



The **2019 US Cities** Sustainable Development Report



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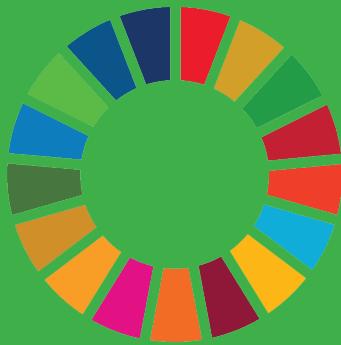
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All data used in this report can be accessed on our website:
www.github.com/sdsna/2019USCitiesIndex

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What is SDSN USA?

The Sustainable Development Solutions Network United States (SDSN USA) endeavors to build pathways for achievement of the UN's Sustainable Development Goals in the United States by mobilizing research, outreach, and collective action.

The SDSN USA is a network of researchers, knowledge creators and thought leaders working together to mobilize expertise on the SDGs in the United States. Officially launched on December 4, 2018, the SDSN USA has over 120 members from 41 states, Puerto Rico, and Washington DC. It joins the existing Sustainable Development Solutions Network which spans six continents and draws upon the knowledge and educational capacity of over 1,000-member institutions.

SDSN USA is co-chaired by Jeffrey Sachs at Columbia University, Dan Esty at Yale University, and Gordon McCord at the University of California, San Diego. The SDSN USA team is currently comprised of three staff.

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Foreword



work for action. As one leading example, my own city, New York City, is guided by the plan OneNYC 2050. This comprehensive sustainable development plan, closely aligned with the SDGs, aims to achieve an equitable, sustainable city for all New Yorkers by the year 2050, including the transformation to zero greenhouse gas emissions by mid-century.

The 2019 US Cities Sustainable Development Report aims to help cities to calibrate their progress towards the SDGs. This report, produced annually since 2017, is a part of a global effort to measure performance of cities, nations, and companies relative to the SDGs underway at the UN Sustainable Development Solutions Network

America's cities are home to more than 80 percent of Americans and around 85 percent of US production. They will determine the future of sustainable development in the United States. Around the US, more and more cities are signing up to the Sustainable Development Goals (SDGs) as a frame-

(SDSN). SDSN is grateful to many partner institutions for collaboration, brainstorming, and support to monitor the SDGs and implement programs for their achievement.

This year's report highlights the many urgent challenges facing America's cities. The data show substantial and rising inequalities of income, persistent poverty, unsafe physical environments, and of course, the continued emissions of greenhouse gases that contribute to human-induced climate change and that threaten humanity. These indicators should provide flashing red lights to communities around the US to take actions at the local level to promote the SDGs, and to advocate for sustainable development policies at the federal and state level as well.

The index also shows many cases of progress. We warmly congratulate the cities at the top of this year's ranking for a job well done. For the cities lower down the list, we offer these rankings and indicators as guides, support, and a call to action. Sustainable development is not a choice or ideology. It is not on the left-right political spectrum. It is the very essence of our wellbeing and the kind of cities and nation that we will leave to future generations. We therefore offer this SDG City Index in the spirit of collegiality, and we at SDSN look forward to partnerships of the SDSN with cities across the United States in order to accelerate actions to achieve inclusive and sustainable cities for all Americans, and indeed throughout the world.

Jeffrey D. Sachs

*Director
Sustainable Development Solutions Network*

Executive Summary

The United Nations' Sustainable Development Goals (SDGs), adopted by all 193 UN member-countries in 2015, are a blueprint for long-term planning towards social, economic, and environmental well-being. Addressing the interconnected challenges of the SDGs requires transformative change. We must reconsider how societies function, how economies flow, and how we interact with our planet to create equitable, inclusive and sustainable environments where all life can thrive. National governments have adopted these goals, but sub-national governments are key to achieving them. Cities throughout the world are learning from each other as they integrate the SDGs into existing planning processes, address data and communication gaps created by administrative silos, and provide leadership on understanding and addressing local needs towards long-term, large-scale change.

In the United States, a large geographic area with diverse populations, and a wide range of challenges, the SDGs can be a mobilizing force towards a long-term vision that is not bound by election cycles or political parties. Local, city, state, and national governments can use the SDGs to participate in a global or national dialogue, establish new partnerships, and contextualize their policies and progress within a national and global framework. They can, and should, approach this task in a variety of ways. This report provides insights into the challenges and opportunities faced by the 105 largest cities in the United States, and compares these wherever possible to state and global conditions. Using 57 indicators across 15 of the 17 Goals, the index provides an overall ranking of progress towards achievement of the Goals, as well as measures of progress at the Goal and indicator level.

The 2019 US Cities Sustainable Development Report generates 7 main findings:

1. None of the most populous US cities are currently on track to achieve the SDGs.
2. Localization is key - comparing the US City and State Reports highlights the need to localize data and action towards SDG achievement.
3. There are pernicious inequalities that need to be addressed, and improvements on sustainable transit, rent affordability, and energy transition are sorely needed.
4. Improved data is required, most urgently on maternal mortality rates. Localizing the goals to specific communities may help fill some data gaps.
5. Compared to the “2019 SDG Index and Dashboards Report: European Cities”, EU cities are generally outperforming US cities, in some cases with the US lagging seriously behind, like infant mortality rate, where the US average (6.5) is more than 2 times higher than the EU average (2.93), and gender wage gap, where the average gap in the US (27.3) is over 3 times larger than the average EU gap (8.79). On some Goals, most notably 12 and 13, both the US cities and EU cities have quite a bit of progress to make.
6. Best performing city overall is San Francisco-Oakland-Hayward, California and worst, on average, is Baton Rouge, Louisiana.
7. The Goals with the most overall progress made to date are Goal 6: Clean Water and Sanitation, and Goal 15: Life on Land, and the Goals with the least progress made are Goal 7: Affordable and Clean Energy and Goal 2: Zero Hunger.

US cities are at the forefront of the sustainable development challenge. They contain 80% of the country's population, and therefore have the capacity to make or break SDG achievement (US Census Bureau 2016). But, while crucial to SDG attainment, they

cannot accomplish this alone. While 80 percent of US residents live in urban areas, only 3 percent of land is urban; rural and urban areas are deeply interconnected (US Census Bureau 2016). To promote accountability and cooperation on SDG achievement at multiple scales, SDSN produces two additional indices that are relevant to the US: [The Sustainable Development Report of the United States](#), which assesses SDG progress at the state level; and the [Sustainable Development Report](#), which assesses SDG progress at the global level. In this year's city index, we aim to highlight the interconnections between these three reports to put city performance in context.

When comparing results from the city, state, and global SDG indices, or looking at cities in the US of similar sizes or geographies, it is clear that localization is key. Localization efforts cannot be isolated, either - city governments looking to take on the SDG agenda should engage in networks of practice at multiple levels of government and across sectors to include businesses, universities, and civil society. This updated 2019 US Cities Sustainable Development Report adds nuance and context to further this important national dialogue.

Glossary, Acronyms and SDGs

GHG	Greenhouse gas
LGBTQ	Lesbian, Gay, Bisexual, Transgender, Queer [sometimes LGBTQIAP+ which includes Intersex, Asexual, Pansexual, and others]
LNOB	Leave No One Behind
MSAs	Metropolitan Statistical Areas
NEETS	Youth Not in Education, Employment, or Training
OECD	Organisation for Economic Co-operation and Development
SDGs	Sustainable Development Goals
SDSN	Sustainable Development Solutions Network
SDSN USA	Development Solutions Network United States
SDWA	Safe Drinking Water Act
TReNDS	Thematic Research Network on Data and Statistics
UN	United Nations
US	United States of America

Introduction

Currently, more than half of the world's population lives in urban areas ("World Urbanization Prospects: The 2018 Revision" 2018). As urban populations rise, so must services expand, jobs be created, and resilient infrastructure be built, updated, and maintained. Not only is urbanization driving more people to cities, but overall population is rapidly growing, worldwide. Cities can be hubs for sustainability, adaptation, and resiliency. Beyond their physical nuts and bolts, cities are ecosystems in their own right, with personalities and character of their own. A well-designed urban center can both inspire and improve the lives of its residents, while a poorly planned or managed city can degrade not only its residents' quality of life, but also undercut the natural and social systems that underpin it.

Cities around the world are rapidly changing. Climate change, growing populations, demographic shifts, and other factors have resulted in challenges to the status quo and provide opportunities for innovative problem-solving. Home to most of the world's residents

and producing more than 70% of the world's carbon emissions, change at the city level will be essential for achieving the SDGs by 2030 ("Consumption-Based GH Emissions of C40 Cities" 2018; Leahy 2018; Markolf et al. 2017). This holds true in the United States, where many cities have experienced the impacts of stronger weather events, life expectancy is declining amidst a public health crisis of opioid addiction (in contrast to increasing life expectancy in other OECD countries), and, where even in the densest areas, residents rely on cars as their main mode of transit to-and-from work (OECD n.d.).

To address these worrisome trends, stakeholders across all levels of government and in all sectors of society must build long-term strategies towards a more sustainable future. The Sustainable Development Goals (SDGs) offer a framework for us to use as a blueprint for the path forward. The SDGs are a set of 17 goals adopted by the 193 member countries of the United Nations, to be achieved by 2030. They cover a range of ambitious, cross-cutting objectives to end poverty, protect the



planet, and ensure equality and prosperity for all (United Nations n.d.). There is broad, global consensus that while the SDGs were adopted at the national level — state, city, and local actors will need to join in the effort to achieve them.

The SDGs are interdisciplinary and cross-cutting, with many indicators repeated across Goals—highlighting that progress in any one area depends on simultaneous development in another. This fact underlines the importance of collaborative problem solving, as no one group or action will be sufficient for achieving these Goals, all groups will be needed to build sustainable change (Sachs et al. 2018). Governments, businesses, civil society organizations, universities, and individuals around the world are operationalizing the SDGs as a call for action, a data framework for monitoring and evaluation, a path for investments, and a mechanism to foster collaboration across long-siloed sectors and stakeholder groups.

As the experiences of the first cities to adopt the SDGs are shared, and practical resources expand—such as this index, SDSN's "[A Pathway to Sustainable American Cities: A Guide to Implementing the SDGs](#)," the SDG Academy's [Sustainable Cities Massive Open Online Course](#), the TReNDS network's "[From Progress to Promotion: How Sub-national Data Efforts Support SDG Achievement](#)"—it is clear that progress, feasibility and momentum are quickly scaling up as well (SDG academy n.d.; TReNDS 2019; Mesa, Edquist, and Espy 2019). Other organizations, such as the Global Economy and Development Program at Brookings Institute, Hawaii Green Growth, and Carnegie Mellon's Heinz College of Information Systems and Public Policy are engaging across stakeholder groups of students, businesses, city officials, and others to foster dialogue towards tackling some of the largest monitoring, reporting and policy barriers towards SDG attainment.

The SDGs focus closely on local, community-driven change and on putting the welfare of those with the least, first. With those priorities in mind, sub-national reporting such as this city-level Report provide context for communities to focus on progress closest to home, and offer a tool to support community members who are advocating for positive change where they live (Sachs et al. 2018). This report and index offer an analysis of progress and opportunities in US cities towards achievement of these SDGs. There is much progress to be made in US cities if the SDGs are to be achieved by 2030. It will require both localized action that is aligned with specific needs and challenges, as well as a networked approach, where communities and organizations such as

SDSN USA can rely on each other to share lessons, practices, resources and inspiration. This guide offers a starting point to both parts, and places cities into a larger context to support coordinated action.

What Are the Main Objectives of this Report?

This report provides the following:

- an entry point into using the SDGs as a tool for integrated problem solving at the local level;
- a consolidated database of indicators to highlight sustainable development opportunities and successes in the US at the city level;
- a snapshot of where the 100+ largest US cities stand on SDG achievement to help identify priorities for early action in each metropolitan area;
- a subgroup of indicators at the city-level spotlighting issues central to the Leave No One Behind Agenda;
- a list of data gaps that are hindering cities' and the federal government's ability to effectively plan for sustainable development at the local level.

This report and its selection of indicators can also serve as a starting point for benchmarking progress on different aspects of sustainable development, and help city administrators prioritize policy and investment areas. The data and analysis contained in this report can:

- encourage cities to adopt an interdisciplinary sustainability framework for policy making;
- provide context for collaboration and planning discussions across and within jurisdictional levels;
- set an example for transparency and indicator selection;
- promote interdisciplinary solutions;
- highlight the need for improved local-level data collection;
- be a starting point for dialogue and action for localized data efforts.

This report can also be used by students, citizens, academics, community groups, activists, nonprofits, and others to hold their city governments accountable for achieving the SDGs. While the US federal government adopted the SDGs in 2015, no substantial national-level leadership has taken shape on the 2030 Agenda. This report joins a growing body of work and dialogue highlighting the need for, and path towards, change in the most populous and highly resourced areas in the country.

TWIN APPROACHES TO THE SDG MONITORING CHALLENGE

By Jessica Espey, Director of SDSN TReNDS



The 2019 US Cities SDG Index is part of a wider strategy employed by SDSN and its local US partners to approach the challenge of subnational monitoring of the SDGs. While the construction of an index

involves a more centralized, top-down review of comparable cross-national indicators, SDSN has simultaneously pursued a bottom-up approach of working with local communities on mapping existing global indicators to the SDGs. Both of these methods are important to understanding how US cities are performing and realizing solutions to sustainability challenges.

The US Cities SDG Index reports are intended to be a technical resource, but also an advocacy tool. Even within the past year, the 2018 index has helped to foster interest in the SDGs among mayors and other local government leaders on the relevance and utility of the SDG framework, as with discussion sessions at meetings of the US Conference of Mayors and by encouraging shared learning amongst cities. San Jose and Los Angeles, for example, have used their positive rankings to produce articles and host local seminars on the relevance of the SDGs. The index reports themselves have also garnered media interest from national news outlets, which has helped to spur interest from city officials and initiate conversations on SDG implementation. Cities SDSN has engaged with have referred to the index reports as a tool to kick start a conversation on shared challenges and cross-city collaborations.

These resources are complemented by other SDSN work. In September 2015, SDSN partnered with leading academic institutions through the USA Sustainable Cities Initiative (USA-SCI) to pilot processes for long-term strategies on the SDGs in three US cities: New York, San José, and Baltimore. In all three cities, participants mapped existing

data sources to the SDG global indicators and considered how city policies related to SDG targets. Following on this work, SDSN launched a Local Data Action (LDA) project in 2016 to create a library of case studies and technical knowledge documenting how global cities and localities are engaging with and monitoring the SDGs. Knowledge was curated locally, in consultation with city staff, technical partners, and other stakeholders. As of 2019, SDSN has worked with nine partners representing cities, regions and networks of cities from around the world. The group explored indicator localization, data platforms, the use of third-party data, and national to local data integration. Our studies have noted that local SDG monitoring efforts gain most traction when aligned with existing city planning and measurement frameworks. Additionally, experiences show the SDGs and official indicators provide a common language for encouraging coordination. Although the global framework provides a useful structure, in all of the cities studied, stakeholders felt the need to tailor the IAEG-SDG global indicators to better reflect local conditions. Such local SDG monitoring activities are encouraging the use of new data sources and add urgency to calls for open data.

Both of these approaches to local SDG monitoring offer unique benefits. A national index allows active comparisons, can highlight underserved areas, and can help direct national attention. Conversely a local, bottom-up approach to monitoring enables cities to utilize existing data resources and to map the alignment of their current policies to the goals while fostering community engagement. There is a need for a two-pronged approach to subnational SDG monitoring, involving the use of headline political indicators to sustain political interest along with more nuanced city-specific proxies to support local implementation.

About this Report

MSA vs City Explanation

The 2019 US Cities Sustainable Development Report uses data from a variety of sources to compare progress at the municipal level. In the majority of cases, data was analyzed for the geographic area known as Metropolitan Statistical Area (MSA), rather than using city limits. MSAs are a designation developed by the US Census Bureau that captures cities and the surrounding metro areas, including areas where commuters to the relevant city are likely to live. In a limited number of cases city data was used. More details can be found in the methodology and in the description of indicators in the Annex. In this report, the terms MSA and city are used interchangeably.

Changes From Previous Reports

Efforts were made to create continuity between this report and previous versions, although some updates have been made, which are summarized below. The 2019 Report covers 105 cities, up from 100 cities in previous reports. This report includes 100 of the 101 most populous MSAs; San Juan, Puerto Rico, although the 32nd largest MSA, is not included in this or previous reports due to insufficient data coverage. A box summarizing the data that is available for Puerto Rico is on pages 26-27. In addition, to maximize continuity, this report also includes data on five cities that are not in the 101 largest MSAs, but were included in previous versions of the index.

The 2019 version of the report includes several new indicators, for a total of 57 indicators, each detailed in the Annex. Efforts were made to create cohesion between previous versions of the report, and to align the city report with SDSN reports at other geographic scales, i.e. The Sustainable Development Report of the United States 2018 which assesses the 50 states, and the Sustainable Development Report of 2019, a global guide to national progress on the SDGs (hereafter referred to as the State and Global Reports, respectively).

This is the third US Cities Sustainable Development Report, and the first to be released after the Sustainable Development Report of the United States 2018, which contains an index and analysis on the SDGs at the US state level. Many of the changes in this version of the report were made to align this work most closely with the Global and State Reports. To this end we created a crosswalk including the 44 indicators from the 2018 version of this report, the 101 indicators from SDSN Global Report, and 103 indicators from the State Report, as well as an additional 100 indicators that measure progress at the US city level. An abridged version of this information can be found in the Annex. When indicators were changed from previous versions, it was to better account for the criteria listed in methodology (i.e. change to a source with more recent data, or to a source with longitudinal data available, etc.), to improve methodological or theoretical connection to the SDGs, or to cover data gaps through new data sources. Wherever possible, data was updated to the most recent year. Any conceptual changes are noted in the indicator description boxes in the Annex. As in previous reports, no data is included on Goals 14: Life Below Water and 17: Partnerships for the Goals, due to data availability and conceptual challenges of measuring these at the city level. We hope to continue to improve and refine our indicator selection and welcome feedback and suggestions to this end.

When considering whether it is worthwhile to make assessments on SDG achievement based on these data, it is worth noting that although the 2018 Report is not directly comparable to the 2019 Report, due to updated indicators and methodology, the overall performance across the two indices is generally consistent, with cities that perform well on the 2018 Report performing well on the 2019 Report. The converse is also true.

How to Interpret Results

The 2019 US Cities Sustainable Development Report presents an overview of how cities are performing on the UN's Sustainable Development Goals (SDGs). Cities are given an overall score of 0 to 100, which can be interpreted as the percent of progress a city has made towards achieving the SDGs. Each indicator is also translated to a 0 to 100 scale which can be interpreted in the same way. The indicators are averaged for each of the 15 included Sustainable Development Goals, to calculate a Goal Score. The Goals Scores are then averaged to give an overall ranking. Cities are color-coded to aid in interpreting progress toward achieving each indicator, and Goal. The dashboard colors vary from red (poor performance), to orange (poor to moderate performance), yellow (moderate to good performance) and green (good performance, best performance, or in some cases, SDG attainment). More information on the development of the colors and rankings can be found in the Methodology section. Caution should be exercised when comparing any two cities on any one indicator, as small differences may not be statistically significant. The overall SDG score and ranking is sensitive to methodological choices including method of aggregation and weighting. Readers are encouraged to go beyond the total SDG score and look at comparative performances at the goal and indicator level. The SDGs were designed to be localized to individual communities, and tailored to the needs and vision of those communities, and we support readers in using this Report as a starting point to do just that.

Results and Key Findings

The 2019 US Cities Sustainable Development Report shows that none of the United States' largest metro areas have overall "good performance" on the SDGs. The best performing cities are 60-70% of the way to achievement, and the worst performing cities are only 30-40% of the way there. The next ten years are crucial for cities if they are to achieve the SDGs. Indeed, as so much of the population lives in metro areas in the US, progress in cities will be essential for the US as a nation to achieve the SDGs.

FIGURE 1: OVERVIEW OF RESULTS

100	0 cities scored 100
69.7	Best score on index, San Francisco-Oakland-Hayward, CA
48.9	Average score
40	11 cities score 40 or less
30.3	Worst score on index, Baton Rouge, LA
0	101 cities scored 0 on at least one indicator

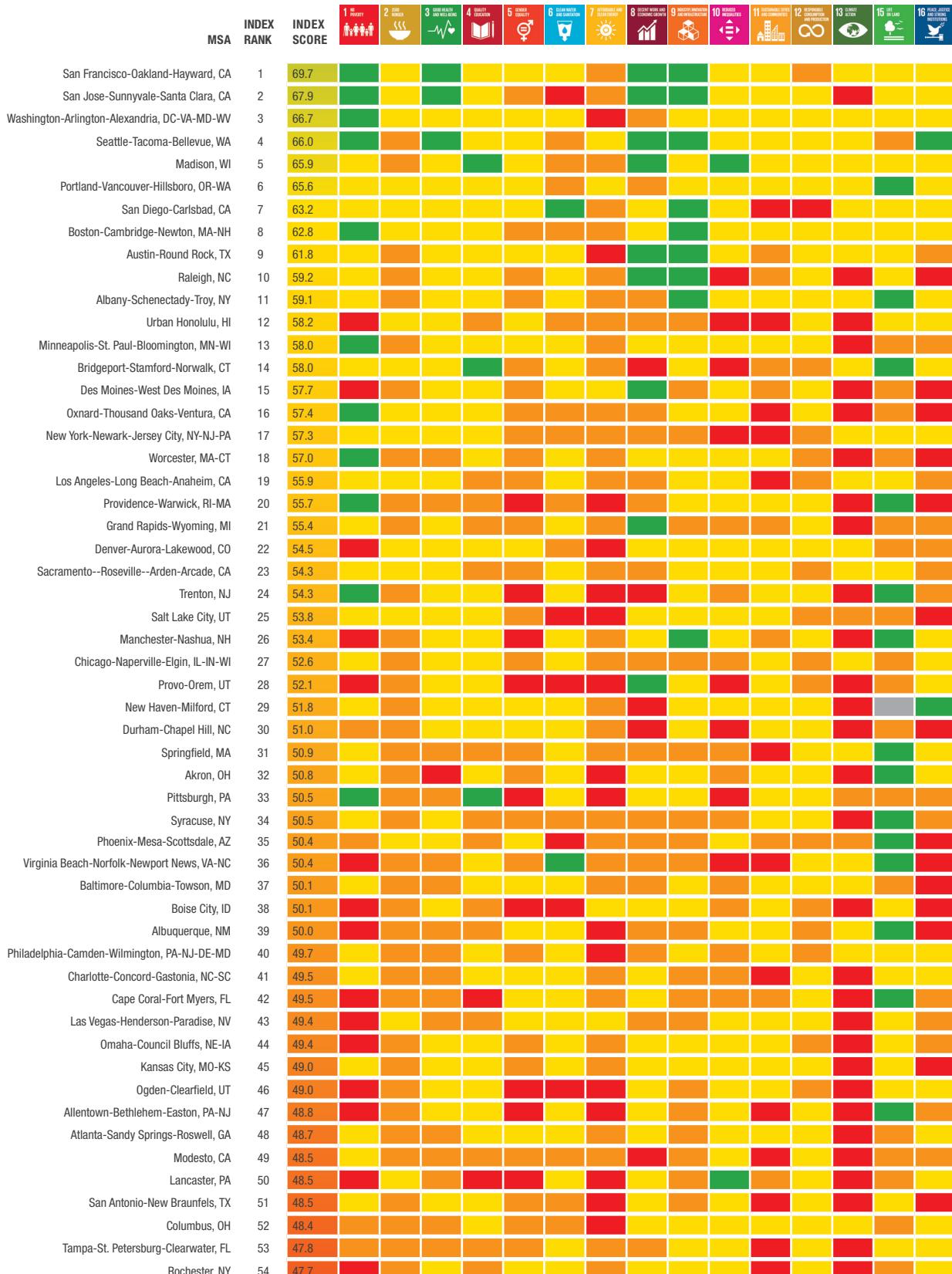
Source: SDSN USA analysis of results

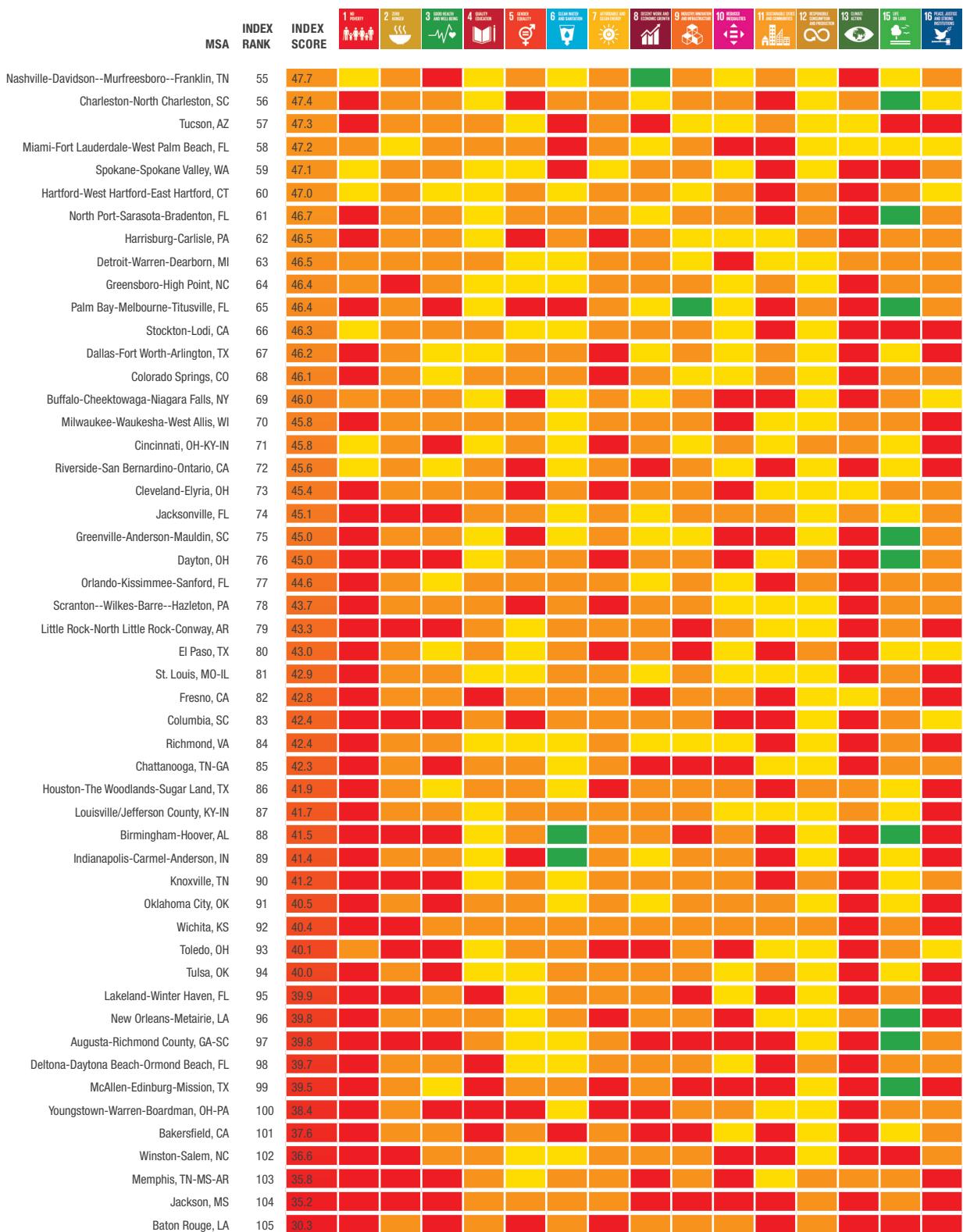
In the context of SDSN's Global and State reports, the results of the 2019 Cities Report highlight how essential localizing the Goals is to achieving this agenda by 2030. In the State Report, performance on the Goals had regional variation; when we disaggregate that process at the city level, we find less correlation. City performance isn't as closely tied to size, location or Goal; tailoring solutions and furthering progress will require localized understanding and interventions. This also means that traditional networks that group cities by region or size may need to be supplemented with networks that connect cities to across regions or administrative levels.

In a similar vein, the strengths and lessons developed by a city could be applicable to not only regional partners, but communities of all different sizes, both locally and globally. Putting the results of this index in the context of the State and Global indices, we're able to explore where cities might rely on good practices from other administrative levels, and highlight where cities may have strengths to share.

Using 57 indicators across 15 Goals (see section on Data Gaps and Limitations, page 29, for more information about the 2 missing Goals), this report provides a window into SDG achievement overall, illuminates gaps and successes, and makes comparisons across the country's largest urban areas. Overall, the results of this report demonstrate that cities in the United States are about halfway towards achieving the SDGs. Beyond that, only nine of the 105 MSAs included in this report score above sixty percent, a barely passing grade in most academic programs. While resolving data gaps (perhaps most notably in Goals 14 and 17) certainly would expand our understanding of a city's SDG progress, this report provides an overview that can and should be localized to individual communities, and their specific needs and visions.

The following sections provide an overview of city performance across traditional sub-groups. While some patterns emerge, most striking is the uniqueness of each city's performance. This variation underscores the need for each community to localize these goals to their unique contexts and to find supportive partnerships beyond traditional groupings to effectively lead and provide impactful results for their citizens.

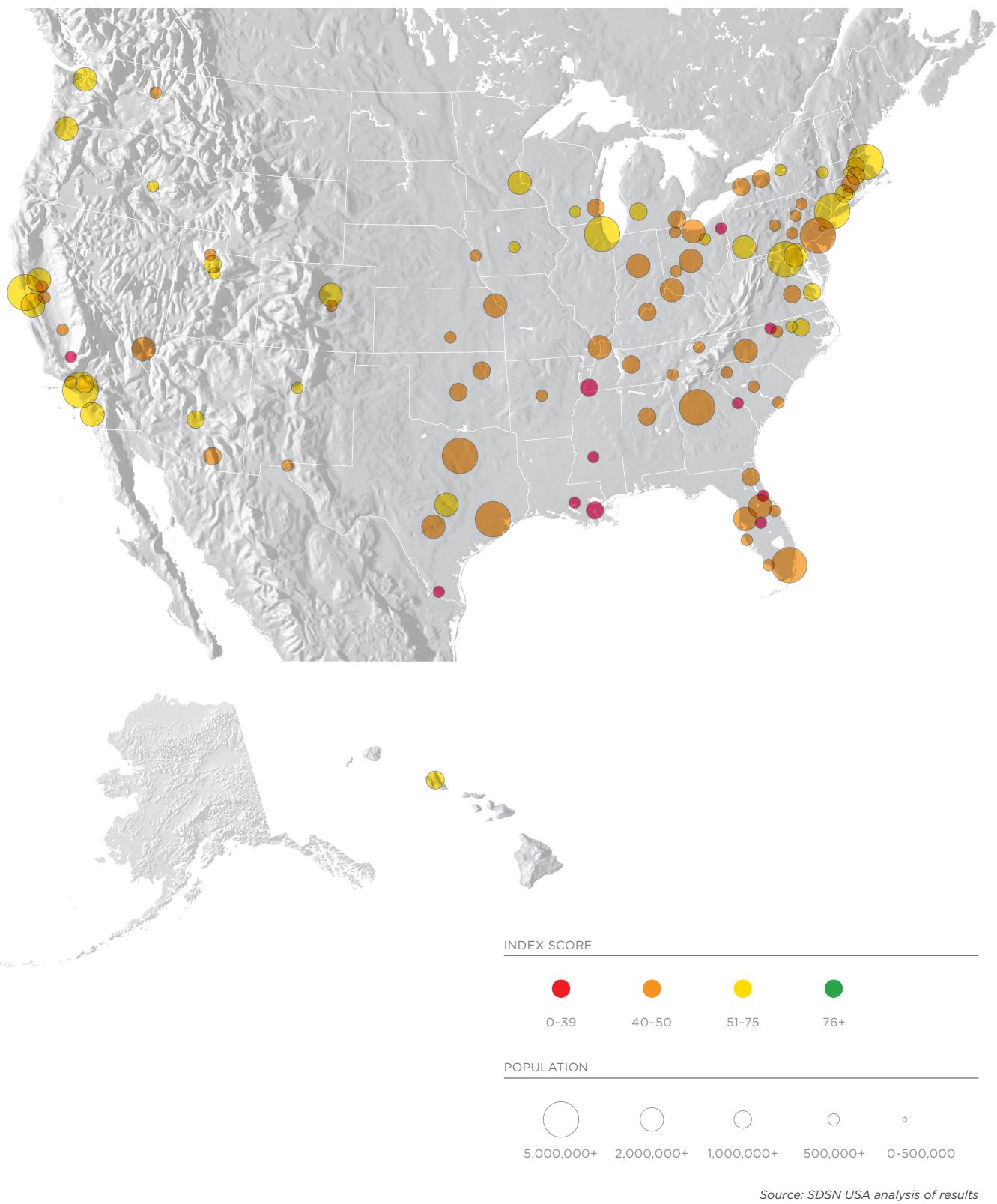
FIGURE 2: DASHBOARD



Poor performance Poor to moderate performance Moderate to good performance Good performance

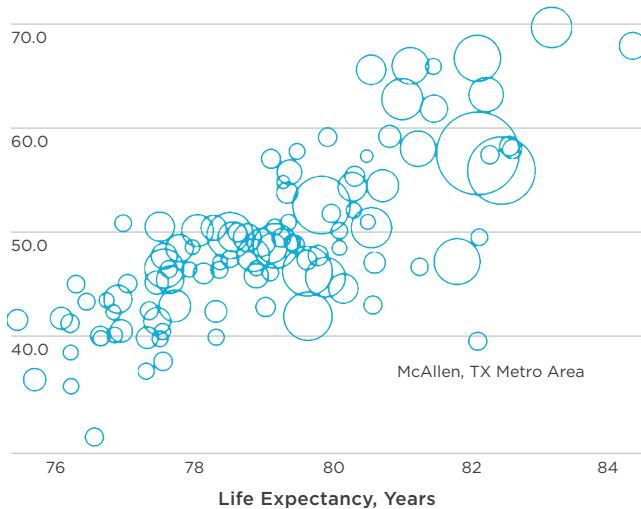
Source: SDSN USA analysis of results

FIGURE 3: MAP OF MSAs AND PERFORMANCE



Overall Performance

FIGURE 4: GRAPH OF 2019 INDEX SCORE AND LIFE EXPECTANCY



Source: SDSN USA analysis and Population Health Institute

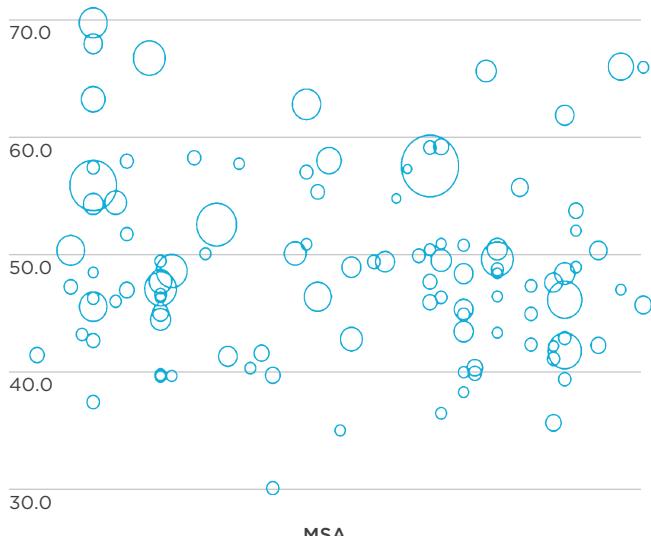
In many cases, good performance on Goal 3: Good Health and Well-Being is associated with good performance overall. Performance on Goal 3 can predict 68% of the variation in the overall index ($p\text{-value}=0.00$). Six cities in the top ten overall are also in the top ten for Goal 3. Five of the cities in the bottom ten overall are in the bottom ten in Goal 3. A notable exception, McAllen, Texas, is in the bottom ten overall, but ranked 29th on Goal 3 (Gawande 2015). Figure 4 shows the relationship between longer life expectancy, an indicator included in Goal 3, and overall performance on the index.

Performance by City Size

There is not a strong relationship between the population size of a metropolitan area and its overall performance on the SDGs. The graph below shows the score for each city, organized by state, with the size of the bubble representing the population of each city. The cities performing at the very top (i.e. with an Index score > 60.0) are generally mid-size metropolitan areas, but there is significant variation across the spectrum.

Analysis was also performed across other types of city subgroups. Grouping cities that are innovation hubs, fast growing, mid-sized, or post-industrial had only moderate relationships ($r^2 < .6$) with the overall results. Within county or city limits, patterns might be more explicit, which underscores how important it is for even deeper localization of the SDGs. As the City, State and Global reports provide context, structure, and awareness - localized planning, monitoring and action are necessary to achieve the SDGs.

FIGURE 5: GRAPH OF 2019 INDEX SCORE AND CITY POPULATION



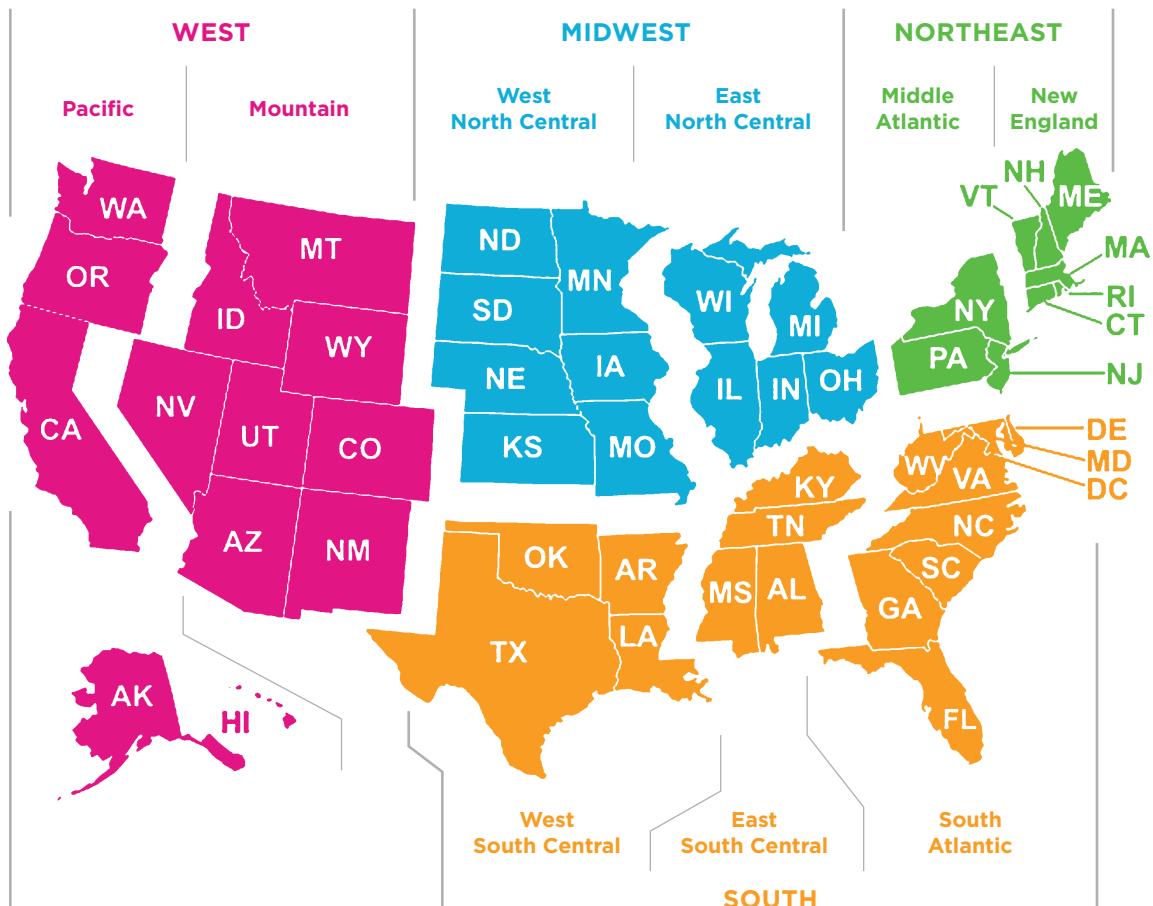
Source: SDSN USA analysis and US Census Bureau

Performance by City Region

Although there is quite a bit of variation across all US Census regions, the East South Central, West South Central and Mountain divisions have the fewest high performers, with only one city from any of these three

regions making the top twenty, and with five cities in the bottom ten. The New England and Pacific regions have the highest performance overall, with the cities in those regions having an average rank of 25 and 36, respectively.

FIGURE 6: CENSUS DIVISIONS AND NAMES

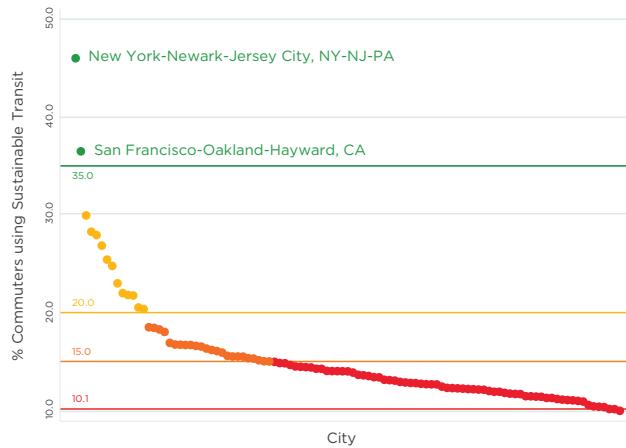


Source: US Census Bureau

Goal 11 – Sustainable Cities and Communities

Goal 11: Sustainable Cities and Communities, offers a lens into city performance in general. While the indicators for all of the Goals in this report were tailored to city-level analysis, Goal 11 was specifically developed to provide a snapshot of city performance. Goal 11 contains two of the worst performing indicators: Sustainable Transit and Rent Burden, and two indicators on which cities have made good progress: PM 2.5 and Overcrowded Housing. Sustainable transit measures how many commuters use bike, rail, walking or carpooling to get to work. Only two metro areas are approaching the 2030 target. In 103 metro areas, less than one-third of commuters get to work sustainably, a huge area for development across the US (Figure 7).

FIGURE 7: GRAPH OF CITY PERFORMANCE ON SUSTAINABLE TRANSIT

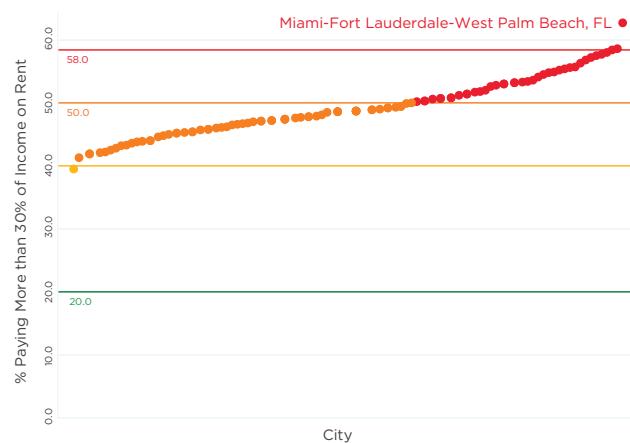


Source: SDSN USA analysis of US Census Bureau data

Rent burden measures the number of renters spending more than 30% of their income on rent; as city populations grow, rent burden is an indication of equity and access to the opportunities and services that cities offer (Zuk 2015; Institute of Metropolitan Opportunity 2019). Unlike sustainable transit, where a few, large cities are making progress, cities across the board are stubbornly low performing on Rent Burden (Figure 8). Although the degree varies, cities are leaving their residents behind when it comes to affordability of rental properties. Particularly because those who are marginalized are more likely to rent, this is a key Leave No One Behind measure. Even in the best performing MSA, Ogden-Clearfield, Utah, nearly 40% of renters are

paying more than 30% of their income on rent. In 41 MSAs, over half of renters are rent burdened, and in the worst case, Miami-Fort Lauderdale-West Palm Beach, Florida, nearly 63% of residents are rent burdened (Figure 8). As displacement pushes more renters out of city centers, rent burden works in tandem with sustainable transit as a measure of both equity and environmental sustainability. In areas where performance is poor on both rent burden and sustainable transit, even more citizens are at risk of being left behind.

FIGURE 8: GRAPH OF CITY PERFORMANCE ON RENT BURDEN



Source: SDSN USA analysis of US Census Bureau data

Performance by Goals

TABLE 1: US CITY PERFORMANCE ON GOAL 7

Average City Score	
Goal 7: Affordable and Clean Energy	28.5%
Indicator: Low-income energy burden	36.5%
Indicator: Renewable energy production	31.2%
Indicator: Renewable energy consumption	18.0%

Source: SDSN USA analysis

Two of the central issues for cities as they work to achieve the SDGs by 2030 will be developing sustainable transit systems and sustainable energy. Sustainable transit, as described above, is one of the indicators on which cities perform the worst. Sustainable energy has similarly low performance; Goal 7: Affordable and Clean Energy, is the lowest performing Goal, with an average score of 28.5 percent. Unsurprisingly, some of the worst performing indicators fall under Goal 7. Some caution should be exercised here due to two of these indicators, sustainable consumption and production, are measured at the state level. While cities certainly have influence over these decisions, localization will be key to developing an in-depth understanding of Clean Energy at the city-level. The low scores on renewable energy production and consumption also impact cities' ability to meet Goal 13: Climate Action. In particular, in one related indicator in Goal 13, Greenhouse Gas Emissions, all cities are currently in the 'red'. Because so much of the US population lives and works in metro areas, improving sustainable transit and energy consumption and production, will pay big dividends in sustainable development overall.

TABLE 2: US CITY PERFORMANCE ON GOAL 6

Average City Score	
Goal 6: Clean Water and Sanitation	77.0%
Indicator: Safe drinking water violations	71.2%
Indicator: Water conservation	71.4%
Indicator: Water pollution	89.7%

Source: SDSN USA analysis

Goal 6: Clean Water and Sanitation is the best performing Goal in the index, with an average score of 77 percent. Goal 6 has three indicators; the first, Safe Drinking Violations, details what percent of the population is drinking water from a facility that has a Safe Drinking Water Act (SDWA) violation. Due to known reporting issues, this indicator considers both health violations and failure to report violations. Even with this consideration, reporting may be biased due to underreporting and other issues. As a result, for this indicator, and for this Goal overall, caution is recommended when interpreting these results. Despite overall good performance, there are some outliers that deserve attention: in Tucson, Arizona and El Paso Texas, 87% of the population is served by a municipal water system that has a violation. We can compare this with cities like Birmingham, Alabama; Los Angeles, California; Las Vegas, Nevada; San Diego, California; Minneapolis, Minnesota; and Virginia Beach, Virginia, where less than 1% of the population is served by a facility with a violation. In both cases, more localized information on which populations are served - or not - from compliant facilities would help determine what interventions are needed, and who is being left behind. The second indicator, Water Conservation, describes domestic water use in gallons per person per day, and the third, Water Pollution, describes the percent reduction in the dumping of toxic chemicals into water. Because of variation in toxicity of the chemicals that are dumped into water (or land and air, in Goals 15 and 12, respectively), we've also included an indicator under Goal 12 that takes into account both the pounds dumped and the toxicity of the chemicals included.

Goal 6 has many data gaps that greatly impact what we are able to say about water quality and services in US cities. For example, despite growing media coverage about lead contaminated water, first and still in Flint, Michigan, but increasingly in cities around the nation, we are not able to track lead contamination at the city level (Pell and Schneyer 2016). This is because lead contamination can happen in two ways, through municipal piping, and through home or private fixtures (US EPA n.d.). Municipalities may know if there is lead in pipes, but may not have data on fixtures in private households ("Where Are the Lead Service Lines?" n.d.). Secondly, municipalities are not necessarily required to publicly disclose elevated lead levels, or where lead pipes are being used (McCormick, Lovell, and Neltner 2017). Gaps are not limited to contaminated water, however. We also lack information on a city's use or overuse of available water sources, impact on fresh or saltwater ecosystems, treatment of wastewater and access and

effectiveness of sanitation systems, and water affordability. As communities localize the SDGs, these considerations may play a central role in developing sustainable water programs, and more localized data may become available to fill in gaps in national-level reporting.

Putting Cities in a State Context

Aligning this index with the 2018 Sustainable Development Report of the United States, which evaluates US States on SDG progress, and the 2019 Sustainable Development Report, which looks at country-level performance on the SDGs, allows for us to consider the city-level data in a larger context.

FIGURE 9: GRAPH OF VARIATIONS IN 2019 CITY INDEX SCORES BY STATE



Source: SDSN USA analysis

Of the fifty-four included indicators, forty-one align with the state index (see Annex below), and nineteen indicators overlap among all three indices. Eight states (Maine, Vermont, Delaware, West Virginia, North Dakota, South Dakota, Wyoming, Montana) and Puerto Rico do not have central cities in this analysis. The US Census designates the main city in any Metro Area to be the 'central city'. These states do not contain central cities of sufficient population size to be included, smaller cities from these states that are part of larger metro areas in other states may be represented in this report. There is not sufficient data available to include San Juan, Puerto Rico (see the box on page 26 for a brief analysis on the data that is available for San Juan). On the other end of the spectrum, twenty-one states have more than one city represented in this index, and seven states have five or more cities included (Table 3).

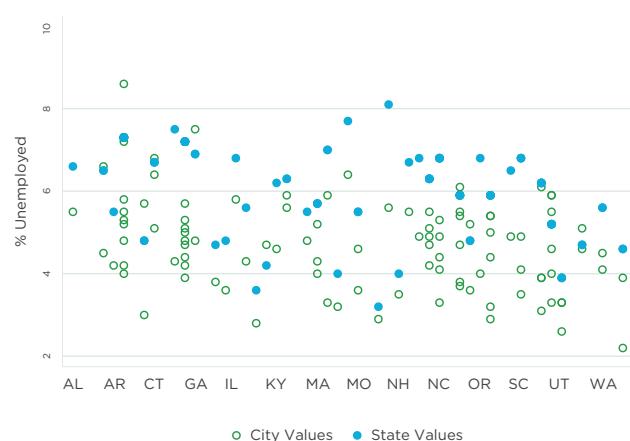
TABLE 3: STATES THAT HAVE 5 OR MORE CENTRAL CITIES INCLUDED IN INDEX

State	Number of Cities
California	11
Florida	9
Ohio	7
Pennsylvania	6
Texas	6
North Carolina	5
New York	5

Source: SDSN USA analysis

Considering the states with multiple cities included, it is clear that a city's individual result on SDG progress is not reliably correlated with the state's progress, and vice versa (Figure 9). In fact, Figure 9 demonstrates that three states have cities in both the top and bottom ten of the rankings: California (1st and 103rd), North Carolina (10th and 101st), and Texas (9th and 96th). Furthermore, some cities significantly out-perform their states, relatively-speaking, such as Austin, Texas and Raleigh, North Carolina, while others significantly underperform, like Hartford, Connecticut and Spokane, Washington.

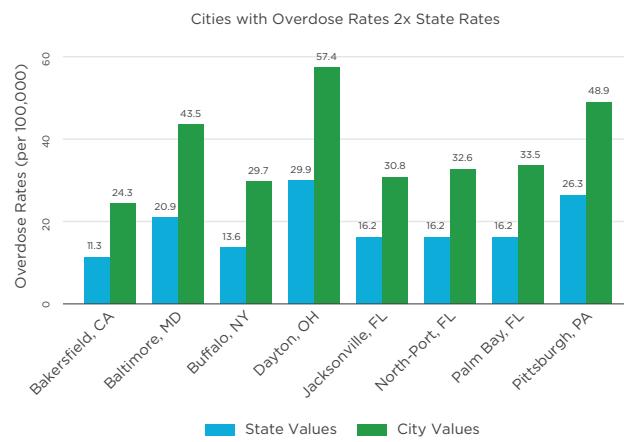
FIGURE 10: GRAPH OF UNEMPLOYMENT RATES IN CITIES AND STATES



Source: SDSN USA analysis of US Census Bureau data

Through analysis of the State and City Reports in tandem with each other, we can get a deeper understanding of the geographical contours of many issues. For example, unemployment rates are generally lower in cities than in states overall (Figure 10). Also, drug overdoses are often higher in cities than in states overall (Figure 11). In four cities, overdose deaths are twice as high as their respective state rates: Dayton, Ohio (57.3 to 29.9), Baltimore, Maryland (43.5 to 20.9), Bakersfield, California (24.3 to 11.3) and Buffalo, New York (29.7 to 13.6). Dayton, Ohio, one of the areas that has been hit hardest by the opioid drug crisis, has a drug overdose rate nearly triple the City Report or State Report average (Dayton has since made significant strides in reducing overdose deaths, down by 50% from 2017 to 2018) (Goodnough 2018). On the other hand, there are a few cities that have managed to escape this trend. For example, McAllen, Texas, has an overdose rate of 3.2 which is one-third of the overall Texas rate, and one-seventh the size of the City Report average. Dayton's rate is nearly eighteen times higher than that of McAllen, Texas.

FIGURE 11: GRAPH OF DRUG OVERDOSES IN CITIES AND STATES



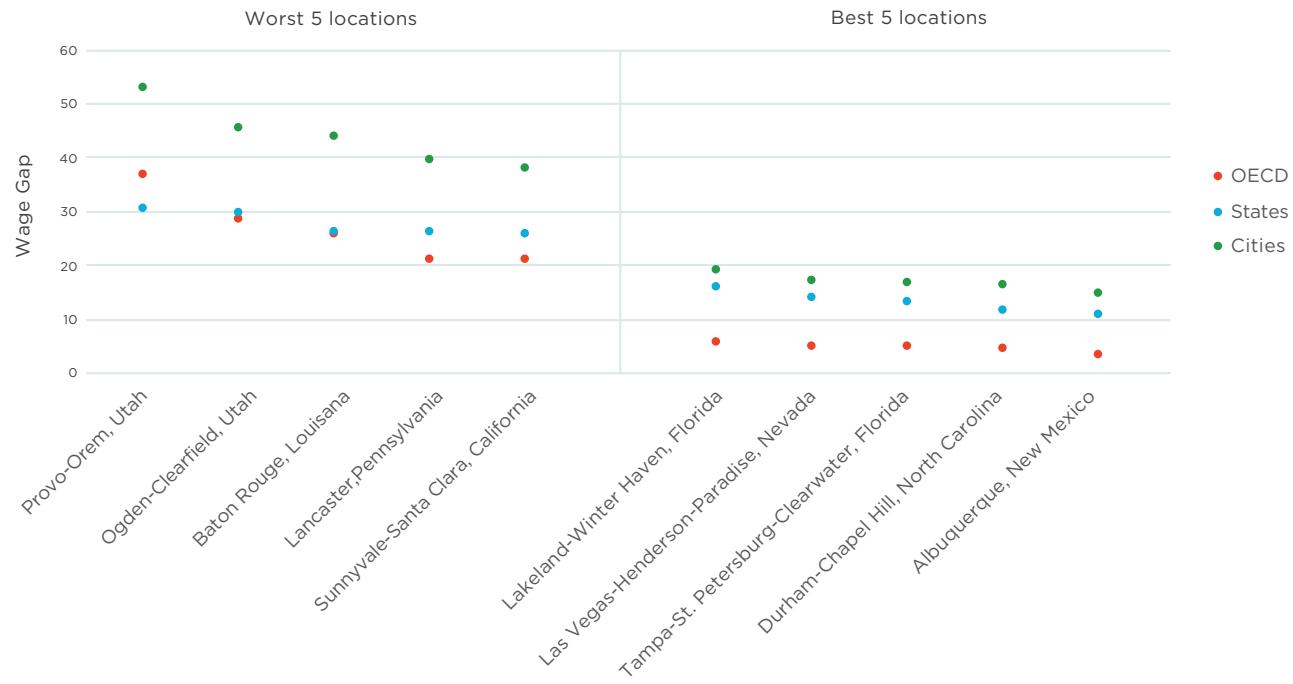
Source: SDSN USA analysis of Population Health Institute data

Connecting Cities, States and Countries on the SDGs

Using SDSN's Sustainable Development Report for 2018, we're able to put US city progress in context not only across states but also across countries. For example, the wage gap - the percent of men's wages that women make - for full-time workers over the age of 16, is an indicator in all 3 reports. On average, there is a bigger average wage gap in US cities (gap of 27 cents per dollar) than in US states (gap of 19 cents per dollar), and a bigger gap in US cities and in US states than in OECD countries (gap of 14 cents per dollar): in US cities women, on average, make \$0.72 for every \$1.00 a man makes, versus \$0.81 at the state level, while in OECD countries overall, women make \$0.86 for every \$1.00 a man makes. The worst performing OECD country (South Korea) has a wage gap of 36.7¢ which is nearly a third better than the worst performing city - Provo-Orem, Utah (53.6¢), although the worst country performance is only slightly worse than the worst performing state - Louisiana (30.5¢). Moreover, the average OECD country performs better (14.1¢) than the best performing US city, Albuquerque, New Mexico (14.8¢). Albuquerque has a wage gap four times larger than the best performing OECD country, Luxembourg, (3.4¢). Comparing US cities' progress on an international scale, helps to highlight where additional progress is needed and indeed possible.

On the other hand, US cities and states outperform OECD countries on Youth Not in School and Not in Employment (NEETS). In fact, with the exception of Iceland, which has a rate of 5.3%, the best performing city, Des Moines-West Des Moines, Iowa, (6.1%), and state, Minnesota (7.5%), outperform all other OECD countries. Even the worst performing city, Bakersfield, California, where 20.7% of youth are out of work and out of school, is nearly a third lower than the worst performing OECD country, Turkey at 28.2%. There are 9 OECD countries with a rate less than 10%, while there are 32 US cities and 17 states at this level. US cities share much in common with communities around the globe. Putting their needs and accomplishments in context can provide insights for communities of practice where lessons and resources can be shared and built upon.

FIGURE 12: GRAPH OF WAGE GAP PERFORMANCE ACROSS INDICES



Source: SDSN USA analysis of US Census Bureau data

Leave No One Behind (LNOB)

A core component to the SDG agenda is a recognition of the fundamental “dignity of the individual” and that the “Goals and targets should be met for all nations and people and for all segments of society” (“The Sustainable Development Goals Report: Leaving No One Behind” 2016). This commitment to “leave no one behind” requires prioritizing the needs of the most marginalized, discriminated against, impoverished, and vulnerable populations *first*. Vulnerable groups include: the poor, racial and religious minorities, children, elderly people, disabled people, women, LGBTQ people, migrants, indigenous peoples, refugees and other groups (United Nations Statistics Division 2016).

Prioritizing Progress of Marginalized Groups in Indicators

Within the city index, efforts were made to highlight the Leave No One Behind (LNOB) Agenda by selecting indicators and disaggregating data to focus specifically on those groups that are farthest behind. Where possible, the indicators measure the progress of groups that have been marginalized by the political agenda. While some SDGs focus on specific groups, for example Goal 1: No Poverty, Goal 5: Gender Equality, and Goal 10: Reduce Inequality, the Leave No One Behind agenda is a central part of all of the Goals. Within each Goal, we attempted to highlight the status of the groups that are being left behind, alongside indicators for the general population. Taken as a whole, no Goal can be achieved unless it has been achieved equally across all social groups, or alternatively, without ensuring equal outcomes for those who are left behind. The average score on LNOB indicators is nearly identical to the average score of all the indicators, demonstrating that there is as much work to do on leaving no one behind as there is to do on the SDGs overall. The gaps in this table demonstrate the need for improved and expanded data sources on the LNOB agenda; ideally every SDG would be represented. Examples of the LNOB indicators are shown in Table 4.

TABLE 4: LEAVE NO ONE BEHIND INDICATORS

SDG	Indicator	Average Score
1	Living below poverty line	47.9
1	Childhood poverty	44.8
1	Working poor	63.9
2	Food insecurity	27.5
2	Food access	36.8
4	School poverty disparity	41.8
5	Women in government	32.2
5	Gender wage gap	34.3
5	Women-owned businesses	50.9
7	Low-income energy burden	36.5
8	Youth not in employment, education or training (NEET)	66.8
9	Broadband access	34.5
10	Gini coefficient	47.8
10	Absolute upward mobility	44.4
10	Native American employment gap	54.9
10	Racial segregation	55.5
10	Municipal Equality Index	71.7
11	Overcrowded housing	70.0
16	Racial representation gap	61.6

Source: SDSN USA analysis

Who is Being Left Behind in the US?

Around the world, the richest people are achieving extraordinary levels of wealth. The United States leads the pack, with the top 1 percent of wealth holders in the US holding 42.5 percent of national wealth, while no other industrialized nation exceeds 28 percent ("Global Inequality" n.d.). Over the past 50 years, the top 1 percent of American earners have almost doubled their share of national income, and "since 1979, the before-tax incomes of the top 1 percent of America's households have increased more than seven times faster than bottom 20 percent incomes ("Income Inequality" n.d.)." Meanwhile there are more than an estimated 3 million people in our included sample who are aged 16-64 and are working full-time, year-round, and still living under the poverty line; that number jumps to an estimated 5.5 million nation-wide. This doesn't account for the reality that the poverty line is well below the living wage estimate in many states (Nadeau and Glasmeir 2019). Moreover, in 94 of the 103 cities with data, more than five percent of children are living below the poverty line; in 18 cities more than a tenth of children are living below the poverty line; and 23.3% of children in McAllen, Texas are living below the poverty line.

In 18 cities, more than 10% of children live below the poverty line

Source: SDSN USA analysis of US Census Bureau data

Beyond America's extreme wealth inequality, other forms of discrimination persist and intersect. In over a quarter of the cities included in this analysis, women make, on average, less than 70 cents per dollar compared to their men counterparts; and in three cities the average is below 60 cents to a man's dollar (see section on Connecting Cities, States and Countries on the SDGs above for more information on the wage gap). Racial inequality is pernicious and exacerbates all the other types of inequalities detailed here. While on average, urban areas in the US also have a remarkably more racially diverse population than other parts of the country (Parker et al. 2018), this report uses MSAs as the primary unit of analysis, and urban and suburban counties are considered jointly. In our sample, MSAs are on average 62 percent white, with only 25 MSAs having a non-white population of greater than 50 percent.

Cities have played a particular role in developing racial inequality through policies like redlining, which, for example, segregates black and other communities of color within city areas, limiting access to housing, jobs, and schools and creating deep racial segregation and inequality. (Rothstein 2017; Ewing 2018; Desmond 2016). This is evidenced in this index through performance on School Poverty Disparity (Goal 4), Native American Employment Gap (Goal 10), Racial Segregation (Goal 10), and Racial Representation Gap (Goal 16). The indicator on School Poverty Disparity offers an example of how economic and racial inequalities interact.

64 cities have an incarceration rate higher than any other country in the world (excluding the US).

Source: PPI, 2018, Vera 2016, SDSN USA

In 80 of the included cities, there is over a 20 percentage point difference in the number of white students who attend high poverty schools, compared to black students. In 16 cities, there is a more than 40 percentage point difference; and in Jackson, Mississippi, there is a 54-percentage point difference in the percentage of white students who attend a high-poverty schools and the percentage of black students who high-poverty schools. Another indicator, Segregation, uses an Index of Dissimilarity to measure segregation on a 0-100 scale, with 0 representing equal distribution and 100 representing complete segregation. The score can be interpreted as the percentage of the sub-group that would need to move census tracts to desegregate the area. 50 cities score over 50 on this index, i.e. 50% of black people would need to move to a different census tract to de-segregate that city, and 14 have scores over 60. The worst performers — Buffalo, New York and Provo, Utah — have scores over 70. This inequality shows up over and over, across a variety of indicators — in the worst cases, Native Americans are three times more likely to be unemployed than white people in three different cities. In Albuquerque, New Mexico, black people make up 3% of the population, but 58% of prison population, an over-representation of 21 times. Even in the best performing city black people were still over-represented in jails and prisons by a factor of 1.5; and in our sample, are over-represented on average by a factor of four.

Of cities with sufficient data, 21 have Native American unemployment rates more than 2 times higher than unemployment rates for white, non-Hispanics.

Source: SDSN USA analysis of US Census Bureau data

Exacerbating the legal, cultural and historical barriers to progress on the Leave No One Behind Agenda is the reality that the most vulnerable or disenfranchised individuals are often excluded from decision-making processes. The indicator on Racial Representation in City Government shows that people of color are under-represented by an average of 16 percentage points, and are under-represented by more than 40 percentage points in the worst performing cities of Oxnard-Thousand Oaks-Ventura, California (43.3 pp), Richmond, Virginia (43.4 pp), and Riverside-San Bernardino-Ontario, California (55.7 pp). City policies have worked to amass advantage for white residents in a variety of ways, and explicit city policies will be necessary to undo this generational systemic disadvantage.

In 14 cities more than 60% of blacks would need to be welcomed in a different census tract to desegregate the city.

Source: SDSN USA analysis of Population Health Institute data

To understand LNOB at the city level in the United States, one must go beyond the data to consider how the systems of inequality that discriminate based on race, indigenous status, religion, gender, sexual orientation, disability, poverty, location, and age undermine progress and hinder achievement of the SDGs. Understanding and addressing the concentration of income, wealth, and political power will be critical to achieving the LNOB agenda: "...it is not enough to address inequality by focusing on those 'left behind'

at the bottom. It is also necessary to address the concentration of wealth, income and decision-making power at the top" (UN CDP 2018). Our growing inequalities—economic, racial and otherwise—are at direct odds with the SDG agenda and should be prioritized at all levels of government and by all stakeholders to address LNOB and achieve the SDGs. The American Dream is not available to many people here in the US, and the SDGs can provide a framework to address and improve exactly that.

TABLE 5: BEST AND WORST PERFORMING CITIES ON LNOB INDICATORS

City	Report Rank	LNOB Rank	LNOB Score
Ogden-Clearfield, UT	46	1	72
Manchester-Nashua, NH	26	2	72
Provo-Orem, UT	28	3	72
Colorado Springs, CO	68	4	70
Raleigh, NC	10	5	68
Chattanooga, TN-GA	85	101	18
Miami-Fort Lauderdale-West Palm Beach, FL	58	102	16
New Orleans-Metairie, LA	96	103	15
Memphis, TN-MS-AR	103	104	14
McAllen-Edinburg-Mission, TX	99	105	10

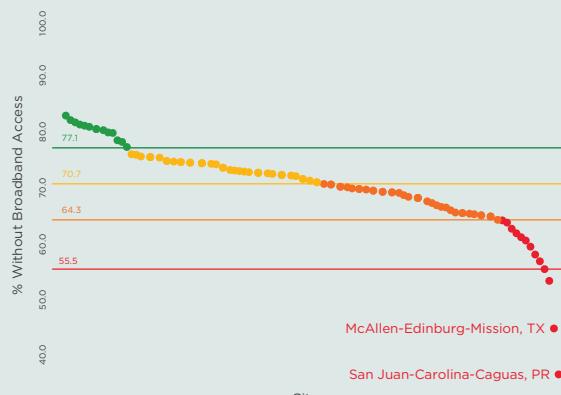
Source: SDSN USA analysis

PUERTO RICO

San Juan, the capital of Puerto Rico is the 32nd largest city in the United States; however, due to data limitations, San Juan is not included in the full results. This section provides a snapshot of available data on San Juan, highlighting key SDG areas of improvement, as well as inequalities and outcome disparities between San Juan and other US cities.

On a number of indicators where data is available, San Juan underperforms by a large margin even the worst performing cities included in the index. In one example, only 36.7 percent of households in San Juan had access to broadband in 2017, which is almost ten percentage points behind the lowest ranking McAllen, Texas on this indicator (Figure 13).

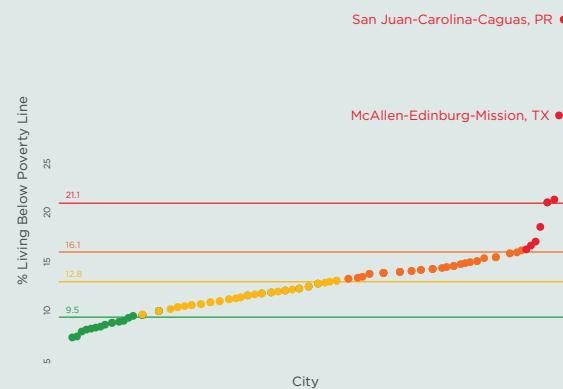
FIGURE 13: GRAPH OF PERCENT WITH ACCESS TO BROADBAND



The economic position of San Juan is also quite startling. In 2017, San Juan's unemployment rate was 15.9 percent, while the worst performing city in the index, Bakersfield, California, had an 8.6 percent unemployment rate. Poverty and child poverty in San Juan are three and four times higher than the US city average, respectively;

and San Juan would rank in the bottom two cities of the index on these measurements, as well as in the number of working-poor. If San Juan was included, it would have a Goal 1: End Poverty score of 0. Its Gini of .551 is also higher than the worst index performer.

FIGURE 14: GRAPH OF PERCENT LIVING BELOW POVERTY LINE



On a positive note, San Juan is the only city in which women do not, on average, earn less than men (San Juan's wage gap was 103.2% in 2017, compared to the index top-performer Albuquerque New Mexico where women earn 85% of male earnings). San Juan performs quite highly in early childhood education, with 59.5% of three-to-four-year-olds enrolled in pre-k in 2017 — this renders San Juan a Top Ten performing city in the US. It lands in the middle of US cities when considering tertiary education, with 32.6% of 25-34-year-olds reported to have a bachelor's degree or higher; and is also in the middle of the pack on health insurance coverage, with 92.5% of the population insured.

The results from San Juan are mixed, but it is very clear that structural inequalities are stark. The lack of data, especially when compared to other large urban areas in the US, is a challenge for SDG assessment, while the on-the-ground barriers to SDG achievement remain high and are compounded by the systemic issues at play in Puerto Rico and the US. Further, Puerto Rico's status as a territory complicate its place in these rankings (Webber 2017). San Juan does not have the same powers and privileges as the other cities in this list, entangling responsibility across administrative lines. Moreover, the devastating effects of Hurricane Maria in 2017— which left residents without clean water, electricity and food, and may have resulted in the deaths of up to four percent of the island's population— have only compounded the difficulties of achieving the SDGs in San Juan and Puerto Rico more broadly (Associated Press 2019; "Puerto Rico a Year after Hurricane Maria" n.d.; Rodriguez 2019). Filling data gaps and including Puerto Rico and Puerto Ricans in policy decisions will be essential to ensuring San Juan, and Puerto Rico more broadly, is not left behind.

Data Gaps and Limitations

Though every attempt was made to cover issues urgent and central to the SDGs, there were many areas where data was not available or not comprehensive enough to be included. A partial list of gaps is below (Table 6: Data Gaps). One of the most striking gaps is maternal mortality, where there are not only difficulties of data standardization but also of reporting and aggregation (Merelli 2017; MacDorman et al. 2016; “U.S. Has The Worst Rate Of Maternal Deaths In The Developed World” 2017; Truschel and Novoa 2018). Because maternal mortality rates in the US are appallingly high for black mothers (42.8) — more than 2.5 times higher than high-income country averages (16.9) — city data on maternal mortality is especially relevant for achieving the SDGs in US cities (Rabin 2019; Kassebaum et al. 2016). Other notable gaps include Goal 14: Oceans, and

Goal 17: Partnerships for the Goals. These Goals were not included due to methodological difficulties developing consistent measurements across city contexts. We hope to include these Goals and indicators in future editions.

Analyzing the data at the MSA level presents both benefits and limitations. MSAs include cities and surrounding areas, and so conducting analysis at this level accounts for much of the population that commutes into city areas (Badger 2013). Because the MSA is designated by the Census Bureau, using this level of geographic analysis allows for consistent measurement across time and place. On the other hand, using the MSA as a geographical unit presents challenges because an MSA represents multiple jurisdictional boundaries.

TABLE 6: DATA GAPS

 <p>1 NO POVERTY</p>	<p>SDG 1: END POVERTY</p> <p>Deep poverty Living wage Disability poverty gap</p>	 <p>5 GENDER EQUALITY</p>	<p>SDG 5: GENDER EQUALITY</p> <p>Domestic workers/temporary workers Trafficking Family planning needs met Disparity in access to economic resources Sexual violence</p>
 <p>2 ZERO HUNGER</p>	<p>SDG 2: ZERO HUNGER</p> <p>Urban agriculture Investment in rural infrastructure Land access for Indigenous Peoples</p>	 <p>6 CLEAN WATER AND SANITATION</p>	<p>SDG 6: CLEAN WATER AND SANITATION</p> <p>Water affordability Access to sanitation Wastewater Water-related ecosystems</p>
 <p>3 GOOD HEALTH AND WELL-BEING</p>	<p>SDG 3: GOOD HEALTH AND WELL-BEING</p> <p>Maternal mortality Access to high quality, comprehensive, health care HIV/AIDS Sexual and reproductive healthcare Prenatal care Universal health care tracer index Environmental health Smoking</p>	 <p>7 AFFORDABLE AND CLEAN ENERGY</p>	<p>SDG 7: AFFORDABLE AND CLEAN ENERGY</p> <p>Energy access Energy efficiency Research/investment in energy technology</p>
 <p>4 QUALITY EDUCATION</p>	<p>SDG 4: QUALITY EDUCATION</p> <p>Affordable education Literacy Psychosocial wellbeing for youth Gender disparities in education Education for sustainable development Safe and inclusive learning environments Double segregation by race and economic status in schooling</p>	 <p>8 DECENT WORK AND ECONOMIC GROWTH</p>	<p>SDG 8: DECENT WORK AND ECONOMIC GROWTH</p> <p>Sustainable tourism Migrant workers Forced labor and modern slavery Decoupling economic growth from environmental degradation Banking access</p>
 <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	<p>SDG 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> <p>Sustainable infrastructure R&D investment Access of small businesses to affordable credit</p>		



SDG 10: REDUCED INEQUALITIES

Migration policies
Religious discrimination
Regulation of global financial markets
Disability



SDG 14: LIFE BELOW WATER

Not included



SDG 11: SUSTAINABLE CITIES AND COMMUNITIES

Affordable transportation
Cultural and natural heritage
Disability access
Urban displacement
Rural/urban linkages
Homelessness



SDG 15: LIFE ON LAND

Freshwater, forest, and mountain ecosystems
Biodiversity/threatened species
Genetic resources
Wildlife poaching/trafficking
Conservation funding



SDG 12: RESPONSIBLE CONSUMPTION AND PRODUCTION

Food and municipal waste
Corporate sustainability
Sustainable public procurement
Fossil fuel subsidies
Carbon intensity of fuels



SDG 16: PEACE, JUSTICE AND STRONG INSTITUTIONS

Violence against children
Illicit financial and arms flows
Corruption
Access to information
Voting



SDG 13: CLIMATE ACTION

Climate finance
Climate change education
Climate planning support for developing countries
Natural disaster resilience



SDG 17: PARTNERSHIPS FOR THE GOALS

Not included



Conclusion

The 2019 US Cities Report provides an entry point into the United Nations' Sustainable Development Goals at the city-level in the United States. As was shown in the 2017 and 2018 Reports before it, cities have much to do if they are to achieve the SDGs by 2030. To date, cities have made the most progress on Goals 6: Clean Water and Sanitation, and 15: Life on Land and will need to do the most work on Goals 2: Zero Hunger, 5: Gender Equality, 7: Affordable and Clean Energy, and 9: Industry, Innovation and Infrastructure. In particular, cities will need to address economic, racial, and gender inequality; find clean energy solutions; provide sustainable transit options; and ensure equitable access to housing. While a comprehensive assessment of all SDG indicators is not yet possible, progress on Youth Out of School and Out of Work indicator, for example, is encouraging. Further, while all cities will need to improve in some areas, US cities are far from monolithic. No city is immune from the challenges of sustainable development, yet US cities have a wide variety of challenges and strengths: even within individual states, cities have a wide variety of

outcomes. Localizing the Goals to specific communities will be a central to their achievement in cities, and in the US in general.

Beyond an overview of progress towards the SDGs at the city-level, this report can point to areas for prioritization, collaboration, and further research. In connection with the State and Global Reports, the results can be put in a larger context and highlight areas of collaboration outside of traditional city networks by region and size. These are opportunities not only for cities to learn from what has worked elsewhere, but also to share with a wider audience the successes and lessons it has developed. Achieving the SDGs will require focused, intentional action that centers its solutions around the most impacted communities in devising solutions. This work extends beyond the limitations of any one administration or political party. The SDGs collaborative, international framework is an opportunity to bridge those limitations and move citizen-led initiatives towards implementation.

Methodology

The US Cities Sustainable Development Report measures the progress of US cities towards the United Nations Sustainable Development Goals. Using publicly available, recent data from reputable sources, the index presents an overview of progress towards the SDGs. It builds upon US Cities Indices developed by SDSN in 2017 and 2018. The scores represent progress towards these goals which are meant to be achieved by 2030. The methodology below builds on the methodology established by SDSN and Bertelsmann Stiftung for the SDG Index and Dashboards Report (Sachs, J., Schmidt-Traub, G., Kroll, and C., Lafortune, G., Fuller, G 2018). This section includes: 1) information on indicator and data selection, 2) rescaling and normalizing the data, and 3) aggregating composite index and adding colors.

Updates to Methodology and European Commission's Independent Statistical Audit

The European Commission Joint Research Centre (JRC) conducted in 2019, for the first time, an independent statistical audit of the underlying methodology of this report, first developed by SDSN and Bertelsmann Stiftung for the SDG Index and Dashboards, now called the Sustainable Development Report. The audit evaluated the statistical and conceptual coherence of the index structure (Sachs, J., Schmidt-Traub, G., Kroll, and C., Lafortune, G., Fuller, G 2018). Based on this audit, a few updates have been made. When considering normalization and weighting, additional tests regarding outliers were put into place. No imputed data is used for this index. Additional information, including raw data, is available online at www.github.com/sdsna/2019USCitiesIndex.

Indicator Selection Criteria

To determine quality, technically-sound indicators for selection, we used the following criteria:

- 1. SDG and US city relevance:** Data is matched to the SDG targets, then matched to suggested indicators as closely as possible. From this list, indicators are selected that are most relevant to city contexts—for example, the index excludes international cooperation indicators. Finally, when possible, indicators should be relevant to a policy context and/or support communities and leaders in policy-making decisions. Alignment of each indicator to the SDG target or indicator is noted on the Annex.
- 2. Statistical quality:** Data must be from a reputable source that produces data in a replicable and reliable way. Preference is given to datasets that are updated routinely, so progress can be tracked to 2030, and to datasets that have disaggregated data available, to track progress for all groups.
- 3. Timelines:** Data must be published recently, with preference given to data covering the year 2015 or later. In two instances, data was used from earlier years; and in eight instances, data was aggregated from multiple years that include dates prior to 2015 because it was the most reliable source to cover an essential issue. (See the Annex for more information on specific data sources and years covered.)
- 4. Coverage:** Datasets must provide data for at least 80% of MSAs. Six variables had less than 80% coverage but were included because when available, these indicators provide essential information about sustainability at the city level (Infant Mortality Rate, Park Area, Natural Parkland, Racial Representation Gap, and Gender Representation Gap, Municipal Equality Index). Many indicators were collected at the county level and aggregated to the MSA level. When data was aggregated to the MSA, it was population weighted when appropriate. County-level indicators were only included when the included

counties covered 75% of the total MSA population. Two indicators— Paid Sick Leave and Paid Family Leave—were included if any county in the MSA had a policy. Finally, two indicators were measured at the state level: Renewable Energy Consumption and Production. Goals 14 and 17 are not included in this index due to issues of data availability and to lack of city-level comparability.

5. **Comparability:** Data was chosen that has a reasonable or scientifically determined threshold. There are several indicators that the UN has recommended for monitoring purposes, that are not well-suited for comparison in an index because there is no consensus on a “best” level of achievement. Indeed, “best” levels may vary by location. This is the case, for example, with passenger and freight volumes (SDG Indicator 9.1.2) or percentage of employment in the manufacturing sector (SDG Indicator 9.2.2) from Goal 9, neither of which have an optimal level of achievement at the city level.
6. **Repeated indicators:** Data should not repeat across Goals. Within the SDGs official indicators, there are indicators that are repeated across multiple Goals. This promotes the idea that the SDGs are interconnected and interdisciplinary. However, in order to prevent double counting of indicators within the index calculations, indicators were not repeated across Goals. In cases where an indicator could reasonably fit within multiple SDGs, it was placed within the Goal with the target that was determined to most closely/directly match the language/intent of the indicator.
7. **Outcome indicators:** Whenever possible, data should measure outcomes. In cases where outcome data was unavailable, process or output indicators were used to track policies or actions that have a research-supported impact on outcomes. For example, paid sick leave and paid family leave legislation were used as an indicator for implementing appropriate social protection systems.

Rescaling and Normalizing the Data

To rescale and normalize the data, the index followed the methodology developed by SDSN and Bertelsmann Stiftung, detailed below. Indicators were rescaled so they could be compared with one another. The choice of upper and lower bounds with which to rescale the data is a sensitive one and can introduce unintended effects into datasets if extreme values and outliers are not taken into account. (Note: in this section the term “upper bound” is used to refer to the target value, even if the indicator data is descending and the most progress is represented by a smaller number.) Lower bounds are particularly sensitive to outliers as they can impact the rankings of the data (Booyse 2002). Detailed information about each indicator, its bounds, and the rationale for those bounds can be found in the Annex. When the bounds have been set by a previous, comparable report, we have maintained those bounds here. When this was not possible, the following methodology was used to determine upper and lower bounds. All bounds taken from previous reports were also determined by the methodology below.

The upper bound for each indicator was determined using a five-step decision tree developed by SDSN and Bertelsmann Stiftung:

1. **Use the absolute quantitative thresholds outlined in the SDGs and targets:** e.g. zero poverty, universal school completion, universal access to water and sanitation, full gender equality. Some SDG targets also propose relative changes (e.g. halve poverty).
2. **Where no explicit SDG target is available, set upper bound to universal access or zero deprivation for the following types of indicators:** a. Measures of poverty (e.g. working poor), consistent with the SDG ambition to “end poverty in all its forms everywhere” (Goal 1); b. Public service coverage (e.g. preschool access); c. Access to basic infrastructure (e.g. broadband access); d. Leave No One Behind (e.g. school poverty disparity), consistent with the SDG ambition to eliminate disparate treatment for all vulnerable groups including those identified by race, indigenous status, religion, gender, sexual orientation, disability, poverty, location, and age.
3. **Where science-based targets exist that must be achieved by 2030 or later, use these to set 100% upper bound:** target value of 1.7 tons of CO₂ per capita by 2050 as outlined in the Deep Decarbonization Pathways report for the United States (e.g. Goal 13: Production-related GHG emissions).

- 4. Where even the best performing cities lag significantly behind the international community, and the indicator matches one used in international contexts, use the average of the top 5 OECD performers or the top 5 Global Index performers.**
- 5. For all other indicators use the average of the top 5 performers.**

The lower bound for each indicator was determined using a three-step decision tree:

1. Use science-based thresholds, or expert advice for lowest acceptable or safe performance.
2. Evaluate the skewness and kurtosis of the raw data. When absolute skewness was greater than 2.0 and kurtosis was greater than 3.5, and/or data coverage below was 80%, distributions were analyzed for further adjustments.
3. Use the 2.5 percentile score of the available data to account for outliers.

For both the upper and lower bounds:

Each indicator distribution was censored, so that all values exceeding the target value scored 100, and values below the lower bound scored 0. In cases where the bounds were scientifically determined, the normalized score can be interpreted as percentage of progress made towards achieving the SDGs, with 100% meaning that the indicator has been achieved. In many cases, however, a score of zero is simply the lower benchmark of US cities' current progress. In cases where the average of the top 5 is used to determine the score of 100, a "100" indicates only that this threshold level of achievement can be reasonably expected in the US context.

Calculating the index and assigning colors:

Goal scores were created by taking the arithmetic average of the normalized indicator scores. Overall score was calculated by averaging the score for the 15 included SDGs.

Color scales were developed by creating interior thresholds that benchmark progress towards achieving the SDGs. The colors reflect the following scale:

Red—poor performance; orange—poor to moderate performance; yellow—moderate to good performance;

green—good performance; grey—information unavailable. Green should not be interpreted as meeting the SDG indicator, but rather as an indication that the city is within range of achievement by 2030. As this index provides primarily a benchmark of current achievement, cities could be slowing progress or moving away from achievement, which would not be captured here. Similarly, cities could be within range of achievement but not moving quickly enough to actually achieve the Goal by 2030.

Interior thresholds were developed, when available, by expert or scientifically-determined levels. When this was not possible, interior thresholds were determined using summary statistics, such as using the mean (yellow/orange threshold) and the standard deviation (to set the yellow/green and orange/red thresholds), and then adjusted for clustering within the data. When indicators were measured on a 3-point scale (i.e. 0, 1, 2), three colors were used: red, yellow and green. The colors for Goal-level achievement were determined by mapping the indicator colors to a four-point scale (0-3), and then averaging the value across all indicators for a specific Goal. If any city had more than 1/3 of its indicators red for any Goal, that Goal was automatically determined to be red, to highlight the level of action necessary to achieve that Goal by 2030.

References

Annex:
Sources and Definitions of Indicators



LIVING BELOW POVERTY LINE, 2017

Percentage of population living below national poverty line

UNITS % INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE American Community Survey, US Census Bureau

MINIMUM VALUE	MAXIMUM VALUE	SDG ALIGNMENT	TARGET	WORST VALUE
7.3	30.0	Target 1.2	1.2	21.1
SORT ORDER Descending				
TARGET VALUE 3.7	12.8			16.1

Best value set according to SDG mandate to halve poverty.
Worst value set according to 2018 SDSN US Cities Index.
Dashboard set according to summary statistics, and adjusted
for clustering.

GLOBAL INDICATOR N STATE INDICATOR Y

CHANGES FROM 2018 Updated year

CHILDHOOD POVERTY, 2017

Percentage of children living below twice the poverty line

UNITS % INCLUDED MSAs 103

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE American Community Survey, US Census Bureau

MINIMUM VALUE	MAXIMUM VALUE	SDG ALIGNMENT	TARGET	WORST VALUE
3.1	23.3	Target 1.1	1.1	14.3
SORT ORDER Descending				
TARGET VALUE 0.0	8.0			10.8

Best value set according to SDG mandate to eradicate extreme
poverty for all. Worst value set according to 2018 SDSN US
Cities Index. Dashboard set according to summary statistics,
and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR N

CHANGES FROM 2018 Updated year

WORKING POOR, 2017

Percentage of population aged 16-64 living below the poverty
level and working full-time, year-round

UNITS % INCLUDED MSAs 103

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE American Community Survey, US Census Bureau

MINIMUM VALUE	MAXIMUM VALUE	SDG ALIGNMENT	TARGET	WORST VALUE
0.6	10.9	Target 1.2	1.2	7.0
SORT ORDER Descending				
TARGET VALUE 0.0	2.6			3.8

Best value set according to zero deprivation: end poverty.
Worst value set using 2.5th percentile and adjusted further for
skewness and kurtosis. Dashboard set according to summary
statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR Y

CHANGES FROM 2018 New indicator

SICK LEAVE POLICY, 2019

Paid sick leave policy, approved or enacted as of 2019
(0= no, 1= yes). MSA receives a score of 1 if: there is a
state-wide policy; at least one main city within the MSA has
a policy; or at least one county within the MSA has a policy.

UNITS score (worst 0, 1 best)	INCLUDED MSAs 105
GEOGRAPHICAL LEVEL OF SOURCE State, city and county	
SOURCE National Partnership for Women and Families & Institute for Women's Policy Research, Workplace Fairness & Willis Towers Watson	
THRESHOLDS -	-

Best value set to "Requires paid sick leave." Worst value set
according to "Does not require paid sick leave." Dashboard set
to binary red/green scale.

GLOBAL INDICATOR N STATE INDICATOR Y
CHANGES FROM 2018 New indicator

FAMILY LEAVE POLICY, 2019

Paid family/parental leave policy for municipal employees,
approved or enacted as of May 2018 (0= no, 1= yes). MSA
receives a score of 1 if: there is a state-wide policy; at least one
main city within the MSA has a policy; or at least one county
within the MSA has a policy.

UNITS score (worst 0, 1 best)	INCLUDED MSAs 105
GEOGRAPHICAL LEVEL OF SOURCE State, city and county	
SOURCE National Partnership for Women and Families	
THRESHOLDS -	-

Best value set to "Requires paid family leave." Worst value set
according to "Does not require paid family leave." Dashboard
set to binary red/green scale.

GLOBAL INDICATOR N STATE INDICATOR Y
CHANGES FROM 2018 New indicator



FOOD INSECURITY, 2014-2016

Percentage estimates of individuals experiencing food insecurity

UNITS % INCLUDED MSAs 105
GEOGRAPHICAL LEVEL OF SOURCE County
SOURCE Feeding America

MINIMUM VALUE 7.9	MAXIMUM VALUE 19.7
SORT ORDER Descending	SDG ALIGNMENT Target 2.1
TARGET VALUE 0.0	WORST VALUE 17.8
THRESHOLDS	5.0 10.0 15.5

Best value set according to SDG mandate to end hunger.
Worst value set according to 2018 SDSN US Cities Index.
Dashboard set according to SDSN US State Index.
GLOBAL INDICATOR N STATE INDICATOR Y
CHANGES FROM 2018 Updated year



INFANT MORTALITY RATE, 2016

Infant mortality rate (per 1,000 live births)

UNITS Count per 1,000 live births INCLUDED MSAs 104
GEOGRAPHICAL LEVEL OF SOURCE County
SOURCE Centers for Disease Control and Prevention

MINIMUM VALUE 3.3	MAXIMUM VALUE 11.0
SORT ORDER Descending	SDG ALIGNMENT Target 3.2
TARGET VALUE 2.1	WORST VALUE 11.1
THRESHOLDS	3.5 5.0 7.0

Best value set according to SDSN US State Index. Worst value set according to 2.5th percentile. Dashboard set according to SDSN US State Index.
GLOBAL INDICATOR N STATE INDICATOR Y
CHANGES FROM 2018 Updated year

FOOD ACCESS, 2015

Percentage of population with low-access to large grocery stores (more than 1 mile from a supermarket, supercenter or large grocery store in an urban area)

UNITS % INCLUDED MSAs 105
GEOGRAPHICAL LEVEL OF SOURCE County
SOURCE Food Environment Atlas, US Department of Agriculture

MINIMUM VALUE 6.4	MAXIMUM VALUE 40.2
SORT ORDER Descending	SDG ALIGNMENT Target 2.1
TARGET VALUE 0.0	WORST VALUE 34.7
THRESHOLDS	7.0 16.0 24.0

Best value set according to SDG mandate to ensure access to sufficient food for all. Worst value set according to 2.5th percentile. Dashboard set according to SDSN US State Index.
GLOBAL INDICATOR N STATE INDICATOR Y
CHANGES FROM 2018 New indicator

DEATHS DUE TO ROAD COLLISIONS, 2013-2017

Estimated number of fatal road traffic injuries to pedestrians, bicyclists and motorists per 100,000 people

UNITS Count per 100,000 people INCLUDED MSAs 105
GEOGRAPHICAL LEVEL OF SOURCE County
SOURCE Centers for Disease Control and Prevention

MINIMUM VALUE 4.5	MAXIMUM VALUE 16.5
SORT ORDER Descending	SDG ALIGNMENT Target 3.6
TARGET VALUE 2.2	WORST VALUE 16.2
THRESHOLDS	6.5 9.6 12.6

Best value set according SDG mandate to halve deaths and injuries from road traffic accidents. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.
GLOBAL INDICATOR Y STATE INDICATOR Y
CHANGES FROM 2018 Updated year

PREVALENCE OF OBESITY, 2015

Percentage of adults that report a BMI ≥ 30

UNITS % INCLUDED MSAs 105
GEOGRAPHICAL LEVEL OF SOURCE County
SOURCE County Health Rankings, University of Wisconsin Population Health Institute

MINIMUM VALUE 20.0	MAXIMUM VALUE 36.1
SORT ORDER Descending	SDG ALIGNMENT Target 2.2
TARGET VALUE 20.5	WORST VALUE 35.1
THRESHOLDS	24.9 28.6 32.3

Best value set according to average of top 5. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.
GLOBAL INDICATOR Y STATE INDICATOR Y
CHANGES FROM 2018 Updated year

NON-COMMUNICABLE DISEASES, 2017

Age-adjusted death rate for non-communicable diseases (chronic respiratory, diabetes, cancer, cardiovascular) per 100,000 people aged 35-74

UNITS Count per 100,000 people aged 35-74

INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE County

SOURCE Centers for Disease Control and Prevention

MINIMUM VALUE 238.5

MAXIMUM VALUE 535.9

SORT ORDER Descending

SDG ALIGNMENT Target 3.4

TARGET VALUE 250.7

WORST VALUE 526.3

THRESHOLDS  320.0

 405.0

 480.0

Best value set according to average of top 5. Worst value set according to 2.5th percentile. Dashboard set according to SDSN US State Index.

GLOBAL INDICATOR Y STATE INDICATOR Y

CHANGES FROM 2018 New indicator

LIFE EXPECTANCY AT BIRTH, 2015-2017

Age-adjusted life expectancy from birth

UNITS Years

INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE County

SOURCE County Health Rankings, University of Wisconsin Population Health Institute using National Center for Health Statistics - Mortality Files

MINIMUM VALUE 75.5

MAXIMUM VALUE 84.3

SORT ORDER Ascending

SDG ALIGNMENT Goal 3

TARGET VALUE 83.0

WORST VALUE 76.1

THRESHOLDS  80.0

 78.5

 77.0

Best value set according to SDSN US State Index. Worst value set according to 2.5th percentile. Dashboard set according to SDSN US State Index.

GLOBAL INDICATOR Y STATE INDICATOR Y

CHANGES FROM 2018 New indicator

MENTALLY UNHEALTHY DAYS, 2016

Average number of mentally unhealthy days reported in past 30 days (age-adjusted)

UNITS Days INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE County

SOURCE County Health Rankings, University of Wisconsin Population Health Institute

MINIMUM VALUE 2.92

MAXIMUM VALUE 4.73

SORT ORDER Descending

SDG ALIGNMENT Target 3.4

TARGET VALUE 3.04

WORST VALUE 4.45

THRESHOLDS  3.48

 3.83

 4.18

Best value set according to average of top 5. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR N

CHANGES FROM 2018 New indicator

HEALTH INSURANCE COVERAGE, 2017

Percentage of the population with health insurance

UNITS %

INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE American Community Survey, US Census Bureau

MINIMUM VALUE 70.0

MAXIMUM VALUE 97.4

SORT ORDER Ascending

SDG ALIGNMENT Target 10.4

TARGET VALUE 100.0

WORST VALUE 80.1

THRESHOLDS  98.0

 92.7

 87.3

Best value set according to universal access: public service. Worst value and dashboard set according to 2018 SDSN US Cities Index.

GLOBAL INDICATOR Y STATE INDICATOR Y

CHANGES FROM 2018 Moved indicator from SDG 10 to SDG 3

DRUG OVERDOSE DEATHS, 2015-2017

Number of deaths due to drug poisoning per 100,000 population

UNITS Count per 100,000 people INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE County

SOURCE County Health Rankings, University of Wisconsin Population Health Institute

MINIMUM VALUE 3.2

MAXIMUM VALUE 57.4

SORT ORDER Descending

SDG ALIGNMENT Target 3.5

TARGET VALUE 7.5

WORST VALUE 34.3

THRESHOLDS  11.0

 18.0

 24.0

Best value set according to average of top 5. Worst value and dashboard set according to SDSN US State Index.

GLOBAL INDICATOR N STATE INDICATOR Y

CHANGES FROM 2018 New indicator



EARLY EDUCATION, 2017

Percentage of population aged 3-4 enrolled in school

UNITS % INCLUDED MSAs 105
GEOGRAPHICAL LEVEL OF SOURCE MSA
SOURCE American Community Survey, US Census Bureau

MINIMUM VALUE 30.7	MAXIMUM VALUE 70.3
SORT ORDER Ascending	SDG ALIGNMENT Target 4.2
TARGET VALUE 100.0	WORST VALUE 33.9
THRESHOLDS █ 80.0	█████ 50.0 █████ 35.0

Best value set according to SDG mandate to ensure that all have access to pre-primary education. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR Y
CHANGES FROM 2018 Updated year

SCHOOL POVERTY DISPARITY, 2016

Percentage-point disparity in attending a high poverty school (>75% Free and Reduced Price Lunch) between white people and people of color

UNITS Percentage points INCLUDED MSAs 105
GEOGRAPHICAL LEVEL OF SOURCE MSA
SOURCE PolicyLink/PERE, National Equity Atlas

MINIMUM VALUE 2.6	MAXIMUM VALUE 54.0
SORT ORDER Descending	SDG ALIGNMENT Target 4.5
TARGET VALUE 0.0	WORST VALUE 48.8
THRESHOLDS █ 5.0	█████ 28.5 █████ 39.9

Best value set according to Leave No One Behind. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR N
CHANGES FROM 2018 New indicator

HIGHER EDUCATION, 2017

Percentage of the population aged 25-34 with a bachelor's degree or higher

UNITS % INCLUDED MSAs 105
GEOGRAPHICAL LEVEL OF SOURCE MSA
SOURCE American Community Survey, US Census Bureau

MINIMUM VALUE 13.0	MAXIMUM VALUE 59.4
SORT ORDER Ascending	SDG ALIGNMENT Target 4.3
TARGET VALUE 57.0	WORST VALUE 17.2
THRESHOLDS █ 45.3	█████ 35.8 █████ 26.3

Best value set according to average of top 5. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR Y STATE INDICATOR Y
CHANGES FROM 2018 Changed age range from 25+ to 25-34

HIGH SCHOOL GRADUATION RATE, 2016-2017

Percentage of ninth-grade cohort that graduates in four years

UNITS % INCLUDED MSAs 105
GEOGRAPHICAL LEVEL OF SOURCE County
SOURCE County Health Rankings, University of Wisconsin Population Health Institute

MINIMUM VALUE 69.9	MAXIMUM VALUE 91.7
SORT ORDER Ascending	SDG ALIGNMENT Target 4.1
TARGET VALUE 91.4	WORST VALUE 76.3
THRESHOLDS █ 89.0	█████ 85.0 █████ 80.0

Best value set according to average of top 5. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR Y
CHANGES FROM 2018 New indicator



GENDER WAGE GAP, 2017

Percentage of men's earnings that women earn, when comparing full-time workers over the age of 16

UNITS % INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE American Community Survey, US Census Bureau

MINIMUM VALUE 47.4	MAXIMUM VALUE 85.2
SORT ORDER Ascending	SDG ALIGNMENT Target 5.1
TARGET VALUE 100.0	WORST VALUE 60.0
THRESHOLDS	90.0 80.0 72.0

Best value set according to SDG mandate to end all forms of discrimination against all women and girls everywhere. Worst value set using 2.5th percentile and adjusted further for skewness and kurtosis. Dashboard set according to SDSN US State Index.

GLOBAL INDICATOR Y STATE INDICATOR Y

CHANGES FROM 2018 Updated year



SAFE DRINKING WATER VIOLATIONS, 2015

Population-weighted average of the percent of population in each county served by a community water system with at least one Safe Drinking Water Act violation

UNITS % INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE County

SOURCE Natural Resources Defense Council, using EPA

MINIMUM VALUE 0.3	MAXIMUM VALUE 87.8
SORT ORDER Descending	SDG ALIGNMENT Target 6.1
TARGET VALUE 0.0	WORST VALUE 79.1
THRESHOLDS	2.0 5.0 10.0

Best value set according to SDG mandate to achieve universal and equitable access to safe and affordable drinking water for all. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR Y

CHANGES FROM 2018 New indicator

WOMEN-OWNED BUSINESSES, 2012

Percentage of individual-owned businesses that are owned by women. Excludes businesses owned by both women and men, and is limited to businesses whose ownership can be classified by gender (excludes jointly owned and publicly owned firms)

UNITS % INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE Survey of Business Owners, US Census Bureau

MINIMUM VALUE 32.8	MAXIMUM VALUE 49.0
SORT ORDER Ascending	SDG ALIGNMENT Target 5.5
TARGET VALUE 50.0	WORST VALUE 34.4
THRESHOLDS	45.0 40.0 35.0

Best value set according to SDG mandate to ensure women's full and effective participation. Worst value and dashboard set according to SDSN US State Index.

GLOBAL INDICATOR N STATE INDICATOR Y

CHANGES FROM 2018 None, same data

WATER CONSERVATION, 2015

Domestic water use, in gallons per person per day

UNITS gallons/person/day INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE County

SOURCE US Geological Survey

MINIMUM VALUE 31.9	MAXIMUM VALUE 253.8
SORT ORDER Descending	SDG ALIGNMENT Target 6.4
TARGET VALUE 40.7	WORST VALUE 185.0
THRESHOLDS	50.6 82.9 115.2

Best value set according to average of top 5. Worst value set using 2.5th percentile and adjusted further for skewness and kurtosis. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR N

CHANGES FROM 2018 New indicator

WOMEN IN GOVERNMENT, 2016

Percentage of women in city government. City-level data for main cities used as a proxy for MSA.

UNITS % INCLUDED MSAs 81

GEOGRAPHICAL LEVEL OF SOURCE City

SOURCE The Reflective Democracy Campaign

MINIMUM VALUE 0.0	MAXIMUM VALUE 66.7
SORT ORDER Ascending	SDG ALIGNMENT Target 5.5
TARGET VALUE 50.0	WORST VALUE 14.0
THRESHOLDS	40.0 30.0 20.0

Best value set according to SDG mandate to ensure women's full and effective participation. Worst value and dashboard set according to SDSN US State Index.

GLOBAL INDICATOR Y STATE INDICATOR Y

CHANGES FROM 2018 New indicator

WATER POLLUTION, 2012-2017

Annual percentage change in toxic chemicals released into water from production-related waste, in pounds per square mile

UNITS % INCLUDED MSAs 104

GEOGRAPHICAL LEVEL OF SOURCE County

SOURCE Toxic Release Inventory National Analysis, Environmental Protection Agency

MINIMUM VALUE -20.0	MAXIMUM VALUE 2776.6
SORT ORDER Descending	SDG ALIGNMENT Target 6.3
TARGET VALUE -21.1	WORST VALUE 292.6
THRESHOLDS	-2.0 0.0 321.9

Best value set according to average of top 5. Worst value set according to 2.5th percentile. Dashboard set according to expert guidance.

GLOBAL INDICATOR N STATE INDICATOR N

CHANGES FROM 2018 New indicator



LOW-INCOME ENERGY BURDEN, 2018

Percentage of income spent on household energy by those at less than 50% of the poverty level

UNITS %	INCLUDED MSAs	105
GEOGRAPHICAL LEVEL OF SOURCE	County	
SOURCE	Fisher Sheehan & Colton, Home Energy Affordability Gap	
MINIMUM VALUE	20.1	MAXIMUM VALUE 87.3
SORT ORDER	Descending	SDG ALIGNMENT Target 7.1
TARGET VALUE	2.0	WORST VALUE 50.0
THRESHOLDS	3.0	6.0 11.0

Best value set according to expert guidance. Worst value set using 2.5th percentile and adjusted further for skewness and kurtosis. Dashboard set according to expert guidance.

GLOBAL INDICATOR N STATE INDICATOR Y
CHANGES FROM 2018 New indicator



REAL GDP GROWTH, 2013-2017

5-year average of annual real GDP percentage growth rates

UNITS %	INCLUDED MSAs	105
GEOGRAPHICAL LEVEL OF SOURCE	MSA	
SOURCE	Bureau of Economic Analysis	

MINIMUM VALUE	-2.0	MAXIMUM VALUE 7.5
SORT ORDER	Ascending	SDG ALIGNMENT Target 8.1
TARGET VALUE	5.8	WORST VALUE -0.3
THRESHOLDS	4.0	3.0 2.0

Best value, worst value and dashboard set according to 2018 SDSN US City Index.

GLOBAL INDICATOR Y STATE INDICATOR Y
CHANGES FROM 2018 Updated year

RENEWABLE ENERGY PRODUCTION, 2016

Percentage of energy produced within the state from wind, solar, geothermal, biomass and hydroelectric. Value of the state was applied to all MSAs within the state.

UNITS %	INCLUDED MSAs	105
GEOGRAPHICAL LEVEL OF SOURCE	State	
SOURCE	US Energy Information Administration	
MINIMUM VALUE	1.9	MAXIMUM VALUE 100.0
SORT ORDER	Ascending	SDG ALIGNMENT Target 7.2
TARGET VALUE	100.0	WORST VALUE 1.1
THRESHOLDS	75.0	40.0 5.0

Best value, worst value and dashboard set according to SDSN US State Index.

GLOBAL INDICATOR N STATE INDICATOR Y
CHANGES FROM 2018 Changed from low-carbon energy generation to renewable production

RENEWABLE ENERGY CONSUMPTION, 2016

Percentage of energy consumed within the state from wind, solar, geothermal, biomass and hydroelectric. Value of the state was applied to all MSAs within the state.

UNITS %	INCLUDED MSAs	105
GEOGRAPHICAL LEVEL OF SOURCE	State	
SOURCE	US Energy Information Administration	
MINIMUM VALUE	1.2	MAXIMUM VALUE 47.7
SORT ORDER	Ascending	SDG ALIGNMENT Target 7.2
TARGET VALUE	38.0	WORST VALUE 3.5
THRESHOLDS	23.0	13.0 5.0

Best value, worst value and dashboard set according to SDSN US State Index.

GLOBAL INDICATOR N STATE INDICATOR Y
CHANGES FROM 2018 New indicator

YOUTH NOT IN EMPLOYMENT, EDUCATION OR TRAINING (NEET), 2016

Percentage of youth aged 16-24 who are not enrolled in school (full- or part-time) and not employed (full- or part-time)

UNITS %	INCLUDED MSAs	97
GEOGRAPHICAL LEVEL OF SOURCE	MSA	
SOURCE	Measure of America	
MINIMUM VALUE	6.1	MAXIMUM VALUE 20.7
SORT ORDER	Descending	SDG ALIGNMENT Target 8.6
TARGET VALUE	6.6	WORST VALUE 20.2
THRESHOLDS	10.0	12.5 15.0

Best value set according to average of top 5. Worst value and dashboard set according to 2018 SDSN US Cities Index.

GLOBAL INDICATOR Y STATE INDICATOR Y
CHANGES FROM 2018 Updated year

UNEMPLOYMENT RATE, 2017

Unemployment rate, ages 20-64

UNITS %	INCLUDED MSAs	105
GEOGRAPHICAL LEVEL OF SOURCE	MSA	
SOURCE	American Community Survey, US Census Bureau	
MINIMUM VALUE	2.2	MAXIMUM VALUE 8.6
SORT ORDER	Descending	SDG ALIGNMENT Target 8.5
TARGET VALUE	2.7	WORST VALUE 7.3
THRESHOLDS	3.6	4.8 5.9

Best value set according to average of top 5. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR Y STATE INDICATOR Y
CHANGES FROM 2018 New source, and updated calculation methodology



STEM EMPLOYMENT, 2017

Percentage of workers 16 and over in computer, science, engineering, healthcare practitioner and technical occupations

UNITS % INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE American Community Survey, US Census Bureau

MINIMUM VALUE 6.8	MAXIMUM VALUE 22.5
SORT ORDER Ascending	SDG ALIGNMENT Target 9.5
TARGET VALUE 17.3	WORST VALUE 7.7
THRESHOLDS	14.5 12.0 9.0

Best value, worst value and dashboard set according to 2018 SDSN US Cities Index.

GLOBAL INDICATOR N STATE INDICATOR Y

CHANGES FROM 2018 Moved indicator from SDG 8 to SDG 9



GINI COEFFICIENT, 2017

Gini coefficient measures the degree of income inequality on a 0-1 scale. The more equal the income distribution, the lower the Gini coefficient.

UNITS Ratio (best 0-1 worst) INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE American Community Survey, US Census Bureau

MINIMUM VALUE 0.39	MAXIMUM VALUE 0.55
SORT ORDER Descending	SDG ALIGNMENT Target 10.1
TARGET VALUE 0.41	WORST VALUE 0.51
THRESHOLDS	0.44 0.46 0.49

Best value set according to average of top 5. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR Y STATE INDICATOR Y

CHANGES FROM 2018 Updated year

PATENTS, 2015

Utility patent grants per 1,000 individuals in STEM occupations (includes computer, science, engineering, healthcare practitioner and technical occupations)

UNITS Count per 1,000 STEM workers INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE US Patent and Trademark Office & American Community Survey, US Census Bureau

MINIMUM VALUE 0.8	MAXIMUM VALUE 68.0
SORT ORDER Ascending	SDG ALIGNMENT Target 9.5
TARGET VALUE 23.0	WORST VALUE 1.0
THRESHOLDS	16.0 9.0 2.0

Best value set according to average of top 5. Worst value set using 2.5th percentile and adjusted further for skewness and kurtosis. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR Y STATE INDICATOR Y

CHANGES FROM 2018 Changed denominator from all workers to STEM workers

BROADBAND ACCESS, 2017

Percentage of households with broadband internet subscription, such as cable, fiber optic or DSL

UNITS % INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE American Community Survey, US Census Bureau

MINIMUM VALUE 44.9	MAXIMUM VALUE 82.9
SORT ORDER Ascending	SDG ALIGNMENT Target 9.c
TARGET VALUE 100.0	WORST VALUE 55.5
THRESHOLDS	77.1 70.7 64.3

Best value set according to universal access: public service. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR Y STATE INDICATOR Y

CHANGES FROM 2018 Updated year

ABSOLUTE UPWARD MOBILITY, 2016

Index measure of intergenerational upward mobility, based on inter-generational household income differentials

UNITS Percentile INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE Equal Opportunity Project, Harvard University

MINIMUM VALUE 33.7	MAXIMUM VALUE 49.2
SORT ORDER Ascending	SDG ALIGNMENT Target 10.3
TARGET VALUE 46.6	WORST VALUE 36.1
THRESHOLDS	43.2 40.8 38.7

Best value, worst value and dashboard set according to 2018 SDSN US Cities Index.

GLOBAL INDICATOR N STATE INDICATOR N

CHANGES FROM 2018 None, same data

NATIVE AMERICAN EMPLOYMENT GAP, 2013-2017

Disparity in employment rates between American Indian and Alaskan Natives to white, non-hispanics who worked full-time year round in past 12 months

UNITS % INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE American Community Survey, US Census Bureau

MINIMUM VALUE 0.54	MAXIMUM VALUE 1.08
SORT ORDER Ascending	SDG ALIGNMENT Target 10.3
TARGET VALUE 1.00	WORST VALUE 0.64
THRESHOLDS	0.93 0.84 0.75

Best value set according to Leave No One Behind. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR N

CHANGES FROM 2018 New indicator



RACIAL SEGREGATION, 2013-2017

Index of dissimilarity where higher values indicate greater residential segregation between black and white county residents

UNITS Index (best 0-100 worst) INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE County

SOURCE County Health Rankings, University of Wisconsin Population Health Institute

MINIMUM VALUE 32.6	MAXIMUM VALUE 72.3
SORT ORDER Descending	SDG ALIGNMENT Target 10.3
TARGET VALUE 35.5	WORST VALUE 69.2
THRESHOLDS 41.9	50.5 59.1

Best value set according to SDG mandate to eliminate discriminatory laws, policies, and practices. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR N

CHANGES FROM 2018 New source

MUNICIPAL EQUALITY INDEX, 2018

Municipal Equality Index score assessing LGBTQ inclusivity of laws, policies, and services. City-level data for main city used as a proxy for MSA.

UNITS Index (worst 0-100 best) INCLUDED MSAs 97

GEOGRAPHICAL LEVEL OF SOURCE City

SOURCE Municipal Equality Index, Human Rights Campaign Foundation & Equality Federation Institute

MINIMUM VALUE 19.0	MAXIMUM VALUE 100.0
SORT ORDER Ascending	SDG ALIGNMENT Target 10.2
TARGET VALUE 100.0	WORST VALUE 22.0
THRESHOLDS 95.0	77.9 54.3

Best value set according to Leave No One Behind. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR N

CHANGES FROM 2018 New indicator



OVERCROWDED HOUSING, 2017

Percentage of occupied housing units with >1 occupant per room

UNITS % INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE American Community Survey, US Census Bureau

MINIMUM VALUE 0.9	MAXIMUM VALUE 11.2
SORT ORDER Descending	SDG ALIGNMENT Target 11.1
TARGET VALUE 0.0	WORST VALUE 10.0
THRESHOLDS 2.0	3.0 5.0

Best value set according to SDG mandate to ensure access for all to adequate, safe, and affordable housing. Worst value set according to 2.5th percentile. Dashboard set according to SDSN US State Index.

GLOBAL INDICATOR N STATE INDICATOR Y

CHANGES FROM 2018 Updated year

SUSTAINABLE TRANSPORTATION, 2017

Percentage of commuters 16 and over using public transport, bicycles, carpooling, or walking to work

UNITS % INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE American Community Survey, US Census Bureau

MINIMUM VALUE 10.0	MAXIMUM VALUE 46.0
SORT ORDER Ascending	SDG ALIGNMENT Target 11.2
TARGET VALUE 50.0	WORST VALUE 10.1
THRESHOLDS 35.0	20.0 15.0

Best value set according to expert guidance. Worst value set according to 2.5th percentile. Dashboard set according to expert guidance and summary statistics, and adjusted for clustering

GLOBAL INDICATOR N STATE INDICATOR Y

CHANGES FROM 2018 Updated year

PARK ACCESS, 2015

Percentage of population living within a half mile of a park

UNITS % INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE County

SOURCE National Environmental Public Health Tracking Network, Centers for Disease Control and Prevention

MINIMUM VALUE 11.0	MAXIMUM VALUE 88.0
SORT ORDER Ascending	SDG ALIGNMENT Target 11.7
TARGET VALUE 100.0	WORST VALUE 18.3
THRESHOLDS 65.0	46.9 28.7

Best value set according to SDG mandate to provide universal access to green and public spaces. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR Y

CHANGES FROM 2018 New source



PM 2.5 EXPOSURE, 2017

Weighted Annual Mean of PM 2.5 concentration

UNITS $\mu\text{g}/\text{m}^3$ INCLUDED MSAs 100

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE Air Quality Statistics Report, Environmental Protection Agency

MINIMUM VALUE 2.9	MAXIMUM VALUE 18.2
SORT ORDER Descending	SDG ALIGNMENT Target 11.6
TARGET VALUE 10.0	WORST VALUE 150.0
THRESHOLDS	12.0 35.4 55.4

Best value set according to WHO Air Quality Guidelines. Worst value set according to EPA Air Quality Index. Dashboard set according to EPA Air Quality Index categories.

GLOBAL INDICATOR Y STATE INDICATOR Y

CHANGES FROM 2018 New source

OZONE LEVELS (8-HR), 2017

The 4th highest daily maximum 8-hour average Ozone level in the year (ppm)

UNITS Parts per million (ppm) INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE Air Quality Statistics Report, Environmental Protection Agency

MINIMUM VALUE 0.040	MAXIMUM VALUE 0.110
SORT ORDER Descending	SDG ALIGNMENT Target 12.4
TARGET VALUE 0.043	WORST VALUE 0.105
THRESHOLDS	0.054 0.070 0.085

Best value set according to EPA Air Quality Index. Worst value set according to EPA Air Quality Index. Dashboard set according to EPA Air Quality Index categories.

GLOBAL INDICATOR N STATE INDICATOR N

CHANGES FROM 2018 Updated year

RENT BURDENED POPULATION, 2017

Percentage of renters paying 30% or more of their income on rent

UNITS % INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE American Community Survey, US Census Bureau

MINIMUM VALUE 39.5	MAXIMUM VALUE 62.7
SORT ORDER Descending	SDG ALIGNMENT Target 11.1
TARGET VALUE 0.0	WORST VALUE 58.4
THRESHOLDS	20.0 40.0 50.0

Best value set according to SDG mandate to ensure access for all to affordable housing. Worst value set according to 2.5th percentile. Dashboard set according to SDSN US State Index.

GLOBAL INDICATOR Y STATE INDICATOR Y

CHANGES FROM 2018 New indicator

TOXIC RELEASE, 2017

Pounds of toxic release, weighted by toxicity

UNITS RSEI Pounds INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE County

SOURCE Toxic Release Inventory National Analysis, Environmental Protection Agency

MINIMUM VALUE 6,585	MAXIMUM VALUE 67,051,780
SORT ORDER Descending	SDG ALIGNMENT Target 12.4
TARGET VALUE 53,294	WORST VALUE 23,425,092
THRESHOLDS	-4,091,554 4,232,982 12,557,517

Best value set according to average of top 5. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR N

CHANGES FROM 2018 New indicator

AIR POLLUTION, 2012-2017

Annual percentage change in toxic chemicals released into air from production-related waste, in pounds per square mile

UNITS % INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE County

SOURCE Toxic Release Inventory National Analysis, Environmental Protection Agency

MINIMUM VALUE -20.0	MAXIMUM VALUE 27.9
SORT ORDER Descending	SDG ALIGNMENT Target 12.4
TARGET VALUE -18.7	WORST VALUE 9.9
THRESHOLDS	-2.0 0.0 3.3

Best value set according to average of top 5. Worst value set according to 2.5th percentile. Dashboard set according to expert guidance.

GLOBAL INDICATOR N STATE INDICATOR N

CHANGES FROM 2018 New indicator



GREENHOUSE GAS EMISSIONS, 2014

Production-based greenhouse gas emissions per capita

UNITS Metric tons of carbon dioxide equivalent (tCO2e)

INCLUDED MSAs 99

GEOGRAPHICAL LEVEL OF SOURCE MSA

SOURCE Samuel A Markolf et al 2017 Environ. Res. Lett. 12 024003

MINIMUM VALUE 5.0	MAXIMUM VALUE 65.5	SDG ALIGNMENT Target 13.1	
SORT ORDER Descending	TARGET VALUE 1.7	WORST VALUE 20.0	
THRESHOLDS	4.0	3.0	2.0

Best value set according to scientific standard (Deep Decarbonization Pathways Project Target). Worst value set according to scientific standard (EPA emissions standard). Dashboard set according to 2018 SDSN US Cities Index.

GLOBAL INDICATOR Y STATE INDICATOR Y
CHANGES FROM 2018 New source, covers; production-related GHG emissions rather than consumption-related CO2 emissions

GLOBAL WARMING AWARENESS, 2016

Estimated percentage of adults who think global warming is happening

UNITS %	INCLUDED MSAs 105	GEOGRAPHICAL LEVEL OF SOURCE MSA	SOURCE Yale Climate Opinion Maps, Yale Program on Climate Change Communication
MINIMUM VALUE 58.1	MAXIMUM VALUE 81.7	SDG ALIGNMENT Target 13.3	TARGET VALUE 79.4

SORT ORDER Ascending	WORST VALUE 62.4	THRESHOLDS	74.6	66.0
	70.3			

Best value set according to average of top 5. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR Y
CHANGES FROM 2018 New indicator

LOCAL ADAPTATION PLAN, 2018

Binary variable, does city have a local adaptation plan (0=no, 1=yes)

UNITS score (worst 0, 1 best) INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE City

SOURCE Adaptation Clearinghouse, Georgetown Climate Center

MINIMUM VALUE 0	MAXIMUM VALUE 1	SDG ALIGNMENT Target 13.2
SORT ORDER Ascending	WORST VALUE 0	THRESHOLDS
TARGET VALUE 1	-	-

Best value set to "Has local adaptation plan." Worst value set according to "Does not have local adaptation plan." Dashboard set to binary red/green scale.

GLOBAL INDICATOR N STATE INDICATOR Y
CHANGES FROM 2018 New indicator



PARK AREA, 2016

Percentage of city area that is parkland. City-level data for main city used as a proxy for MSA.

UNITS % INCLUDED MSAs 64

GEOGRAPHICAL LEVEL OF SOURCE City

SOURCE City Parks Facts, The Trust for Public Land

MINIMUM VALUE 2.6	MAXIMUM VALUE 33.0	SDG ALIGNMENT Target 15.1
SORT ORDER Ascending	WORST VALUE 2.7	THRESHOLDS
TARGET VALUE 25.5	11.1	4.8

Best value set according to average of top 5. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR N
CHANGES FROM 2018 New indicator

NATURAL PARKLAND, 2016

Percentage of city park area that is natural parkland. City-level data for main city used as a proxy for MSA.

UNITS % INCLUDED MSAs 64

GEOGRAPHICAL LEVEL OF SOURCE City

SOURCE City Parks Facts, The Trust for Public Land

MINIMUM VALUE 0.0	MAXIMUM VALUE 96.2	SDG ALIGNMENT Target 15.1
SORT ORDER Ascending	WORST VALUE 0.6	THRESHOLDS
TARGET VALUE 91.6	55.0	28.1

Best value set according to average of top 5. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR N
CHANGES FROM 2018 New indicator

LAND POLLUTION, 2012-2017

Annual percentage change in toxic chemicals released into land from production-related waste, in pounds per square mile

UNITS % INCLUDED MSAs 104

GEOGRAPHICAL LEVEL OF SOURCE County

SOURCE Toxic Release Inventory National Analysis, Environmental Protection Agency

MINIMUM VALUE -20.0	MAXIMUM VALUE 121,741.0	SDG ALIGNMENT Target 15.2
SORT ORDER Descending	WORST VALUE 1394.3	THRESHOLDS
TARGET VALUE -20.9	0.0	13215.9

Best value set according to average of top 5. Worst value set according to 2.5th percentile. Dashboard set according to expert guidance.

GLOBAL INDICATOR N STATE INDICATOR N
CHANGES FROM 2018 New indicator



INCARCERATION RATE, 2015

Prison and jail incarceration rate per 100,000 aged 15 to 64

UNITS Count per 100,000 aged 15 to 64

INCLUDED MSAs 102

GEOGRAPHICAL LEVEL OF SOURCE County

SOURCE Vera Institute of Justice

MINIMUM VALUE 114.3	MAXIMUM VALUE 1729.1
SORT ORDER Descending	SDG ALIGNMENT Target 16.3
TARGET VALUE 25.0	WORST VALUE 475.0
THRESHOLDS 100.0	150.0 200.0

Best value, worst value and dashboard set according to Global SDG Index.

GLOBAL INDICATOR Y STATE INDICATOR Y

CHANGES FROM 2018 New indicator

JAIL ADMISSION RATE, 2015

Prison admissions per 100,000 aged 15-64

UNITS Count per 100,000 aged 15-64

INCLUDED MSAs 102

GEOGRAPHICAL LEVEL OF SOURCE County

SOURCE Vera Institute of Justice

MINIMUM VALUE 1.4	MAXIMUM VALUE 531.5
SORT ORDER Descending	SDG ALIGNMENT Target 16.3
TARGET VALUE 0.0	WORST VALUE 432.1
THRESHOLDS 122.7	235.8 348.8

Best value set according to the Cut50 national initiative. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR Y

CHANGES FROM 2018 New indicator

DEATHS BY FIREARMS, 2015-2017

Deaths by firearm per 100,000. Includes homicide, suicide, legal intervention and war-related deaths.

UNITS Count per 100,000 people INCLUDED MSAs 105

GEOGRAPHICAL LEVEL OF SOURCE County

SOURCE Centers for Disease Control and Prevention

MINIMUM VALUE 0.7	MAXIMUM VALUE 17.5
SORT ORDER Descending	SDG ALIGNMENT Target 16.1
TARGET VALUE 1.1	WORST VALUE 14.8
THRESHOLDS 2.0	5.7 9.3

Best value set according to 2018 SDSN US City Index. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR N

CHANGES FROM 2018 Updated year

RACIAL REPRESENTATION GAP, 2016

Percentage-point difference between non-white population share and non-white representation in government. City-level data for main city used as a proxy for MSA.

UNITS Percentage points INCLUDED MSAs 81

GEOGRAPHICAL LEVEL OF SOURCE City

SOURCE The Reflective Democracy Campaign

MINIMUM VALUE -21.1	MAXIMUM VALUE 55.7
SORT ORDER Descending	SDG ALIGNMENT Target 16.7
TARGET VALUE 0.0	WORST VALUE 43.3
THRESHOLDS 7.0	15.8 30.0

Best value set according to SDG mandate to ensure representative decision-making at all levels. Worst value set according to 2.5th percentile. Dashboard set according to summary statistics, and adjusted for clustering.

GLOBAL INDICATOR N STATE INDICATOR N

CHANGES FROM 2018 New indicator

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