments	Green-Certified Buildings	Population	Poverty	Public Transit Ridership	Cost of Living	Green Jobs
Labor Force Participation Rate	Firm Age	Renewable Energy	Educational Attainment	Median Household Income	Transit Access	Air Quality	Clean Tech
Gross Regional Product	Farmers Markets	Land Use Mix	Qualified Workers for Target Sectors	Proximity of Jobs to Low-Income Neighborhoods	Commuting Time	Water Quality, Quantity, Price	Recycling
Tax Revenue	Local & Sustainable Procurement	Brownfield Remediation	Workforce Training Programs	Living Wages	Vehicle Miles Travelled	Access to Parks & Green Space	Green Business Patents
Targeted Industry Development	Community Banks	Historic Preservation	Laborshed	Housing & Transportation Affordability	Commuting Patterns		Green Business Venture Capital
Sector Diversity	Small Business Loans/Technical Assistance	Blight Elimination		Food Security	Number/Miles of Bike Lanes		
	Buy Local Campaigns	Commercial Vacancy & Absorption Rate		Broadband Internet Access	Number/Miles of Complete Streets		
	Greening of Businesses' Operations	Employers per Acre		Benefit Corporations	Electric Vehicle Charging Stations		
	Greening of Industrial Operations	Sprawl					
	Sale of Local Foods	Walk Score					
	Retail Leakage	Overall Energy Efficiency					
		Transit-Oriented Development					

Metrics in red denote an advanced metric.

Local Economic Growth

These metrics, taken together, provide a picture of a community's economic sustainability. Conceivably, many additional metrics could have been included in this section; however, criteria were weighted toward future-oriented measures called for in this paper's definition of sustainable economic development. In other words, these metrics are meant to show the extent to which a community's economic structure and activity point toward progress over the long term.

Unemployment Rate: This measure – the percentage of people without a job who are looking for work – ideally is at or below state and national averages, or is generally decreasing (to the point of full employment).

Data source: Bureau of Labor Statistics, Local Area Unemployment Statistics (https://www.bls.gov/lau/).

Labor Force Participation Rate: This measure complements the unemployment rate to give a fuller picture of labor utilization. The labor force participation rate is the percentage of the 16-and-older civilian population that is working or looking for work (employed + unemployed / labor force). In many cases (but not all), a community's labor force participation rate should be at or above state and national averages.

Data source: Bureau of Labor Statistics, Local Area Unemployment Statistics https://www.bls.gov/lau/).

Gross Regional Product: Essentially the local equivalent to gross domestic product, GRP is the market value of final goods and services produced within a geography.

Data source: Bureau of Economic Analysis, GDP & Personal Income Interactive Data (https://www.bea.gov/iTable/index_regional.cfm).

Tax Revenue: An expanding tax base helps ensure that a community will be able to provide critical public services to residents and businesses into the future (including the ability to invest in sustainability and economic development initiatives).

Data source: Local department of revenue.

Targeted Industry Development: As communities work to leverage their competitive advantages for business growth, tracking the creation of new businesses and expansions of existing companies in target industries or sectors helps ensure a community's economic development programs are hitting their mark.

Data source: The U.S. Cluster Mapping Project offers useful data and visualizations (http://www.clustermapping.us/cluster). However, many other public and proprietary data sources also are available, such as the Census Bureau's County Business Patterns (https://www.census.gov/programs-surveys/cbp.html).

Sector Diversity: Just as important as measuring clusters or targeted industries is sector diversity. More diverse local economies are likelier to weather downturns in any one industry.

Data source: In addition to the data sources noted for targeted industry development, the Bureau of Labor Statistics, Quarterly Census of Employment and Wages – Industry can provide useful information (https://data.bls.gov/cgi-bin/dsrv?en). This can be expressed in terms of total employment or as a location quotient.

Growth of Local & Small Businesses

A critical component to any community's economic sustainability is a vibrant small business sector. The U.S. Small Business Administration defines small businesses as those with fewer than 500 employees, which account for 99.7 percent of all U.S. firms with paid employees. Small businesses also are responsible for 63 percent of net new jobs between 1992 and 2013.[2] In contrast to large firms, small businesses are less likely to relocate, and when one fails, the effect on the local economy is more muted. Several of the metrics in this section relate to concepts of import substitution and the increasing returns from locally circulated dollars. Of particular importance are metrics meant to assess access to capital for entrepreneurs and small businesses.

Net New Business Establishments: A healthy entrepreneurial ecosystem should lead to an increase in business establishments. A decline in business creation can signal that a community's small businesses require additional support.

Data source: The U.S. Census Bureau's County Business Patterns program provides sub-national economic data by industry type and is searchable by state, county, metropolitan area, and zip code (https://www.census.gov/programs-surveys/cbp.html).

Source: U.S. Small Business Administration, https://www.sba.gov/sites/default/files/Whats_New_With_Small_Business.pdf

Firm Age: Tracking the average age of local companies provides additional context about the business ecosystem. Generally, older firms are more stable, but a large presence of young firms signals a healthy startup environment. Although young firms have a higher rate of failure, recent research indicates they

[2] U.S. Small Business Administration, Office of Advocacy. "Frequently Asked Questions." Accessed March 13, 2017. https://www.sba.gov/sites/default/files/advocacy/SB-FAQ-2016_WEB.pdf

create more total jobs than older firms.[3] Knowing the age of a community's businesses can help better target economic development strategies to their needs.

Data Source: The U.S. Census's Business Dynamics Statistics offers data on firm age and other characteristics at the metropolitan statistical area-level (https://www.census.gov/ces/dataproducts/bds/).

Farmers Markets: Farmers markets achieve multiple economic development and sustainability goals simultaneously. Farmers markets source foodstuffs from regional farms, thus supporting local distributors, restaurants, and farmers. Additionally, local products travel shorter distances to consumers, thereby lowering carbon emissions. Further, farmers markets can provide access to healthy food in food-insecure neighborhoods.

Data source: Internal. In addition to the number of markets and their distribution throughout a city, some communities also track the number of months out of the year markets are open, how many days per week they are open, the number of vendors per market, and total sales.

Local and Sustainable Procurement: Many governments give preferential treatment to local businesses in purchasing and contracting. Local procurement can be measured in terms of a percentage or absolute number of procurement dollars. Local governments can set internal goals to increase local procurement from a current baseline or by benchmarking against other communities. Additionally, local governments may give additional preference to companies that offer sustainable products or services, or observe sustainable business practices.

Data source: Internal. USDN's Sustainable Procurement Playbook for Cities offers best practices in green purchasing (https://www.usdn.org/uploads/cms/documents/rpn-usdn-sustainable-purchasing-playbook-101216_final.pdf).

Community Banks: Local or regional banks, credit unions and other nonprofit lenders are more likely to loan to small businesses. From 2006 to 2014, small business loans from national banks declined by 38 percent.[4] For community banks, lines of credit are often informed by personal relationships. They are less inclined to make speculative, high-yield investment and instead prioritize smaller returns from loans to local businesses.

Data source: There are several free online sources to identify the number and location of community banks, but these should not be treated as exclusive. They include Bank Local (http://banklocal.info/) and

[3] Jason Wiens and Chris Jackson, "The Importance of Young Firms for Economic Growth." Ewing Marion Kauffman Foundation. September 13, 2015. http://www.kauffman.org/what-we-do/resources/entrepreneurship-policy-digest/the-importance-of-young-firms-for-economic-growth

[4] Ruth Simon. "Big Banks Cut Back on Loans to Small Business." Wall Street Journal. November 26, 2015. https://www.wsj.com/articles/big-banks-cut-back-on-small-business-1448586637

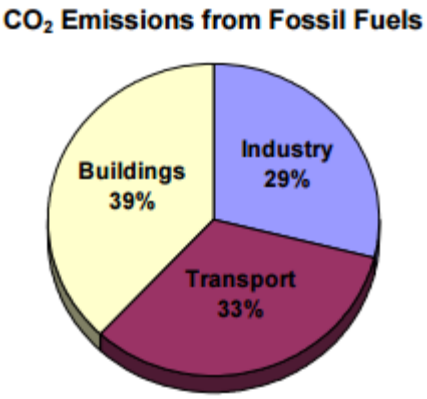
Independent Community Bankers of America's Community Bank Locator (http://www.icba.org/go-local/take-part/bank-locator). Also see the U.S. Small Business Administration's LINC tool (https://www.sba.gov/tools/linc?ms=rr) to identify SBA-approved lenders, and the CDFI fund's database of certified Community Development Financial Institutions (https://www.cdfifund.gov/Pages/FAQ.aspx).

Small Business Loans/Technical Assistance: Many communities and nonprofits operate their own small business financing programs and provide other forms of support, which come in the form of revolving loan funds, microloan programs, and grants. The size, number, and frequency of awards and assistance are all useful measures of program utilization (as well as the default rate for loan programs).

Data source: Internal.

Greening Real Estate & the Built Environment

Real estate and the built environment are perhaps the most visible areas in which sustainability and economic development overlap. Ensuring an adequate supply of commercial, office, and industrial space is a key role of economic developers. A greener built environment can be an enticement to businesses and workers for whom environmental sustainability is a value. In addition, energy efficiency measures have the potential to lower operating costs for businesses and to reduce governments' cost of providing services. Finally, efficient use and re-use of land and buildings often creates a more attractive, vibrant, and appealing environment, as well as reducing transportation costs and the impact of urban sprawl.



Source: U.S. Green Building Council, http://www.eesi.org/files/climate.pdf

Green-Certified Buildings: In the United States, buildings produce more CO2 than any other category of emitters. Buildings account for nearly 40 percent of all CO2 emissions, more than the industrial and transportation sectors.[5] Local governments can enact energy-efficiency policies and incentives that both reduce carbon emissions and save money on energy costs. There are a number of different ways to measure the change in the number of new or retrofitted green buildings.

- **LEED:** Leadership in Energy and Environmental Design (LEED) is a certification program managed by the U.S. Green Building Council. On average, LEED buildings use 25 percent less energy and reduce operating costs by 19 percent.[6] There are four levels of LEED certification with increasing standards and costs: Certified, Silver, Gold, and Platinum.

[5] "Benefits of Green Building." U.S. Green Building Council. April 1, 2016. Accessed March 6, 2017. http://www.usgbc.org/articles/green-building-facts.
[6] Ibid

Data source: USGBC's Directory enables users to find the number of LEED-certified buildings in their community. Several filters enable search by building type and residential vs. commercial (http://www.usgbc.org/projects).

- **Energy Star:** Energy Star is a certification program managed by the U.S. Environmental Protection Agency. Energy Star certifies energy-efficient commercial buildings, homes, industrial plants, and appliances. Energy Star's Portfolio Manager allows users to measure, track, and benchmark energy and water use. Facilities that score higher than 75 on Energy Star's 100 point scale are eligible for certification. Energy Star-certified buildings used 35 percent less energy on average.[7]

  Data source: "Find Facilities" allows users to determine the number of Energy Star-certified buildings by state, city, and zip code. Data can be filtered by building type (https://www.energystar.gov/index.cfm?fuseaction=labeled_buildings.locator).

- **Others:** Although the above two are the most common, there are many more green building certifications used throughout the world. Some may be more represented in your community than others. These include the American Council for an Energy-Efficient Economy (aceee.org), the Green Building Initiative's Green Globes Certification (thegbi.org), Enterprise Green Communities (enterprisecommunity.org), the International Living Future Institute's Living Building Certification (living-future.org), and the Home Innovation Research Labs National Green Building Standards (homeinnovation.com). Some states and cities have their own standards and certification programs.

Renewable Energy: An abundant, reliable supply of wind, solar, or hydroelectric energy reduces businesses' environmental impact. Further, the generation of renewable energy creates jobs in the process. In 2016, wind and solar energy production employed more than 475,000 Americans.[8] And not only does renewable energy continue to become more cost-competitive with fossil fuel sources, but many forward-thinking companies value green energy availability in their location decisions as part of corporate social responsibility goals.

Data source: Local utility or state energy department. Important sub-indicators for this measure are total supply (vs. fossil-fuel generated energy), adoption rate, and price compared to non-renewables.

Land Use Mix: Though there is no one right formula, communities ideally should have a diverse mix of land zoned for commercial, residential, industrial and other appropriate uses (agricultural, etc.) to provide a balanced mix of housing and jobs. The mix should be segregated to the extent that it protects both business and residential interests, yet not so much that it makes access to employment difficult

[7] The business case for energy efficiency. Energy Star. Accessed March 6, 2017 https://www.energystar.gov/buildings/about-us/how-can-we-help-you/build-energy-program/business-case.
[8] "U.S. Energy and Employment Report." U.S. Department of Energy. January 2017. https://energy.gov/sites/prod/files/2017/01/f34/2017%20US%20Energy%20and%20Jobs%20Report_0.pdf

from residential areas. Changing an area's zoning status is a complex, time-consuming process. It is especially difficult to regain industrial land once residential development has encroached. In addition, mixed-use zoning can reduce sprawl and provide closer access to jobs, services and amenities.

Data source: Local planning and zoning department.

Brownfield Remediation: Brownfield cleanup has the dual advantage of eliminating pollution while returning value to land that was previously a liability. In addition, brownfield cleanup is estimated to raise surrounding property values by 5 to 15 percent.[9] Communities may choose to track the total number of properties remediated, total acreage remediated, or total value of real estate returned to productive use.

Data source: "Cleanups in My Community" allows users to search for federally funded brownfield cleanup sites by state, city, and zip code. However, this source lacks data on state- and local-funded cleanups, which must be obtained in-house or from a state's environmental department (https://www.epa.gov/cleanups/cleanups-my-community).

Historic Preservation: Preserving historic buildings helps eliminate the CO2 emissions and waste that otherwise would result from demolition and the construction of a new building. Historic buildings support placemaking and heritage tourism goals, and adaptive reuse enables new, tax-generating purposes for old buildings. Most states have a historic tax credit program that offsets the cost of rehabilitating historic buildings, and the federal government offers tax credits as well. Massachusetts' credit is estimated to return $1.20 in new taxes for every dollar invested.[10] In addition to the number of buildings preserved, data on green retrofits of historic properties also is useful.

Data source: The National Park Service's National Register of Historic Places is a directory of nationally designated historic properties. NPS is in the process of digitizing its records, but one may request a physical document with this information (https://www.nps.gov/nr/research/). State historic preservation offices may have their own designations and more information accessible online. However, much information about historic preservation efforts is available only at the local level.

Blight Elimination: Vacant and dilapidated buildings drain the life out of neighborhoods. They can become dumping grounds for trash, place stress on city services, and have low taxable values. Tracking the number of properties or square feet demolished or rehabilitated, as well as the value of (or potential for) reuse, communicates a win for both sustainability and economic development.

Data source: Internal.

[9] Haninger, Kevin, et al., "The Value of Brownfield Remediation." *National Bureau of Economic Research*. July 2014. http://www.nber.org/digest/jan15/w20296.html

[10] "State Historic Tax Credit – Cost/Benefit Analysis." Urban Land Institute. May 23,2012. http://massinc.org/wp-content/uploads/2012/05/120523 - SHTC - Cost - Benefit - Analysis - of - 052312.ashx imgx.pdf

Commercial Vacancy and Absorption Rates: This metric acts much like the unemployment rate for the built environment. Tracking this information helps a community evaluate the demand for its building stock to ensure it is meeting the needs of companies.

Data Source: Local government and real estate brokers track this information, which also is available from commercial providers such as CoStar.

Employers per Acre: This is a simple calculation that can be done by dividing the number of business establishments by the size of your community, which can be broken down further by zip code or other boundaries. The number of employers per acre provides insight into the efficiency of land use, which has implications for both the cost of service provision by local government as well as distances employees must travel to work.

Data source: The U.S. Census Bureau's County Business Patterns program provides sub-national economic data by industry type and is searchable by state, county, metropolitan area, and zip code. (https://www.census.gov/programs-surveys/cbp.html).

Sprawl: Suburban development in the post-World War II era has followed auto-oriented patterns, but many cities are making efforts to encourage denser development, bringing jobs and people closer together. Denser communities typically require fewer vehicle miles travelled to meet daily needs, resulting in reduced carbon emissions.

Data source: Sprawl is difficult to quantitatively measure. However, Smart Growth America's "Sprawl Index" ranks 221 metropolitan areas and 994 counties on density and lack thereof (https://smartgrowthamerica.org/resources/measuring-sprawl-2014/).

Walk Score: In communities where people are able to walk to shop, work, go to school, or recreate, less reliance on automobiles reduces carbon emissions and improves health. Walkability also is a priority among many young professionals' choices of residence.

Data source: Walk Score provides a score on a 100-point scale to determine how easy it is for a resident to walk to the closest grocery store, school, park, businesses, and other amenities. Scores are available for an individual address, neighborhoods, and cities (http://walkscore.com).

Sustainable Workforce

A community's fortunes are tied to the education, well-being, and ultimately, the prosperity of its residents. Businesses and people are mutually dependent – businesses require skilled local labor and residents require jobs with good wages. Notably, of the factors that businesses evaluate when choosing

a location, the strength of the local workforce has steadily grown in importance in recent years.[11] Ultimately, a sustainable workforce is required for a community to have a sustainable economy.

Population: Cities track the number of residents for many reasons. Just as a rapid boom can lead to sprawl and congestion, decline can erode the tax base and contribute to blight. Important too is age distribution, as a graying population can lead to workforce shortages, as well as decreased tax revenues and increased spending on services.

Data source: U.S. Census Bureau American FactFinder (https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml).

Educational Attainment: Economic prosperity is highly correlated with educational achievement, as lifetime earnings grow in proportion to degrees attained. By some estimates, 65 percent of all U.S. jobs will require postsecondary education by 2020.[12] The Census has data on high school graduation rates as well as associate's, bachelor's, and advanced degree holders.

Data source: U.S. Census Bureau American FactFinder (https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml).

Qualified Workers for Target Sectors: This is a more specific measure of workforce skills than overall educational attainment. By tracking the number of workers with industry-recognized certificates and skills, economic developers can communicate workforce strength to prospective businesses.

Data source: Internal. Economic Modeling Specialists Intl. (EMSI) provides fee-for-use software that can acquire this information (http://www.economicmodeling.com/workforce-development/).

Workforce Training Programs: To ensure that a qualified workforce exists for target sectors, economic and workforce developers must ensure applicable training programs are available and being utilized. Areas with higher unemployment especially should monitor these numbers. These data can include an inventory of the training programs available for target sector employment, the number enrollees, certificates awarded, and the number of graduates who obtain employment in the sector they trained for.

Data source: Local training providers and workforce development entities.

Laborshed: A laborshed analysis shows the area from which an employment center draws its workers. An analysis can identify whether residents must commute long distances to find work, or if the local housing stock is inadequate for the number of jobs (i.e., large numbers of inbound commuters). It also can help gauge the environmental impact of the commuting patterns and show the impact of workers' residences on tax revenues.

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[11] Steve Stackhouse-Kaelble, "Critical Site Selection Factor #1: Availability of Skilled Labor." Area Development. Q4 2016. http://www.areadevelopment.com/skilled-workforce-STEM/q4-2016/skilled-labor-availability-site-selection-factor.shtml

[12] Anthony P. Carnevale, et. al., "Recovery: Job Growth and Education Requirements Through 2020." Georgetown University Center on Education and the Workforce, November 2014. https://cew.georgetown.edu/wp-content/uploads/2014/11/Recovery2020.ES_.Web_.pdf

Data source: The U.S. Census Bureau's Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics (LODES) database and OnTheMap application can be used to assess worker commuting patterns (https://lehd.ces.census.gov/data/ and https://onthemap.ces.census.gov/).

Equitable Growth

Core to the definition of sustainable economic development used in this paper is "social" investment, which should lead to equitable, shared prosperity among all members of a community (regardless of race, gender, educational attainment, etc.). IEDC research has noted that inequality is an impediment to economic development by decreasing output and earnings, weakening private-sector competitiveness, and reducing consumption.[13] Metrics in this section will help a community assess how well prosperity is shared among all residents.

Poverty: Poverty typically is measured by the number of households living below the federal poverty level, but other measures exist. The Census Bureau has a graduated scale to determine what income threshold constitutes the poverty level, based on family size. Information on methodology is available at https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html. Ideally, poverty levels will be lower than state and national averages, or decreasing generally.

Data source: U.S. Census Bureau, American FactFinder (https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml).

Median Household Income: This measure is a good indicator of a community's overall prosperity. As a median measure, it is insulated against extremes on either end of the income spectrum. A community's median household income ideally is higher than that at state and national levels, and/or increasing over time.

Data source: U.S. Census Bureau, American FactFinder (https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml).

Proximity of Jobs to Low-Income Neighborhoods: The overall unemployment figure for a community does not communicate job disparities at the neighborhood level. Low-income individuals often face transportation barriers, so the location of employment centers throughout a jurisdiction is key to ensuring that opportunities are accessible. Data on employers from the Census's County Business Patterns can be filtered down to the zip code and compared to zip-code level unemployment data from the Census FactFinder. Brookings outlines an alternative method of analysis using typical commute distances along with census tract data, detailed in a report titled "The Growing Distance Between People and Jobs in Metropolitan America" (https://www.brookings.edu/wp-content/uploads/2016/07/Srvy_JobsProximity.pdf).

[13] See the Economic Development Research Partners report "Opportunity for All: Strategies for Inclusive Economic Development."

Data source: U.S. Census Bureau, County Business Patterns (https://www.census.gov/programs-surveys/cbp.html) and American FactFinder (https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml).

Living Wages: In very few places does the federal minimum wage provide adequate income to cover an individual's or family's basic needs. A living wage is one that enables a household to cover the cost of food, housing, transportation, childcare, health insurance, and other basic necessities.[14] Comparing this figure to wages in a community's main industries can show whether economic development strategies should be refined to encourage growth in higher-wage jobs.

Data source: MIT's Living Wage Calculator provides estimates of how much an individual or families of various sizes need to earn to meet basic needs in a particular community. Data are available for mid-size to large metropolitan areas and all U.S. counties. The calculator provides the hourly living wage, which can be manually converted to an annual salary to compare against Census median household income data (http://livingwage.mit.edu/).

Housing and Transportation Affordability: Housing and transportation, respectively, account for the two largest expenditures of U.S. households.[15] An increase in the cost of either can result in displacement of long-time community residents. Transportation affordability is sometimes neglected in cost-of-living discussions, despite the fact that auto-oriented communities or those with poor public transit options often place great financial strain on low-income residents.

Data source: The Center for Neighborhood Technology's Housing and Affordability Index incorporates both of these measures to assess neighborhood affordability. The index has data for 917 metropolitan and micropolitan areas and covers 94 percent of the U.S. population (http://htaindex.cnt.org/).

Food Security: Access to healthy and affordable food is essential to neighborhood sustainability. Food deserts often force individuals to choose between consuming convenient but unhealthy food or making long trips to supermarkets in other locations. The U.S. Department of Agriculture defines a food desert as a low-income census tract where at least 500 persons, or 33 percent of residents, live more than a mile from a grocery store (in urban areas), or more than 10 miles in rural areas.[16]

Data source: U.S. Department of Agriculture's Food Access Research Atlas contains census tract-level data on the number of people living in food insecure locations (https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas/).

[14] Dr. Amy K. Glasmeir, "Living Wage Calculator." Massachusetts Institute of Technology. Accessed March 14, 2017. http://livingwage.mit.edu/pages/about.
[15] "Consumer Expenditures – 2015." The Bureau of Labor Statistics. Economic News Release. August 30, 2016. Accessed March 14, 2017. https://www.bls.gov/news.release/cesan.nr0.htm
[16] "Food Desert Locator." United States Department of Agriculture. November 3, 2016. https://www.fns.usda.gov/tags/food-desert-locator

Broadband Internet Access: High-speed internet is increasingly a prerequisite for upward mobility. In-home broadband connectivity enables individuals to more easily research and apply for job opportunities, and many employers now accept online applications only.

Data source: U.S. Census Bureau American FactFinder (https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml).

Benefit Corporations: Also known as B Corps, Benefit Corporations are profit-seeking companies that also are committed to social or environmental causes. There are 1,600 Certified B Corps across 42 countries.[17]

Data source: Find a B Corp (https://www.bcorporation.net/community/find-a-b-corp).

Transportation

Just as data on jobs and businesses are important to a community, so too is understanding how people access those work opportunities. Public transportation and other non-automobile commuting options give residents all along the income spectrum choices in how to get to work. Adequate public transportation is important so that people who cannot afford a personal automobile can access employment opportunities. As well, increased use of public transportation and other non-automotive transportation, such as walking and biking, lowers carbon emissions. Transportation accounts for 26 percent of all U.S. CO2 emissions.[18] Additionally, many young professionals do not want to rely on automobiles for their commute and are attracted to dense cities served by public transit.[19]

Public Transit Ridership: Annual ridership figures are useful to determine if public transportation services are meeting the needs of residents.

Data source: Local transportation department. Also, the U.S. Census Bureau has yearly estimates on commuting patterns, including public transit ridership, carpooling, walking, and cycling. (https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml)

Transit Access: Just as important as the quantity of riders, routes, and trips is quality and comprehensive service. Connectivity between households and jobs varies throughout cities, and public transportation service typically declines the further one ventures from the central business district. According to the Center for Neighborhood Technology, less than 25 percent of households with no cars

[17] "What are B Corps?" B Corporation.net. Accessed March 15, 2017. https://www.bcorporation.net/what-are-b-corps
[18] "Greenhouse Gas Emissions," Environmental Protection Agency. https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions#main-content
[19] Brian McKenzie, "Who Drives to Work? Commuting by Automobile in the United States: 2013." *American Community Service Reports*. U.S. Census Bureau. August 2015. https://www.census.gov/hhes/commuting/files/2014/acs-32.pdf

in U.S. cities live within half a mile of a transit stop.[20] The number of jobs and the percentage of households in close proximity to transit stations are relevant metrics in this category, as well as frequency of service.

Data source: The Center for Neighborhood Technology's AllTransit database has a wealth of information on transit access for most of the United States. The AllTransit Performance Score provides an overall grade based on connectivity, access to jobs, and frequency of service (http://alltransit.cnt.org/).

Commuting Time: Shorter commutes can lead to increased labor productivity and reduced vehicle emissions. A short commute also can be considered a quality of life metric, and many cities use these data in marketing appeals to attract businesses and residents. The average commuting time can be used to evaluate the success of sprawl-reduction policies.

Data source: U.S. Census Bureau FactFinder (https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml#).

Vehicle Miles Travelled: VMT adds additional context to workers' commutes; fewer miles travelled typically leads to shorter commuting times. Average VMT can be used to evaluate the success of sprawl-reduction policies.

Data source: State transportation department.

Commuting Patterns: Ideally, residents do not have to commute outside of their own communities to find work. To that end, tracking the number of inbound and outbound commuters is a useful metric. Shorter commutes often equate to time savings that result in greater productivity, as well as reduced vehicle emissions.

Data source: U.S. Census Bureau Commuting (Journey to Work) data (https://www.census.gov/hhes/commuting/). Also, this data tool from the Washington Post provides an easy-to-use visualization of worker in-flows for every U.S. county, using Census data (https://www.washingtonpost.com/news/wonk/wp/2015/08/18/where-americans-go-to-work-when-they-dont-work-near-home/).

Quality of Life

Communities market themselves to new residents and businesses by showcasing characteristics that contribute to livability. A healthy environment is an important component to any locality's quality of life. People want to live in places that mix a strong economy with entertainment and recreation options, as well as a healthy and accessible natural environment. For businesses, quality of life typically is not the primary driver of location decisions, but is often an important consideration when narrowing the list of

[20] AllTransit, Center for Neighborhood Technology. http://alltransit.cnt.org/

finalists. A high-profile example of this is when Toyota chose to locate a plant in San Antonio over the Dallas-Ft. Worth metro area due in part to the superior air quality of the former.[21]

Cost of Living: Monitoring a location's cost of living is important because communities can begin to lose low-income and middle-class residents if they become too expensive. Also, highlighting a lower cost of living compared to peer metros is a popular place-marketing tactic.

Data source: The Cost of Living Index measures cities' prices for food, housing, utilities, transportation, healthcare, and miscellaneous goods and services. It is commonly used by economic development organizations and chambers of commerce to benchmark their communities. The COLI is available from the Council for Community and Economic Research for a fee (http://coli.org/). Average home prices are available from free online sources including Trulia and Zillow. (https://www.trulia.com/home_prices/, https://www.zillow.com/home-values/)

Air Quality: Industrial activity and vehicle emissions can create unhealthy air conditions, especially for certain populations. The Environmental Protection Agency monitors air quality on a scale from zero to 500 for five pollutants: ground-level ozone, particle pollution, carbon monoxide, sulfur dioxide, and nitrogen dioxide.

Data source: Environmental Protection Agency's AirCompare site allows cities to benchmark average air quality (https://www3.epa.gov/aircompare/index.htm).

Water Quality/Quantity/Price: A supply of clean and ample water is another quality of life essential, and it is also a key input for many industries, notably, food and beverage processing. Some localities use superior water quality as a marketing tool to prospective residents, whereas water quantity and price is typically more relevant to companies.

Data source: Local utility.

Access to Parks and Green Spaces: The ability to quickly and easily access green, open space, such as parks or greenway trails, is a core quality of life indicator for any city. In many cases, access to parks is not uniformly distributed across a city, which makes monitoring their location and use an important metric. The primary economic development benefits of parks, according to the American Planning Association, are growth in surrounding property values and the resulting boost in tax revenue; the attraction and retention of both knowledge workers and affluent retirees; and an increase in homebuyers.[22]

[21] "Keeping it Clean: Our Air, Our Health: Opportunities for San Antonio Leadership in Sustainability Development." Alamo Area Council of Governments. https://www.aacog.com/DocumentCenter/View/14001.
[22] Megan Lewis, "How Cities Use Parks for Economic Development." American Planning Association. 2017. https://www.planning.org/cityparks/briefingpapers/economicdevelopment.htm

Data Source: Planning department. Many governments measure park accessibility based on a 0.5 mile radius.

Advanced Metrics

This section contains metrics for communities that want to advance their level of measurement. Most of these indicators were not widely shared among the sample communities, but were in use by at least one of the 10. Further criteria to merit inclusion in this section included: 1) the metric is costlier or more difficult to measure; 2) the metric is not applicable to all communities; 3) the metric requires a dedicated program or extra capacity on behalf of the city; or 4) the metric has less a less-direct impact on economic development but is nonetheless important for sustainability. Still, a city with the time and capacity should consider including these indicators into their regular performance metrics.

Green Economy

Green Jobs: Unfortunately, there is no easy way to count the number of jobs tied to sustainable business at the local level. There are very few NAICS, SOC, or SIC codes devoted specifically to green jobs. To get an accurate count of local jobs that are related to sustainability, an internal or consultant-led study is required. In 2010, the Bureau of Labor Statistics initiated a survey to estimate the number U.S. green jobs, defining a green job as either: A) jobs in businesses that produce goods or provide services that benefit the environment or conserve natural resources, or B) jobs in which workers' duties involve making their establishment's production processes more environmentally friendly or use fewer natural resources.[23]

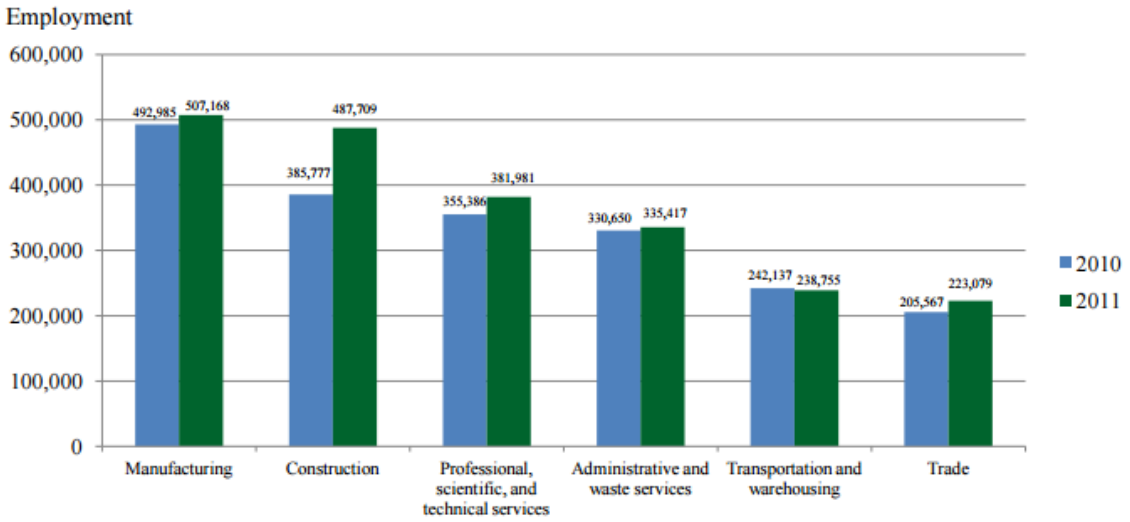
The BLS found that in 2011, there were nearly 3.5 million jobs involved in green goods and services in the United States (accounting for 2.3 percent of private-sector employment), and provided employment estimates at the state level.[24] The BLS also identified 325 six-digit NAICS codes in which green jobs exist. Across broad industry categories, green jobs were most prevalent in manufacturing; construction; professional, scientific, and technical services; administrative and waste services, transportation and warehousing; and trade.

Data source: Internal study. However, BLS methodology can be helpful (https://www.bls.gov/green/). Further, the Pew Charitable Trusts identified several SIC codes that exist wholly within the clean energy economy (http://www.pewtrusts.org/~/media/legacy/uploadedfiles/peg/publications/report/clean20energy20economypdf.pdf). Also, the Brookings Institution has MSA-level data on green jobs for 2010 as part of the

[23] "Measuring Green Jobs." Bureau of Labor Statistics. https://www.bls.gov/green/
[24] "Employment in Green Goods and Services – 2011," Bureau of Labor Statistics. News Release, March 19, 2013. https://www.bls.gov/news.release/pdf/ggqcew.pdf

report "Sizing the Green Economy: A National and Regional Green Jobs Assessment"[25] (http://www.governing.com/gov-data/energy-environment/brookings-battelle-clean-economy-jobs-data.html).

Chart 1. Green goods and services private sector employment, 2010–11 annual averages



Source: Bureau of Labor Statistics, https://www.bls.gov/news.release/pdf/ggqcew.pdf

Cleantech: The size and employment footprint of clean technology companies is similarly difficult to assess without a customized, local evaluation. Cleantech companies are diverse and include the design of energy-efficient products; renewable energy transportation, recycling and waste remediation innovations; battery and energy storage technology; and more. Useful metrics could include the number of firms, revenue, and employment.

Data source: Internal study. "Advancing Portland's Clean Technology Economy" provides a helpful template (http://www.pdc.us/Libraries/Document_Library/PDC_Clean_Tech_Strategy_2013_pdf.sflb.ashx). Further information may be obtained from the Cleantech Group, an industry organization that monitors and supports cleantech companies (http://www.cleantech.com/).

Recycling: The amount of recycled waste was tracked by every community reviewed in this paper, but not all made the connection to economic development. That said, there are many business opportunities in the reuse of waste materials. According to the Institute for Local Self-Reliance, sorting and processing recyclable material sustains 10 times the jobs of landfill or incineration operations.[26] On average, for every 10,000 tons of plastics recycled per year, 93 jobs are created. Product reuse sustains even more jobs, especially the reuse of computer equipment. A study by the Tellus Institute concluded

[25] Mark Muro, et. al., "Sizing the Green Economy: A National and Regional Green Jobs Assessment." The Brookings Institution. 2011. https://www.brookings.edu/wp-content/uploads/2016/06/0713_clean_economy.pdf
[26] "Recycling Means Business." Institute for Local Self-Reliance. February 1, 2002. https://ilsr.org/recycling-means-business/

that if the state of California raised its recycling rates from 50 percent to 75 percent, it would create 110,000 jobs.[27]

Austin's Materials Marketplace is an innovative program that unleashes the business potential of recycling, providing an online database of industrial byproducts that other companies can purchase for a lower cost than new materials (http://austinmaterialsmarketplace.org/).

Data source: Local waste management department. Governments might consider studying the number of jobs supported by recycling or the revenue of businesses engaged in product reuse.

Green Business Patents: A common metric among cities with cleantech clusters are the number of patents secured for green technology. Patents are a useful barometer of a location's innovation ecosystem.

Data source: U.S. Patent and Trademark Office (https://www.uspto.gov/).

Green Business Venture Capital: Like patents, venture capital invested in cleantech and green businesses, represented in the number of deals or total dollar value, helps assess the vibrancy of the local green business sector.

Data source: Local venture capital groups.

Growth of Local & Small Businesses

Buy Local Campaigns: Many cities have programs that encourage residents to patronize locally owned businesses instead of national franchises. Buying local keeps dollars circulating within a community, whereas big box stores and retail franchises siphon money out. A study by Civic Economics found that every $100 spent at an independent business created $68 in local economic activity, versus a return of $43 from a chain.[28]

Data source: Economic development department, chamber of commerce or other sponsoring group. Metrics for these programs can include number of participating businesses, their total revenue, or increase in revenue after signing up.

Greening of Businesses' Operations: Adopting sustainability practices is a money-saving strategy for businesses large and small. Energy efficiency improves businesses' bottom lines and reduces environmental impact. Many cities have programs that help local businesses install energy-efficient lighting, equipment that reduces water consumption, sensors that regulate temperature and lighting, and more. Participating businesses

[27] "From Waste to Jobs: What Achieving 75 Percent Recycling Means for California." National Resources Defense Council. March 2014. https://www.nrdc.org/sites/default/files/green-jobs-ca-recycling-report.pdf
[28] "Locally Owned vs. Chain: The Local Premium," Institute of Local Self-Reliance. April, 2014. http://ilsr.org/wp-content/uploads/2012/04/Premium.pdf

typically are rewarded with a green business certification, which can be a valuable marketing tool for green-conscious consumers. Often, certified businesses also are looped into existing buy-local programs. Metrics can include the number of participating businesses, utility savings, other cost savings, or revenue increases after signing up.

Data source: Internal. The Santa Monica Green Business Certification program lists its reporting criteria on its website, which can be a useful model (http://www.smgbc.org/process).

Greening of Industrial Operations: Manufacturing typically is highly energy-intensive, and the sector as a whole is responsible for 21 percent of U.S. greenhouse gas emissions.[29] Continually improving efficiency is a bedrock principle for manufacturing growth, and one way to do so is through reducing utility consumption. Many cities have programs that provide services similar to the above metric, but on an industrial scale. Metrics can include the number of participating businesses, utility savings, other cost savings, or revenue increases after signing up.

Data source: Internal. The American Council for an Energy-Efficient Economy has several policy briefs with data that support the value of industrial efficiency (http://aceee.org/topics/industrial-energy-efficiency-programs).

Sale of Local Foods: Going beyond farmers market data, the economic impact of local food is another valuable measure. Much like buy-local campaigns, purchasing from local farms and suppliers has a larger ripple effect through the local economy. Plus, reduced travel from farm to consumer lowers vehicle-emitted carbon. Possible studies include the number of jobs supported by local foods, the number of restaurants buying from local suppliers and the dollar value, growth of local producers and retailers, etc.

Data source: Internal study. An excellent template is the Vancouver Economic Commission's 2012 report, "Local Food Jobs in the City of Vancouver," http://www.vancouvereconomic.com/wp-content/uploads/2015/06/vec-local-food-screen1.pdf. Another resource is "A Roadmap for City Food Sector Innovation & Investment" from USDN https://www.usdn.org/uploads/cms/documents/roadmap-for-city-food-sector-innovation-and-investment_final.pdf.

Retail Leakage: A retail leakage study determines how much money local residents spend outside of their place of residence on groceries, clothing, entertainment, dining, etc. The study helps identify local retail gaps and how much tax revenue would be generated if those gaps were filled.

Data source: Customized study (internal or consultant-led).

[29] "Sources of Greenhouse Gas Emissions," U.S. Environmental Protection Agency. Accessed March 22, 2017. https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions

Greening Real Estate & the Built Environment

Overall Energy Efficiency: The American Council for an Energy-Efficient Economy benchmarks cities based on their energy-efficiency policies. ACEEE offers a self-assessment tool with links to data sources for communities to evaluate their building, utility, and transportation policies.

Data Source: ACEEE Local Energy Efficiency Self-Scoring Tool, Version 2.0 Beta (http://aceee.org/research-report/u1511).

Transit-Oriented Development: Another tool to reduce sprawl is transit-oriented development, which mixes housing, businesses, retail, and other amenities around public transit hubs. Useful metrics include number of people living around TODs, total acreage covered, property values versus citywide average, and change in vehicle miles traveled.

Data Source: Planning department.

Transportation

Number/Miles of Bike Lanes: According to Census data, the number of bike commuters grew by 50 percent between 1990 and 2012.[30] Bike lanes provide safer commutes for non-automobile users and encourage additional biking. Protected lanes provide even more safety, but businesses sometimes oppose them because they fear less foot-traffic due to reduced on-street parking. However, many studies show that bike lanes increase retail sales because they enable more shoppers to access stores.[31]

Data Source: Local planning department.

Number/Miles of Complete Streets: A "complete street" is designed safely for every kind of user, not just motorists. Complete streets balance the needs of cyclists, public transit riders, motorists, and pedestrians of all ages. A 2015 study by Smart Growth America found that complete streets were associated with higher employment levels, net new businesses, and higher property values.[32]

Data Source: Planning department.

[30] Joan Campbell, "ULI Research Roundup: The Impact of Bicycle Infrastructure Investment on Retail Sales and Job Creation." Urban Land Institute. December 11, 2013, https://uli.org/infrastructure-initiative/uli-research-roundup-the-impact-of-bicycle-infrastructure-investment-on-retail-sales-and-job-creation/.
[31] Ibid
[32] Geoff Anderson, et. al., "Safer Streets, Stronger Economies: Complete Streets project outcomes from across the country." Smart Growth America. March 2015. https://smartgrowthamerica.org/app/uploads/2016/08/safer-streets-stronger-economies.pdf

Electric Vehicle Charging Stations: Electric vehicles are growing in popularity. In 2015, one out of every 150 cars sold in the United States was powered by electricity.[33] Accessibility of charging stations throughout a community may encourage more motorists to purchase electric vehicles.

Data Source: Plug Share is a mapping tool that displays the location of public and residential charging stations (https://www.plugshare.com/).

[33] Christopher Mims, "Why Electric Cars Will Be Here Sooner Than You Think." Wall Street Journal. August 28, 2016. https://www.wsj.com/articles/why-electric-cars-will-be-here-sooner-than-you-think-1472402674

Case Study Communities Overview

Following are brief highlights of the sustainability efforts of the 10 cities reviewed for this report, along with links to their sustainability web pages, related performance reports, and data portals, where available.

Austin, Texas: Austin aims to become a net-zero greenhouse gas emitter by 2050 and has various programs to help businesses green their operations, such as the Materials Marketplace, which finds new uses for industrial byproducts. The Office of Sustainability Dashboard is an open data portal that transparently communicates sustainability performance to the general public. Data are grouped into 10 categories that range from waste measurement to economy, creativity, equity and livability.

Office of Sustainability: http://austintexas.gov/department/sustainability

Office of Sustainability Dashboard: http://austintexas.gov/page/sustainability-performance-tracking

Brookings, South Dakota: This city of just over 20,000 residents has a Sustainability Council comprised of public officials, community residents, and students and faculty from South Dakota State University. The Brookings Benchmarks are a set of metrics centered on three pillars of sustainability: economic prosperity, social and cultural vibrancy, and environmental and ecological integrity.

Brookings Sustainability Council: http://www.cityofbrookings.org/index.aspx?NID=389

Brookings Benchmarks: Baseline Sustainability Report:
http://www.cityofbrookings.org/documentcenter/view/2195

Cleveland, Ohio: Sustainable Cleveland 2019 is a 10-year initiative of the mayor's office that seeks broad engagement and community participation to make "a green city on a blue lake." The Progress Dashboard is a publicly accessible and easy-to-use data tool that tracks Cleveland's performance across a variety of indicators within four main categories: business, personal/social, built, and natural environments.

Sustainable Cleveland: http://www.sustainablecleveland.org/sustainable_cleveland

Sustainable Cleveland Progress Dashboard: http://www.sustainablecleveland.org/dashboard

Fort Collins, Colorado: The city's Sustainability Services department is comprised of three divisions: Environmental Services, Economic Health, and Social Sustainability. The Economic Health strategic plan was developed in cooperation with the environmental services and social sustainability departments and is organized into five categories: community prosperity, grow our own, place matters, the climate economy, and think regionally.

Sustainability Services: http://www.fcgov.com/sustainability/

Economic Health Strategic Plan: http://www.fcgov.com/business/pdf/FortCollins-EconomicHealthStrategicPlan-FINAL.pdf?1446060985

Iowa City, Iowa: Iowa City has engaged in energy-efficiency strategies since the 1980s. More recently, the city installed LED lighting in every traffic signal and was the first city in the state to conduct a comprehensive greenhouse gas inventory. The Iowa City Sustainability Assessment, conducted in 2013, coordinates with the city's comprehensive plan (IC2030) and strategic plan. The assessment looks at nearly 60 metrics across nine categories: economy; community design and transportation; energy; water; waste reduction; natural ecosystems; housing; community wellness; and arts and culture.

Sustainability Division: https://www.icgov.org/city-government/departments-and-divisions/sustainability

Iowa City Sustainability Assessment 2013: http://www8.iowa-city.org/weblink/0/doc/1481286/Electronic.aspx

Madison County, New York: Madison County has long prioritized green energy; it was home to the first commercial wind farm east of the Mississippi River. Its Energy and Sustainability Plan grew out of the Central New York Planning and Development Board's 2010 Climate Change Innovation Program. Home to 838 farms, a notable feature of the county's plan is the pursuit of sustainable agriculture practices.

Madison County Energy and Sustainability Plan:
https://www.madisoncounty.ny.gov/sites/default/files/planning/esp_final_web_lores.pdf

Portland, Oregon: Planning and sustainability are fixed within the same department in Portland. The Portland Development Commission regularly interfaces with sustainability staff, and its strategic plan places a heavy emphasis on equity. Another data tool for the region is Greater Portland Pulse, an open data portal created by Portland State University and used to monitor progress toward Greater Portland 2020, a five-year action plan to achieve "economic prosperity for all across the region."

Bureau of Planning and Sustainability: https://www.portlandoregon.gov/bps/

Portland Development Commission Strategic Plan 2015-2020:
http://www.pdc.us/Libraries/Document_Library/PDC_Strategic_Plan_pdf.sflb.ashx

Greater Portland Pulse: http://www.portlandpulse.org/

Santa Monica, California: The Santa Monica Sustainability Plan Data webpage reports on performance across nine categories, providing transparent evaluation to citizens. The city's Green Business Certification program helps offices, retailers, restaurants, grocery stores, hotels, landscapers, and arts and cultural facilities save money through improved efficiencies and promotes certified businesses with support from the chamber of commerce.

Office of Sustainability and the Environment: https://www.smgov.net/departments/ose/

Sustainable City Plan Data: https://data.sustainablesm.org/

Green Business Certification Program: http://www.smgbc.org/

Vancouver, British Columbia: Vancouver has a thriving cleantech cluster, 20,000 green jobs as of 2013, and aims to use renewable energy exclusively by 2050. The goal of its Greenest City Action Plan is to make Vancouver into the world's most sustainable city, as well as to double its number of green jobs.

The Vancouver Economic Commission's Green and Digital Demonstration Program supports innovation by allowing local entrepreneurs to use city infrastructure to test their products.

Vancouver Economic Commission: http://www.vancouvereconomic.com/focus/green-economy/

Greenest City Action Plan: http://vancouver.ca/files/cov/greenest-city-2020-action-plan-2015-2020.pdf

West Palm Beach, Florida: West Palm Beach's sustainability department was created in 2008 within the public utilities department. It was moved into the mayor's office in 2014, underscoring sustainability as a community priority. Initiatives include a Green Business Challenge and a program to plant 10,000 trees by 2025. The "Rethink Paradise Action Plan" is based on the Triple Bottom Line principle of balancing the needs of people, profit, and planet.

Mayor's Office of Sustainability: http://wpb.org/Departments/Sustainability/Overview

Rethink Paradise: West Palm Beach Sustainability Action Plan: http://wpb.org/CMSPages/GetAmazonFile.aspx?path=~\wpb_website\media\wpb_content\sap-4-26-12-for-web.pdf&hash=6f3c0a3e5bec8057f00c51e6dfd83288b3a65f704169701599eae13d2e1ff469