7 Top-Down and Bottom-Up Approaches to the SDG Monitoring Challenge

Jessica Espey

7.1 Introduction

The Sustainable Development Goals (SDGs), universally adopted by the world's governments in 2015, aim to set a framework for action on economic development, social inclusion, and environmental sustainability. In the USA, the engagement of local government leaders in SDG implementation and associated monitoring is crucial as 85% of the domestic population lives in cities and their surrounding metropolitan areas.[1] These cities are centers of economic enterprise and innovation. In 2017 the ten largest metropolitan areas generated $6.8 trillion in economic value, surpassing the output of the sum of 37 US states.[2] But they are also responsible for much of the country's waste and environmental destruction, including more than 80% of the country's CO_2 emissions.[3] It is cities in the USA that will make or break sustainable development for the country.

In support of city-level action on the SDGs, the UN Sustainable Development Solutions Network (SDSN) has been working with US cities since late 2014 exploring ways of localizing and implementing the global goals. Central to all of these discussions has been data, data which can tell city representatives their starting point, can support them to set realistic benchmarks between now and the 2030 deadline, and can help track their progress. Indeed, data has been such a foundational aspect of all of the local SDG implementation conversations SDSN has had across US cities (including in Atlanta, Baltimore, Boston, Los Angeles, Minneapolis, Milwaukee, New York, Orlando, San Jose, and South Bend) that in 2016 SDSN's urban and data programs launched a crossover initiative called the Local Data Action project which aims to create a library of case studies and technical knowledge documenting how to engage with and monitor the SDGs at city and regional levels. This has been a useful technical exercise which has showcased different methods and approaches for integrating

[1] SDSN's calculations. See Espey, Jessica, Dahmm, Hayden, and Laurie Manderino (2018) Leaving No US Cities Behind: The U.S. Cities SDG Index, Issue 2018, New York: UNSDSN. Available at: http://unsdsn.org/wp-content/uploads/2018/06/US-Cities-Index-Report.pdf

[2] USCM (2018) US Metro Economies: Economic Growth and Full Employment, Annual GMP Report, Prepared for The United States Conference of Mayors and The Council on Metro Economies and the New American City by HIS Markit. Available at: http://www.usmayors.org/wp-content/uploads/2018/06/Metro-Economies-GMP-June-2018.pdf

[3] Jones, C., and D. Kammen, (2014) Spatial Distribution of U.S. Household Carbon Footprints Reveals Suburbanization Undermines Greenhouse Gas Benefits of Urban Population Density, Environmental Science & Technology, Vol 48, Issue 2, Pages 895–902.

J. Espey (✉)
Sustainable Development Solutions Network, New York, NY, USA
e-mail: jessica.espey@unsdsn.org

D. B. Abraham, S. D. Iyer (eds.), *Promoting the Sustainable Development Goals in North American Cities*, Sustainable Development Goals Series, https://doi.org/10.1007/978-3-030-59173-1_7

the SDGs in local planning and monitoring local progress; however local processes and data sources vary considerably, and so the local data generated is not directly comparable.

To support a more active comparison of progress across the USA and to encourage more cities to take up the SDGs, SDSN also pioneered a US Cities SDG Index.[4] The index, first launched in 2017, repeated in 2018 and 2019, aims to provide a set of comparable metrics across the 100 largest metropolitan areas in the USA, which show overarching progress on the Sustainable Development Goals. The SDG Index enables us to see which US cities and regions are faring well or performing badly on specific goals. The Index consists of 44 indicators spanning 15 of the 17 SDGs. Goal 14 on Life Below Water and Goal 17 on Partnership for the Goals are excluded since they do not apply to many US cities and/or data are insufficient.

Both of these approaches to local SDG monitoring have benefits and limitations. A national index is advantageous in that it enables active comparison, can help generate support for the goals, can show areas that are underserved, and can help direct federal political attention and investment. Conversely a local, bottom-up approach to monitoring enables cities to utilize existing data resources and to map the alignment of their current policies and planning to the goals; it can also foster community engagement and buy in. This chapter critically evaluates the benefits and limitations of both approaches and makes recommendations on how cities should approach the challenge of local monitoring of the SDGs. It draws heavily upon learning from the SDSN's USA Sustainable Cities Initiative, the preparation of the SDSN's US Cities Index 2017 and 2018, and SDSN TReNDS' Local Data Action project.[5]

7.2 A National Index for US Cities

7.2.1 Methods

The US Cities SDG Indices (2017, 2018, 2019), prepared by the SDSN, provide a portrait of sustainable development at the local level for the 100 most populous metropolitan areas in the USA. In all studies, the metropolitan statistical area (MSA) is used as the geographic unit instead of the nuclear city, because more comparable data are available at this level. Additionally, many of the SDG challenges translate most naturally onto the interconnected metropolitan region rather than individual jurisdictions within the MSAs. Nonetheless, the term "city" is used interchangeably with MSA to make the report more accessible and policy intuitive. Taken together the 100 MSAs within the index are home to 66% of the US population. The SDG Index enables us to see how US individual cities are performing on specific indicators for each goal. The 2018 index, which is a composite index, was calculated using 44 indicators spanning 15 of the 17 SDGs.

For each goal in the US Cities SDG Index, indicators that evaluate aspects of sustainable development have been identified, for which data are readily available and are consistently collected across the country. These indicators map closely to the set of global SDG indicators proposed by the UN's Inter-Agency and Expert Group on SDG Indicators but were selected primarily based on their relevance to the US context and their availability.

Although the index was calculated for 3 different years (2017, 2018, 2019), the results are not directly comparable. Improvements were made between versions to strengthen the meth-

[4]Espey, Jessica, Dahmm, Hayden, and Laurie Manderino (2018) Leaving No US Cities Behind: The U.S. Cities SDG Index, Issue 2018, New York: UNSDSN. Available at: http://unsdsn.org/wp-content/uploads/2018/06/US-Cities-Index-Report.pdf and Prakash, Mihir, Teksoz, Katerina, Espey, Jessica, Sachs, Jeffrey, Shank, Michael and Guido Schmidt-Traub (2017) Achieving a Sustainable Urban America, The U.S. Cities SDG Index 2017, New York: UNSDSN. Available at: http://unsdsn.org/wp-content/uploads/2017/08/US-Cities-SDG-Index-2017.pdf

[5]For more information, visit: http://unsdsn.org/what-we-do/solution-initiatives/usa-sustainable-cities-initiative-usa-sci/ and https://www.sdsntrends.org/local-data-action

odology, as well as to add some new indicators such as the food insecurity rate, infant birth weight, the percentage of 3–4 year-olds enrolled in school, and the percentage of businesses owned by women—all of which are crucial measures for understanding equality of opportunity across the USA. Overall, annual calculation of indices found that all US cities featured in this Index perform poorly on one or more goals and 60% of the cities studied are less than half way there, highlighting widespread sustainable development challenges such as environmental degradation, access to vital infrastructure, and social disparities, among others.

The reports are intended to serve as a tool for US cities to track their progress over time, relative to an international standard of sustainable development. It is also hoped that the indices will enable cities to identify peers struggling with similar challenges and help facilitate a national dialogue on how to accelerate progress.

7.2.2 Impact and Lessons

Since the publication of the US Cities SDG Index, there are some discernible lessons, relating to the utility of the index for trends analysis and political engagement, as well as some limitations, resulting from data availability and the utility of the data collected for local application.

7.3 Identifying Aggregate Trends Across the Country

In the 2017 edition of the US Cities SDG Index, a few striking results such as higher incidences of child *poverty* and acute *racial inequalities* across cities were highlighted. In the 2018 edition, these social inequalities were examined in more detail to better understand not only in which cities and MSAs the poorest and most marginalized live but also how social inequalities might be deepening deprivations within cities.

7.3.1 The First Major Finding: Poverty

Through disaggregation and correlation analysis, results show child poverty rates in nearly all MSAs are larger than poverty rates for the rest of the population (except Provo-Orem, UT). Nine MSAs have child poverty rates that are more than 50% greater than the overall poverty rate in the given MSA. Cape Coral-Fort Myers, Florida (FL), has a child poverty rate 67% greater than that of the overall poverty rate in that MSA. McAllen-Edinburg-Mission, Texas (TX), has the highest child poverty rate in the country at 44.7%, compared to a whole of population poverty rate of 32.8% for the same region. Early poverty is associated with negative outcomes later in life. The analysis performed corroborates this, as child poverty has been found to be correlated with youth being out of education or employment across the 100 MSAs in the sample (see Fig. 7.1).

7.3.2 The Second Major Finding: Racial Inequalities

US cities experience deep racial disparities. In 57 MSAs in the 2018 index sample, the poverty rate among non-whites is at least twice that of whites, and in 6 MSAs, it is over 3 times the rate for whites (see Fig. 7.2). Similarly, non-white unemployment rates are at least 50% greater than that for whites in 73 MSAs and are twice as large as that for whites in 34 MSAs (Espey et al. 2018).

These findings serve to demonstrate the multidimensional nature of poverty in US cities and how different forms of inequality and deprivation can keep people trapped in cycles of poverty and poor health. The analysis found correlations between high poverty levels among non-whites, infant mortality, and other acute health concerns such as food insecurity, obesity, and deaths from heart attack, reinforcing other literature and panel studies that suggest poverty can affect the entire life cycle.

The compilation of national indices on the SDGs, drawing upon federally comparable indicators, has proven exceptionally helpful for

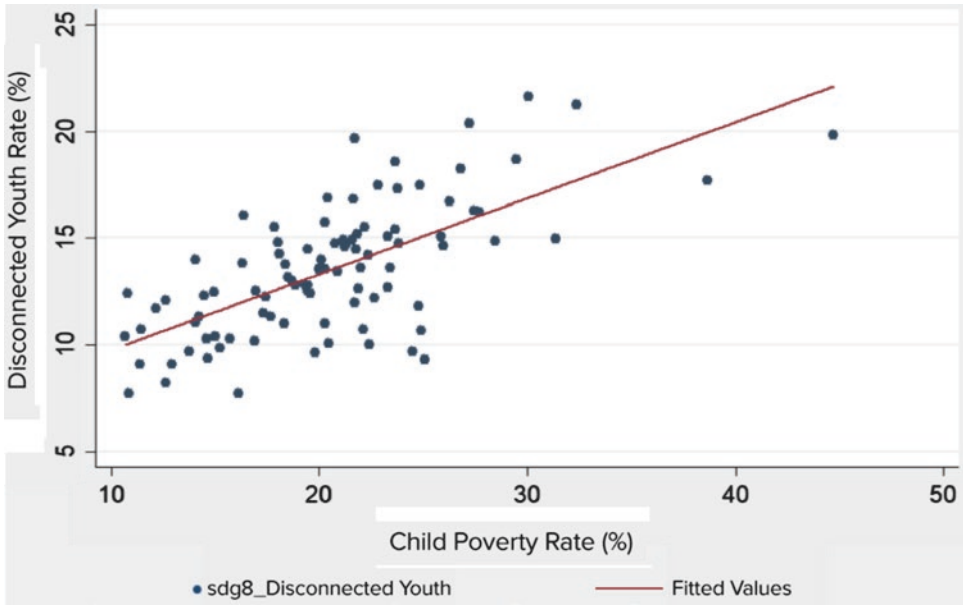

Fig. 7.1 Correlation of child poverty and disconnected youth in US cities. (Source: Espey et al. 2018, p. 28)

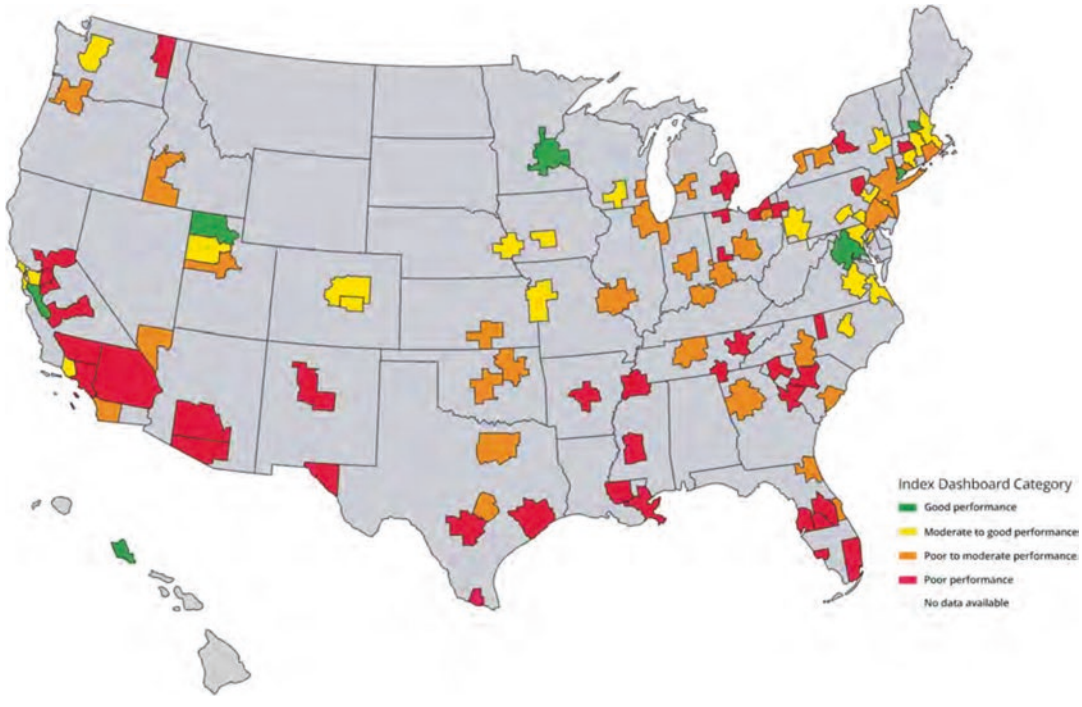

Fig. 7.2 Ratio of white to non-white poverty in the 100 most populous USA metropolitan statistical areas. (Source: Espey et al. 2018, p. 28)

understanding common challenges and trends across US cities, around which mayors and local government leaders can mobilize and share lessons. Trend analysis such as this also hints at policy interventions, such as targeted policies early in the life cycle, which can help disrupt inherited disadvantage and the intergenerational transfer of poverty.

However, the utility of this kind of analysis for policy development is limited by the fact that only federally comparable data could be used, which is often geographically limited, meaning it cannot be disaggregated within cities, by blocks, or specific grid streets. This kind of disaggregation is often essential for local governments looking to provide cost-effective targeted interventions to particular communities.

7.4 Political Engagement

The US Cities SDG Index reports are intended to be a technical resource but also an advocacy tool. Even in the past year, the index report has helped to foster interest in the SDGs among mayors and other local government leaders on the relevance and utility of the SDG framework, for example, through discussion sessions at meetings of the US Conference of Mayors and by encouraging shared learning among well-performing and struggling cities.[6] San Jose and Los Angeles, for example, who both perform well on the 2017 and 2018 index reports have used their rankings to produce articles and host local seminars on the relevance of the SDGs with the active engagement of their city leadership, thereby cementing their political commitment to the SDG agenda.[7]

The reports themselves have also garnered considerable media interest from outlets such as USA News, Bloomberg, Vice, Fast Company, the Seattle Times, and the Boston Globe.[8] This has helped to spur interest from city officials in areas not currently mainstreaming or adopting the SDG framework and thereby kick-starting conversations on SDG implementation, for example, in Boston, MA; Cambridge, MA; Orlando, FL; and Atlanta, GA.

Given that the indices derive a large number of the measures from federal data sources, the national-level cities index has encouraged positive exchange with the US federal government regarding open data and governance. Focus is on how to integrate these metrics into the federal government dashboard (https://sdg.data.gov) and use the index to help track the status of sustainable development across its cities and MSAs.

While this kind of media attention and federal-level engagement has helped to focus attention on the SDGs and has piqued the interest of new localities, it has not encouraged a substantive discussion about how we approach local monitoring or policy implementation. Instead, most cities SDSN has engaged with have referred to the index reports as a tool to kick-start a conversation on shared challenges and collaborative working across cities.

7.5 Data Availability

A major constraint in preparing the 2017, 2018 and 2019 indexes was data availability. Many crucial sustainable development indicators had to be excluded as the data were either unavailable, were not standardized across cities, or had limited coverage. It was therefore necessary to use data at the level of the broader metropolitan statistical area, which opened up data sources like

[6] http://unsdsn.org/news/2018/01/29/us-mayors-inspiring-local-change-through-global-sdgs/ [Last accessed 27.10.2019] http://unsdsn.org/news/2019/03/01/sdsn-publishes-new-guide-for-us-cities/ [Last accessed 27.10.2019] https://www.sdgcompacts.org/news/2018/1/25/us-conference-of-mayors-sdgs [Last accessed 27.10.2019].

[7] https://www.fastcompany.com/40451569/how-u-s-cities-stack-up-on-the-sustainable-development-goals [Last accessed 27.10.2019] https://grist.org/article/which-american-cities-are-the-most-sustainable/ [Last accessed 27.10.2019].

https://www.lamayor.org/mayor-garcetti-announces-partnership-occidental-college-advance-sustainable-development-goals [Last accessed 27.10.2019].

[8] http://unsdsn.org/news/2018/06/26/media-wrap-up-of-the-2018-u-s-cities-sdg-index-report/ [Last accessed 27.10.2019].

the Census and its associated American Community Survey.

Positively, MSAs provide a more holistic picture of local sustainable development as they typically represent a large central city and adjacent areas of regional influence. This provides a larger representation of an urban settlement. However, even at the level of the MSA, data availability was limited. For example, to provide an indicator for *Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all*, state-level data had to be drawn upon and values assigned to the MSA. Therefore, the data lacks a certain geographic precision, as data on the source of energy at the city level was unavailable.

Other indicators such as "number of homes with rooftop solar panels" or "local investments in renewable energy" were explored, but no consistent or standard metric was available. Similarly, "carbon emissions per capita" is the only indicator under *Goal 13: Take urgent action to combat climate change and its impacts*. This variable comes from a nongovernmental source—Berkeley University's Cool Climate Institute.[9] Indicators that measured urban disaster risk management and resiliency planning were pursued, but no standard measures across enough MSAs were available.

Perhaps most shockingly, a number of fundamental life-saving indicators were also not available or were severely limited, such as maternal mortality data, including teenage births, mental health, and drug usage. There are a number of reasons for this, including a lack of open data policies, as well as the absence of federal standards for the compilation of many nationwide health indicators. As such, many of the health indicators collected sub-nationally are done so using locally defined methodologies which are, in some instances, irreconcilable:

> As of 2018, only seven of the 100 MSAs had accessible data on maternal mortality, while more than half of the teenage birth data provided at the MSA level have poor population coverage. A similar problem was experienced with regards to infant mortality data; although 97 MSAs have some available data on infant mortality, only 61 MSAs have data covering 75% or more of the population.[10]

The limited availability of open, comparable data across MSAs, and cities, poses a severe challenge for the federal government if it is to judiciously allocate resources and direct policies to support the SDGs and for citizens to monitor change and hold their leaders to account. Furthermore, it compromises regional approaches, across cities and states, on shared challenges such as waste management, population migration, drug policing, and other issues which are central to all US cities and regions.

7.6 Ground-Up SDG Localization

7.6.1 Methods

In September 2015, the Sustainable Development Solutions Network (SDSN) partnered with leading academic institutions through the USA Sustainable Cities Initiative (USA-SCI) to pilot processes for long-term strategies on the Sustainable Development Goals (SDGs) in three US cities: New York, San José, and Baltimore. The foundation of the pilot cities' SDG strategy process was "start with where we are" and as such to look at existing city plans and programs, as well as data to see how the city was fairing on the 17 SDG goals and associated 149 targets. Across all three cities, residents and officials agreed that the SDG indicators and data provided a common language for strategy building, helping to structure coherent discussions about coordinated city initiatives in order to meet the goals by 2030 and beyond. The first activity undertaken in all three cities was therefore to map existing

[9]For more information, visit their website. Available at: http://coolclimate.berkeley.edu/index [Last accessed March 2019].

[10]Espey, Jessica, Dahmm, Hayden, and Laurie Manderino (2018) Leaving No US Cities Behind: The U.S. Cities SDG Index, Issue 2018, New York: UNSDSN. Available at: http://unsdsn.org/wp-content/uploads/2018/06/US-Cities-Index-Report.pdf (p. 33).

data sources to the SDG indicators (for which an SDG Mapping Worksheet was developed[11]). Thereafter city policies and plans of relevance would be mapped to the targets.

Given the centrality placed upon data in these initial city strategy discussions, in 2016 SDSN went a step further, launching a Local Data Action (LDA) project exclusively focused on different approaches to local SDG monitoring. The Local Data Action project, a joint endeavor by SDSN Cities and SDSN TReNDS, did not present a particular model but instead aimed to create a library of case studies and technical knowledge documenting how global cities and localities were currently 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.[12] The group explored themes related to (1) indicator localization (how to tailor the global indicators to the subnational context and identify additional local indicators to promote SDG action and achievement); (2) data platforms (identifying data dashboard models to provide easy-to-use granular data on SDG dimensions); (3) the use of third-party data (filling sub-national data system gaps with third-party data, such as citizen-generated or telecommunications data); and (4) national to local data integration (specifically focusing on methods for aligning and integrating national and subnational SDG reporting systems).[13] The case studies were structured around five key questions: (1) What are the most pressing SDG-related problems? (2) What was the identified data solution? (3) What was the building process, including the various steps involved? (4) What are the strengths and weaknesses of the approach, as discussed with local stakeholders? (5) How replicable is the model in other contexts?

7.6.2 Impact and Lessons

As a result of these programs, SDSN has documented emerging practices on local SDG monitoring in four US cities; Baltimore, San Jose, New York, and Los Angeles.

Four years since SDSN's localization studies began, we have identified a number of insights from across cities and regions working to monitor and achieve the SDGs.

7.7 Local SDG Monitoring Efforts Gain Most Traction When Aligned with Existing City Planning and Measurement Frameworks

Nearly all of the cities and regions studied noted that it was hard to pique local political interest unless the SDG framework was presented as an additive framework that would support and improve upon existing plans and commitments, including the priorities articulated by the mayor or local government leader in their election manifestos. As such, local partners within academic institutions and city stakeholders recommended mapping SDG indicators onto existing local strategies and monitoring tools, for example, in San Jose, local academic partners undertaking SDG mapping looked at how the SDGs might support the city's new 15-year Climate Smart San Jose sustainability plan. In part because of this work, the city placed a strong emphasis on people and quality of life, as well as environmental outcomes, in the final strategy launched in 2017.[14] This approach was mirrored on the other side of the world, in Patiala, India, where the SDG strategy was developed around the stated priorities of

[11] Available at: http://unsdsn.org/what-we-do/solution-initiatives/usa-sustainable-cities-initiative-usa-sci/

[12] Aruba, Belo Horizonte in Brazil, a network of municipalities in Colombia, Patiala in India, LA in the USA, Bristol in the UK (all 2018), Baltimore in USA (2017), California Bay Area in the USA (2017), and a network of municipalities in Brazil (2017). Visit: https://www.sdsntrends.org/local-data-action

[13] For more information, visit: https://www.sdsntrends.org/local-data-action

[14] For more on the Climate Smart San Jose plan, visit http://www.sanjoseca.gov/climatesmartsanjose

the city's leadership, which aligned with SDGs relating to health (3), water and sanitation (6), industry and infrastructure (9), sustainable cities (11), climate change (13), and good governance (16). This simple connect-the-dots approach was found to reduce any skepticism and improve buy-in from local officials.

In the case of LA, where the mayor has played a leadership role in promoting the SDGs, the local research team developed a list of proposed local SDG indicators that aligned with LA's Sustainable City pLAn. The team aimed to propose a set of targets and associated indicators that would enable a more coordinated government effort to achieve the SDGs.

The advantage of aligning SDG planning and monitoring exercises with existing local strategies and plans is that it can encourage better cross-governmental coordination and minimize excessive, cumbersome local monitoring. But unless a clear commitment is also made to progressively meet the other "missing" goal areas, it risks being a "pick-and-choose" approach which may jeopardize the integrated and indivisible nature of the SDGs.

7.8 The SDGs and the Official Indicators Provide a Common Language, to Encourage Coordination and Where Possible Active Comparison

Across the cities studied, local stakeholders praised the utility of the SDG indicator framework (the set of 240 indicators recommended by Inter-Agency and Expert Group on Sustainable Development Goal Indicators – IAEG-SDG[15]) for providing a common language—one which enabled diverse city stakeholders to talk about their objectives in reference to specific metrics and outcomes. Using a data-informed approach also helped ensure that conversations about priorities and targets (including target thresholds) were evidence-based and locally relevant.

All of the cities studied drew upon the set of IAEG-SDG indicators to some degree in their initial discussions, either just for inspiration when designing their own locally relevant indicators or as the basis for their monitoring framework. On a few dimensions, such as CO_2 emissions and urban sprawl, the discussions have consequently spawned cross-city discussions on methodological alignment (e.g., in the sidelines of the recent Winter US Conference of Mayors meeting), which may eventually enable active cross-city comparison. However, it was pointed out by a number of cities, such as LA, USA, and Bristol, UK, that global indicators are not always directly relevant and appropriate for a city context and the city's jurisdiction may limit its ability to affect achievement. For example, target levels (e.g., national versus sub-national), geographic context (e.g., coastal versus landlocked), and various data constraints have implications for how cities utilize the official indicators and structure city-level SDG monitoring. Therefore, it is imperative that local stakeholders critically analyze the relevance of the local IAEG-SDG indicators and then work together to craft a functional set of local indicators that can better support local policies and planning.

7.9 The Necessity to Develop Additional Local SDG Measures

In all of the cities studied, stakeholders felt the need to tailor the IAEG-SDG indicators or significantly add to them to better reflect local priorities and conditions. For example, in Baltimore, stakeholder discussions on appropriate measurement indicators for SDG 1 turned to the topic of causes of poverty in the city. Stakeholders concluded that "liquid asset poverty," households with at least 3 months of accessible cash, is a strong indication that a household may not be resilient to shocks such as layoffs in an economic recession, illness of the household breadwinner, or property damage in an environmental disaster.

[15] https://unstats.un.org/sdgs/iaeg-sdgs/ See also the e-handbook on SDG indicators, available at https://unstats.un.org/wiki/display/SDGeHandbook/Home

Consequently, the group determined that a measure of liquid asset poverty should be included as an indicator to track the city's progress in achieving SDG 1, over a more basic measure of income poverty. There are clear benefits to tailoring the IAEG indicators to make them more locally relevant and useful for policy purposes; however, the wide variation in SDG indicators being used across cities, and very different approaches being utilized to identify new indicators or proxies for SDG outcomes in different cities, presents challenges when seeking to review local, regional, or aggregate national progress and/or to use local data to complement national SDG monitoring efforts.

7.10 Local SDG Monitoring Is Encouraging the Use of New Data Sources and Is Supporting the Push for Open Data

Across all of the cities studied, acute data gaps were identified where both federal and local data were missing for key SDG dimensions, for example, timely, disaggregated measures of maternal mortality. City stakeholders expressed their eagerness to fill these gaps as soon as possible, rather than waiting for the production of additional official statistics from the National Statistical Office or local government. City stakeholders would utilize new methodologies and external partnerships, even though these processes are costly and time-consuming. In San Jose, for example, Stanford University provided a prototype dashboard to the city, of the kinds of block-level analysis that could be done using third-party data on vehicle miles traveled and workers commuting time. Specifically, they used LEHD Origin-Destination Employment Statistics (LODES) and the Google Maps Directions API to estimate the vehicle miles traveled (VMT) by both residents and workers who drive alone to and from individual block groups.[16] Discussions on new data sources and methods were active in all of the cities studied, though few had actively started curating third-party data over time, suggesting the challenges of finalizing methods and brokering fair, secure, and sustainable agreements with third-party data providers.[17]

In all of the cities studied, local stakeholders were eager to set up SDG data monitoring mechanisms and platforms which would enable easy tracking of SDG progress. Academic partners in San José and Baltimore are currently in the process of researching and setting up SDG data systems for the cities, which are open source, align with existing datasets, and provide user-friendly visualization tools for policy-makers and public citizens. Additionally, in New York, groups like Measure of America are looking at how to expand their current open-source city dashboards to also map the city's OneNYC and SDG indicators. All three cities are considering methods for integrating these with the US's national reporting platform for the SDGs. In every case, city stakeholders expressed the necessity to make the data dashboards open source and readily accessible for government policy-makers and planners, as well as local residents so they might use the dashboard to track progress within their communities and hold city representatives to account.

7.11 Conclusion: A Twin Monitoring Approach for City-Level Action and Political Engagement

This chapter has reflected upon two different methodologies for local SDG monitoring, employed by SDSN and its local US partners. The first method involved a centralized, top-down review of comparable cross-national indicators and the subsequent compilation of a US

[16]Ouyang, D. and J. Lundquist (2017) 'Data Tools for the California Bay Area', SDSN TReNDS Working Paper. SDSN: New York. Available at: http://unsdsn.org/wp-content/uploads/2017/09/180123-trends-brief-sanjose-sdg-platform.pdf

[17]As further discussed in SDSN TReNDS' related project Contracts for Data Collaboration, visit: https://www.sdsn-trends.org/blog/2019/1/22/introducing-contracts-data-collaboration

SDG Cities Index. The second method has involved local community mapping of existing indicators and metrics to the SDGs and the identification of relevant local proxies (as in San Jose, New York, Baltimore, and Los Angeles).

While the centralized, top-down approach has piqued high-level political interest, in large part thanks to media coverage, and is encouraging constructive competition among cities, the indicators used within the index are themselves too high level as to be useful for much of the day-to-day monitoring and administration of city halls. Furthermore, there are acute data gaps, partly resulting from diverse monitoring methods across cities, which local governments and stakeholders will need to fill to make the framework useful.

In San Jose, Baltimore, Los Angeles, and New York, the engagement of a broad range of city stakeholders and the consensual approach to SDG implementing and monitoring has helped to raise awareness about the SDGs and foster local buy-in and has eased integration of the SDGs into existing city plans, but it will only drive more ambitious monitoring and policy change if subsequent analysis is done to see what SDG dimensions are excluded and how they can be integrated and prioritized over time.

Lessons from both of these exercises show the utility of the SDG framework and its associated indicators for encouraging more ambitious and comprehensive sustainable development monitoring and for encouraging Mayoral engagement; however they also point to the necessity to employ a two-pronged approach to subnational monitoring of the SDGs, involving the use of headline political indicators to sustain political interest and attention, as well as more nuanced city-specific proxies to support implementation of local policies and programs.

Jessica Espey is a Senior Advisor to the United Nations Sustainable Development Solutions Network (SDSN), based in London, UK, and is the Director of SDSN TReNDS, the SDSN's expert group on data. With TReNDS, Jessica's research explores how new forms of data and technology can be harnessed to support sustainable development outcomes. TReNDS is particularly interested in building capacity in national statistical systems so they are able to capitalize on the data revolution. Jessica is a member of the Global Partnership for Sustainable Development Data's Technical Advisory Group and the Group on Earth Observation's Expert Advisory Board. Having previously worked on sustainable urban development, she has also just served as official liaison for the Scientific Steering Committee of the IPCC Conference on Cities and Climate Change. Prior to joining SDSN, Jessica served as a special adviser on the post-2015 agenda within the Office of the President of Liberia, supporting the work of the High-Level Panel of Eminent Persons (of which President Sirleaf was co-chair) and the development of the Common African Position on the Post-2015 Agenda. She has also worked as a senior researcher at Save the Children UK, the Overseas Development Institute (ODI), and the British Institute in Eastern Africa (BIEA). Jessica is a current Doctoral Candidate at the University of Bristol. She also holds a Bachelor of Arts degree with Honors in Modern History from the University of Oxford and a Master of Sciences degree in the Political Economy of Development from the School of Oriental and African Studies, University of London. She has lived and worked in Liberia, Kenya, Rwanda, the UK, and the USA.