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Next generation urban planning

Enabling sustainable development at the local
level through voluntary local reviews (VLRs)

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Introduction

Around the world, cities are evolving at an unprecedented pace, grappling with profound challenges driven by urbanization, demographics, and climate change. City leaders face extraordinary pressures to manage this growth and implement sustainable development strategies. As United Nations (U.N.) Secretary-General Antonio Guterres recently remarked, “With more than half the world’s population, cities are on the frontlines of sustainable and... inclusive development.”¹

Global trends of rapid urbanization exacerbate the local urgency for sustainable development. Climate change and migration have very localized effects that require localized solutions. The risk to physical and civic infrastructures, and social cohesion and safety, creates new complexity for local governments. Cities are also where inequality takes on a visible human face, with rich and poor physically intermingling, bound together by place and economic and social relationships.

The local policy environment has never been more complicated. In response, local leaders and city governments are developing more sophisticated methods for planning, measuring the well-being of their citizens and neighborhoods, and assessing their success in delivering needed services and social progress.

Increasingly, city leaders see their priorities for local progress linked to solving global challenges. Cities are finding value in “globalizing their local agenda,” situating their

priorities within global policy frameworks and engaging in problem-solving with their global counterparts. This reflects their pragmatism in sourcing and sharing the best solutions and innovations for the challenges they face. In a changing international order that challenges international organizations and multilateralism. It also enables cities to leverage new forms of city diplomacy, city networks, and peer-learning platforms. When national governments leave a vacuum of cooperation, cities are often filling the gaps, collaborating and seeking to influence the global policy agenda.

The Sustainable Development Goals (SDGs) are gaining traction as an organizing principle and policy framework for cities. The 2030 Agenda for Sustainable Development, which commits to seventeen Sustainable Development Goals (also known as the Global Goals), was adopted at the U.N. by 193 member states in 2015. A grassroots movement is emerging as city governments worldwide are adopting the SDGs as a holistic framework for their local planning and execution.

The 2030 Agenda nominally has a “cities” goal: SDG 11, which calls for “inclusive, safe, resilient, and sustainable” cities. SDG 11 signaled the importance of cities in advancing sustainable development. However, from the perspective of these local leaders, cities are responsible for a much larger range of issues within the 2030 Agenda, including poverty, health, education, housing, safety, jobs, innovation, and air pollution. The timebound outcomes of the SDGs provide an ambitious and common North Star at which to aim, one that encapsulates all the dimensions of development their communities care about.

¹ António Guterres. Remarks at C40 World Mayors Summit. October 11, 2019. Retrieved from <https://www.un.org/sg/en/content/sg/speeches/2019-10-11/remarks-c40-world-mayors-summit>

"Everyone knows the Paris climate agreement," says Mayor Jan Vapaavuori of Helsinki. "The SDGs are much less well-known, but they may be more important, because they are comprehensive."²

City leadership on sustainable development is exhibited in the widening adoption of an innovation called the Voluntary Local Review (VLR). A VLR is a process in which local governments confirm their commitment to the SDGs and voluntarily assess their progress towards specific targets in the 2030 Agenda. Pioneered in 2018 by New York City, this review takes its inspiration from Voluntary National Reviews (VNRs), the process through

which countries report on their sustainable development progress at the U. N. as part of the official follow-up and review process. A VLR enables a city to present a holistic and coherent portrait of its social, economic, and environmental progress, offering a powerful storytelling tool that connects its local strategy to a global agenda. Given the SDG focus on measurement toward specific outcomes, a VLR can also be a tool for strengthening evidence-based policymaking, using data as a means to identify gaps and mobilize new policy, partnerships, and resources. The common frame of reference for the SDGs enables learning and exchange with counterpart cities across the world.

Figure 1. The VLR landscape



Sources: IGES, UN SDG Knowledge Platform, NYC's Voluntary Local Review Declaration, and authors

2 Source: Jan Vapaavuori. Remarks at the launch of Helsinki's VLR at the 2019 High-Level Political Forum on Sustainable Development. July 16, 2019.

SDG Leadership Cities Network

The Brookings [SDG Leadership Cities Network](#), a cohort of 17 cities, enables cities that are in the vanguard of applying the SDGs locally to share experiences, solve problems, and identify best practices of local SDG leadership. This global community of practice of senior government officials launched in April 2019 at the Bellagio Rockefeller Center and met again in November 2019 in Mexico City. Facilitated and supported by the Brookings Institution, this group is demonstrating the centrality of city leadership to achieving sustainable development. Their innovations, tools, and lessons provide the basis for other cities to successfully pursue the SDGs. It will meet twice more in 2020. Participants in the SDG Leadership Cities Network include:

- Accra, Ghana
- Bristol, United Kingdom
- Bogota, Colombia
- Buenos Aires, Argentina
- Durban (eThekweni Municipality), South Africa
- Hawaii, United States
- Helsinki, Finland
- Los Angeles, United States
- Madrid, Spain
- Malmö, Sweden
- Mannheim, Germany
- Mexico City, Mexico
- Milan, Italy
- New York City, United States
- Orlando, United States
- Pittsburgh, United States
- Yokohama, Japan

The VLR movement is nascent but gaining momentum. VLRs do not have official status as part of formal SDG follow-up and review processes hosted by the U.N. There is no specific template or official format. Most cities undertake a VLR based on its intrinsic value. The flexibility of the format allows cities to base a VLR on its own capacities, contexts, and level of development and resources.

In this initial stage, the movement has made greater inroads in North and South America, Europe, and Asia. No African city has yet produced a VLR, though several have made commitments to do so. Twenty-two cities have signed onto a declaration promoted by New York City that commits to doing a VLR.

As the VLR movement gains attention, this report explores the promise of the Voluntary Local Review as an urban planning tool for advancing sustainable development.

It presents a city-specific perspective, one informed by the experiences and viewpoints of cities that have completed or started a VLR (especially those participating in the Brookings SDG Leadership Cities Network; see side bar) and augmented by a Brookings analysis of seven first-generation reviews.³

The report also proposes innovations that might be valuable for the next generation of VLRs, and raises issues for consideration in scaling the use of the VLR. These are included in yellow boxes titled "VLR 2.0 opportunity" throughout the report.

³ The VLRs analyzed include those from Bristol, Buenos Aires, Helsinki, Kitakyushu City, Los Angeles, Mannheim, and New York City.

Making the case: The rationale for VLRs

Cities are well-positioned for leadership on the SDGs

The challenges of achieving sustainable development are complex, and success requires a change in approach. David Nabarro, the Secretary-General's former special advisor on the 2030 Agenda, describes five principles as fundamental:

- **Leave No One Behind:** Efforts focus on reaching the most vulnerable first, putting people at the center of the policy and investment agenda;
- **Interconnectedness:** Decisionmakers and citizens recognize the links among the social, economic, and environmental dimensions of sustainable development and seek to multi-solve, addressing these challenges in an integrated way;
- **Universality:** All countries and places recognize areas for improvement and commit to advancing towards the goals;
- **Multi-stakeholder:** Progress requires integrating parts of government, business, academia, and society to work together seamlessly toward the same objectives;
- **Risk-Taking and Partnership:** Results will only be achieved by leaders and institutions partnering outside their comfort zone.⁴

These principles highlight that success on the 2030 Agenda is just not a matter of money—it's a matter of mindset. Yes, adequate resources are necessary, but the manner of their allocation and application—and the extent to which they are catalytic of other contributions—are just as important.

Policies and development efforts to advance the SDGs require innovative, multi-faceted approaches, ones that address and integrate across multiple issues at once. They also require unusual partnerships and integration among government, the private sector, civil society, and citizens themselves.

As the level of government closest to its constituents, cities are well-positioned to experiment and demonstrate how to do this successfully. A VLR provides both an organizing framework and storytelling tool to articulate their efforts and capture their progress.

Universal application natural for cities

By recognizing that all countries and places have improvements to make on the continuum of sustainable development, the 2030 Agenda and the SDGs break down the dichotomy between “developed” and “developing” countries and make global progress a shared responsibility. Cities exhibit strong collaborative instincts and pragmatically seek to learn from their peers, as demonstrated by the growth of city-to-city networks over the past two decades focused on issues of sustainable development such as climate change, migration, safety and security, resilience, and water.

⁴ David Nabarro and Katell Le Goulven. Let's get SDG smart: business and the future of our world. INSEAD, November 20, 2019. Retrieved from www.youtube.com/watch?v=ahagcz91y54

Localization: Making the SDGs their own

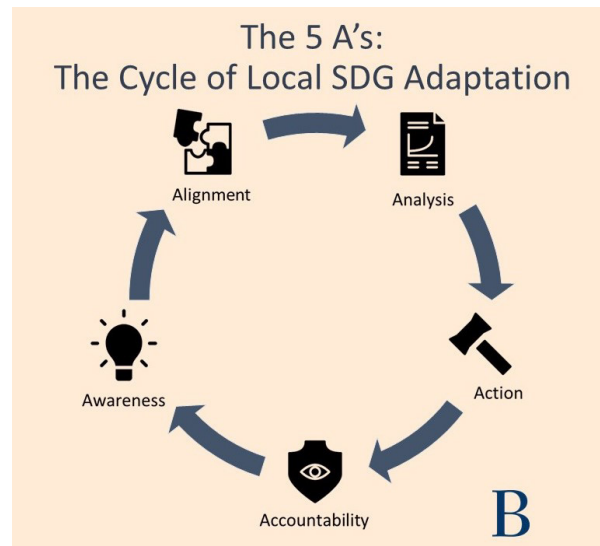
The SDGs, and their targets and indicators, were agreed by national governments. Their associated metrics measure progress on sustainable development at the national and global levels. Officially determined and universally accepted SDG targets for local purposes do not exist. There is also no formal set of indicators or “official” forum for reporting on local SDG progress—no provision exists in the U.N. resolution for having local or city governments report on their progress under the auspices of the U.N.

Cities are thus faced with translating the agenda to their own specific context based on their current capacity and the data that they have available. With a few exceptions, there is no straightforward “trickle-down” from the national to the local—cities must make decisions at every juncture to arrive at aspirations, targets, and measurements that are appropriate to their local realities.

This “localization” generally takes shape along five lines of effort sequenced in the Cycle of Local SDG Adaptation: (1) awareness; (2) alignment; (3) analysis; (4) action; and (5) accountability. These five steps are iterative, constituting a mutually reinforcing cycle as a city refines and deepens its activities to advance sustainable development.

Awareness: General awareness about the SDGs remains uneven and inconsistent within governments, across sectors, and among the public. Local leaders thus undertake to build greater awareness among these constituencies to increase the commitment to the agenda’s outcome-oriented, timebound discipline of development, and to improve fluency in the common language of sustainable development.

Figure 2. The cycle of local SDG adaptation



Source: Authors

Alignment: As a major step in localizing the agenda, cities generally undergo some process of alignment to situate their city strategy, plans, policy priorities and directives, initiatives, and/or metrics of progress within the aspirations and intent of the SDGs. Some cities even create an entirely new strategy, using the SDGs as their frame of reference.

Analysis: The timebound outcomes of the SDGs, and their related metrics, force a focus on evidence and analysis. Developing a baseline, and analyzing past trends and future scenarios, enable cities to identify where policy gaps or opportunities exist.

Action: Cities seek to match their initiatives and policy interventions to their sustainable development priorities. Their data analysis also helps identify challenges and opportunities, providing the basis for taking new action: policy or budget proposals, public-private initiatives, new types of financing, and citizen and stakeholder engagement.

Accountability: The emphasis on data and metrics generates a strong basis for transparency and accountability. Some localities are creating accessible, online dashboards of progress.

External stakeholders often view a VLR primarily as a reporting mechanism, an evolution in accountability. Yet portions of a VLR can be a catalyst for, or a product of, any of these stages of localization. City officials themselves perceive VLRs as having the ability to support all five areas of the 5A's localization framework.

As a flexible innovation, there is no standard definition for a VLR. For the purposes of this report, we define it as **a voluntary assessment of local progress towards targets that are part of the SDGs**. This distinguishes VLRs from alignment-only documents, city strategies or development plans, or case statements. The core element, from our point of view, is to draw a picture of a local community's outcomes called for by the SDGs, using an inclusive process that also encourages implementation and buy-in from various other partners. Most VLRs do not cover all 17 SDGs or 169 targets, but each should address social, economic, and environmental dimensions of sustainable development, assessing how well a locality is progressing on these multiple fronts simultaneously.

VLRs: The value proposition

Cities undertaking a VLR describe their value in multiple ways:

1. A tool for better policy and organizing.

The process of creating a VLR is as valuable as the final product. Cities that have undertaken a VLR report using the process

to engage key stakeholders, both internal and external to city government, in defining a common vision for sustainable development and integrating their disparate contributions to maximize their collective impact. This is a major part of a VLR's value and can provide the basis for articulating shared priorities and creating new partnerships. At a basic level, VLRs show promise for improving local development practice. They:

Encourage internal coordination and policy coherence

Activities relevant to the SDGs are executed internally by a wide array of city stakeholders. In practice, agencies within a city mostly stay focused on their particular activities; the SDGs, as a holistic framework, force local leaders to consider the implications of their actions on other priorities. VLRs provide a platform to (re)organize efforts and open new lines of information-sharing, coordination, and collective problem-solving.

Set concrete, time-bound targets for progress

Fundamentally, the SDGs compel policymakers to commit to a “North Star”—a series of endpoints that, if reached, will enable societal well-being and inclusive prosperity. A VLR provides transparency in commitments and measurement that this requires.

Apply data to solutions

VLRs are based on data analytics that, done well, surface gaps and challenges in a city's social, economic, and environmental progress. Using their VLR, cities can identify where, or to which populations, they need to target policy or mobilize more action. This helps to design evidence-based policies and inform decisionmaking.

Engage stakeholders

The process of producing a VLR offers numerous opportunities to engage residents, other government agencies, and leaders in the community, consulting them on the city's priorities and raising awareness of the city's challenges and opportunities. The positive agenda and common language of the SDGs provides an opportunity to energize support and community buy-in.

Catalyze new models of governance

Once complete, a VLR highlights the plurality of the effort needed to achieve local targets. A focus on community outcomes necessitates going beyond the actions and resources of city government alone, extending to include the contributions of the community and private sector, revealing concentric circles of effort. The VLR can act as a unifying document and the basis for developing new models of coordination between city government and other sectors such as business, academia, philanthropy, and civil society.

Institutionalize and sustain long-term development efforts

Most mayors and local leaders are subject to electoral cycles and the voter's choice. Political discontinuity from transitions in power often leads to strategic shifts that can threaten the necessary long-term consistency of sustainability policy. A commitment to the SDGs can contribute to long-term planning over multiple electoral cycles, and a formal process like the VLR can inscribe and publicize efforts that become harder to reverse.

2. A tool to communicate vision, progress, and accountability

Articulate a comprehensive vision for sustainable development

A VLR creates a unifying narrative that integrates a city's separate strategies, plans, priorities, and directives into one coherent package. It moves sustainability "out of city hall" onto the table and places the city's activities into a cohesive timeline of actions, initiatives, and reactions.

Enable local accountability

A VLR, and the data it is based on, offers the city an opportunity to present how well it has performed on the priorities it set when aligning to the SDGs. Its performance can be reported transparently on local and international platforms, and may be accompanied by infographics, data visualizations, or online dashboards that provide measures of success that are accessible to citizens.

Articulate global challenges for a local audience

VLRs provide an enlarging narrative for urban policies and activities, integrating local action into a global framework. Cities can use VLRs to write their growth story of the future, connecting local priorities, specific to the city, with larger international commitments. The local role in addressing global challenges is often hard for residents and voters to see. The VLR provides city leaders an opportunity to broaden the orientation of local activities and priorities, showing their residents how local progress contributes globally.

Increase international visibility

A VLR can help a city increase its international profile as a vanguard actor on the international stage. VLRs contribute to

present a global brand, or at minimum, help cities develop a global reputation that may give them an advantageous position in the competition for creative talent, technology, and visitors.

Enable peer networks and exchange

VLRs are creating a learning community that leverages the common language and awareness of the SDGs and breaks down traditional divisions, reflecting a new type of global cooperation. Cities that have developed VLRs have a platform to share challenges, best practices, and innovations at the international level as well as with cities within their country. It can also be a motivational tool—not by ranking cities against each other, but by enabling beneficial peer support.

Increase influence in global policy

Completing a VLR sends a clear signal of a city's commitment to tackle global challenges related to sustainable development. Nation-states comprise the membership and governance of the UN and other traditional multilateral institutions, with limited space for mayors and representatives of local government to inform and/or participate in global policy decisions and agreements. VLRs offer a concrete opportunity for city diplomacy and leadership within the multilateral system.

Align with other levels of government

VLRs provide a common language for cities to coordinate with adjacent governments—other municipalities, counties, states or provinces—or their national government. In some countries, the autonomy and resources of city governments are often quite constrained; VLRs have the potential to raise the visibility of the challenges they face and advocate the national government for greater independence. In other countries, national

governments may be interested in aligning VLRs to complement their VNRs and connect local realities to national policy.

In summary, the impact of a VLR falls under two major headings: (1) creating and communicating a coherent, integrated vision of a city's policy priorities, in a common language that links to global aspirations in sustainable development; and (2) mobilizing action based on evidence and analysis, by catalyzing new policy interventions or government-led initiatives; new partnerships; or new financing.

Producing a VLR: Differences, commonalities, and future opportunities

An analysis of seven first-generation VLRs reveals commonalities as well as variation in the development, format, and content.

The reviewed VLRs show broad similarities in their narrative content and qualitative aspects. They reflect wider differences in the range of reporting choices, and they offer distinct examples of how data and indicators can be useful.

To assist with a cross-cutting analysis, we developed a framework to separate the major elements contained in the VLRs. This also provides useful context for identifying areas that can be strengthened or innovations that would be useful for additional learning and accountability in future VLRs.

Table 1. A framework for analyzing VLRs

VLR ELEMENT	Bristol	Buenos Aires	Helsinki	Kitakyushu City	Los Angeles	Mannheim	New York City (2 nd edition)
NARRATIVE							
Mayoral endorsement							
Alignment of city strategy							
Awareness raising							
Implementation of city initiatives							
Partnerships							
Financing strategy/budgeting							
Focus on leave no one behind							
Integration with VNR							
DATA							
Snapshot metrics							
Intermediate targets							
Trend analysis							

VLR contains element
VLR does not contain element
VLR refers to other documents, analysis, or dashboard

Source: Authors


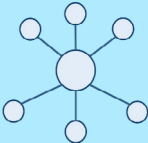

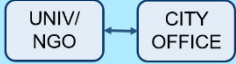
1. Political and institutional leadership

Showcasing political support is a standard opening. Most VLRs clearly highlight their mayoral support with an opening letter from the Mayor. Even though a mayoral endorsement does not guarantee prioritization, it stands as a proxy indicator of political buy-in and of the city's commitment to sustainable development. This baseline of leadership ensures a minimum level of involvement from the city's agencies and helps support a coherent vision.

Most mayors and local leaders, however, rely on electoral cycles and voters' choice. Political discontinuity through changes in power often leads to shifts in municipal strategies that can threaten the necessary long-term scope of sustainable policy. VLRs could provide a platform for institutionalizing a commitment to sustainable development across political cycles. As an example, New York City's comprehensive strategic plan OneNYC 2050 includes a commitment to produce a VLR every year.

The teams producing the review take different forms. Across the seven VLRs reviewed, cities used four different models for

Table 2. Models of institutional organization

Model	Examples
<p>One Key Office/Team: Completes and socializes internally</p> 	<p>Buenos Aires' VLR was produced by a team including its General Director of Strategic Management, the Director of Management and Administration, an SDG Project Coordinator, an SDG Analyst, a Communication Analyst, and an Urban Resilience Analyst. This team did the bulk of the work and socialized its outcomes internally.</p>
<p>Hub & Spoke: One coordinator with outreach to relevant offices</p> 	<p>Both Los Angeles' and New York City's VLRs were prepared by a key staff person within the Mayor's Office of International Affairs, who reached out and integrated inputs and support from other individuals and offices within the city government structure.</p>
<p>Interagency: A collaboration among different units led by a steering committee</p> 	<p>Helsinki's VLR was directed and led by a steering group from the city's Strategy Unit that organized collaboration among members from various city divisions: Executive Office, Urban Environment, Education, Culture and Leisure, Social Services and Health Care.</p>
<p>Partnership: A partnership between the city office and an external organization</p> 	<p>Bristol's VLR was produced through a collaboration between the City Council and the Cabot Institute for the Environment at the University of Bristol. Similarly, Kitakyushu City's VLR was produced by the city government in collaboration with the Institute for Global Environmental Strategies (IGES).</p>

Source: Authors and Cities' VLR

organizing their efforts (see Table 2). As more cities undertake these reviews and pursue the SDGs, there will likely be a great deal of variation in how they decide to organize their

efforts, similar to the diversity of approaches that national governments are taking to pursue SDGs and produce their VNRs.

Some cities are considering the support of outside consultants for parts of the production of their VLR to provide additional expertise or capacity.

However, the civic and leadership aspects of a VLR cannot not be outsourced. Drafting a VLR includes a process of bringing city agencies around the table, building leadership, and creating communication streams across the city and its partners. Local teams benefit greatly by retaining ownership of this process.

The VLR creates an opportunity to break down siloes within city offices and connect staff's work to a larger sustainable development strategy.

Those responsible for creating the VLR must survey activities city-wide related to the SDGs, activities executed by a wide range of actors in different departments and city agencies. Connecting city services that support the overall strategy helps ameliorate a common disconnect between policymakers and the technical services of the city, allowing the latter to inform the policy agenda. In New York City, for example, the VLR team engaged technical experts and departments to collect information and obtain feedback. This increased the buy-in from the technical staff by highlighting the connection of the SDGs to their priorities and services.

Cities acknowledge that sustainable development is not a city-only endeavor and cuts across political and legal jurisdictions.

The VLRs sometimes reflect this regional or metropolitan scale and mention connections and partnerships with neighboring governmental entities. Generally, however, the reviewed VLRs focused on the respective jurisdictional boundaries of the individual cities that developed the report. Fragmentation and trans-municipal issues pose significant challenges to progress in many metropolitan areas. Data is rarely

available consistently across geographic levels. Development goals have already been proven to be useful as a framework for developing a shared regional strategy: in the Orlando region, local governments and agencies have committed to a regional approach with the SDGs as the underlying basis for the East Central Florida Regional Resilience Collaborative. The Central Florida Foundation, the community foundation for the Orlando region, is also using the SDGs to measure its impact and community-level outcomes. A joint metro VLR, integrating unique reporting from participating municipalities and stakeholders, would take that one step further.

VLR 2.0 opportunity: Future VLRs might attempt to integrate reporting from different municipalities into a metropolitan review using the common frame of the SDGs. While a handful of states or regions have completed a subnational report, there has not been a metropolitan area that has collected unique inputs from the local municipalities that comprise it to report on combined progress. This could inspire collaboration across city boundaries into a wider alliance and governance structure.

2. Alignment of city priorities to the SDGs

Showcasing how city priorities align to the SDGs is a common VLR attribute. In general, even vanguard mayors and city officials do not undertake their urban strategizing, prioritizing, and planning by using the SDGs as starting point. They develop plans based on the needs and priorities of their residents and communities, creating a vision relevant to local constituencies. The SDGs offer a

measuring stick connecting that vision of local progress to a set of global challenges. Approached in this way, the SDGs often offer greater energy and momentum to the local agenda.

A core step in localizing the SDGs links a city's strategies, plans, executive directives, or financing narratives to the 2030 Agenda. The outcomes of this cross-walk are generally referenced in a VLR. This does not mean that a VLR must reference all 17 SDGs or 169 targets—in fact, most do not. As cities link their priorities to one or several SDGs, they are often selective, focusing on what matters most for their local context or where existing data is readily available.

Linking city strategies and the SDGs

occurred at two different levels. The strategic level maps city goals to the SDGs. Cities such as Mannheim did this by mapping the SDGs onto each goal in their city plans. Cities such as Buenos Aires and Helsinki worked in the opposite direction, mapping the goals in their city plan onto each SDG (see Figure 3).

The second level is more granular and maps specific SDG targets to city targets. This is a more labor-intensive step, as city targets rarely align perfectly with the official SDG targets, and some SDG targets are irrelevant at the local level. New York City did a two-way mapping, looking at how the city's strategy, OneNYC, linked with the SDGs, and how each SDGs aligns with key aspects of OneNYC.

Figure 3. Buenos Aires SDG mapping to the city plan

PILLARS OF THE GOVERNMENT PLAN					
		CREATIVITY	ENJOYMENT	HUMAN SCALE	SOCIAL INTEGRATION
Sustainable Development Goals	1. No poverty				•
	2. Zero hunger				•
	3. Good health and well-being		•		•
	4. Quality education				•
	5. Gender equality				•
	6. Clean water and sanitation				•
	7. Affordable and clean energy	•			•
	8. Decent work and economic growth	•	•		•
	9. Industry, innovation and infrastructure	•		•	•
	10. Reduce inequalities				•
	11. Sustainable cities and communities	•	•	•	•
	12. Responsible consumption and production			•	
	13. Climate action	•			
	14. Life below water				
	15. Life on land				
	16. Peace, justice and strong institutions	•	•	•	•
	17. Partnerships for the goals	•			

Source: Buenos Aires

All or some? Covering the 17 SDGs vs. selected goals

Bristol and Mannheim chose to address all 17 SDGs in their VLRs. Most of the others reported on the focus goals for that year's High Level Political Forum (HLPF), the annual gathering at the United Nations where countries present their national reviews. Kitakyushu presented a mix, targeting some HLPF goals and adding other priorities.

New York City's VLR reviews the HLPF focus SDGs but has committed to doing a VLR each year, so the city will cover all 17 SDGs each four-year cycle.

Cities who have completed a VLR cautioned against putting too much immediate pressure on cities by insisting upon comprehensiveness. Smaller cities with lower capacity and resources will still derive great benefit when aiming for a limited number of goals. These can get the ball rolling by:

- Focusing on what they can report on, with existing data and resources;
- Focusing on a rough cut and subset of indicators;
- Using their city priority goals or the HLPF goals as their immediate focus.

Rather than perfect fidelity to all 17 goals or 169 targets, the SDG Leadership Cities agreed that the important number is three: that is, addressing the social, economic, and environmental dimensions of sustainable development at once. A VLR should tackle these three dimensions even if reporting on a small number of priorities.

Figure 4. SDGs addressed in each VLR



Source: Authors

An example of this target-matching exercise is provided in Los Angeles' VLR. A team of students associated to the effort used the targets in LA's Green New Deal, Resilient Los Angeles, and the mayor's Policy Actions and Initiatives to evaluate the extent to which each SDG target applies to the city. Based on this evaluation, the city localized by rewriting the official SDG target as minimally as possible to reflect LA priorities.

Bristol also conducted a mapping exercise to identify a set of indicators which track its progress towards its One City Plan and the SDGs. Mapping local-level indicators onto the targets of their city plan helped to identify the SDG targets which are relevant to their city and outlined how they would track progress for each relevant target.

Mexico City used its VLR to communicate on other global agendas relevant to its city strategy. The Mexico City committed to report on their progress towards key recommendations from the Paris Agreement, the New Urban Agenda, the Sendai Framework for Disaster Risk Reduction, the Aichi Biodiversity Targets, the Milan Urban Food Policy Pact, the Global Compact for Migration, the Agenda 21 for Culture, and the Beijing Declaration and Platform for Action.

Cities aim at making an honest assessment about progress that is or is not being made.

Choosing local indicators that have available, high-quality data and link to relevant SDG targets is a challenge for almost every city. These first-generation VLRs do not make the perfect the enemy of the good—they focus on getting started and building out from there.

At minimum, putting a VLR together involves engaging key staff or city government offices. However, depending on approach, multiple groups might connect through the VLR process.

Besides government, like-minded partners from the private and civil society sectors can be involved.

Diverse organizations and individuals with a stake in the region's sustainable development can help to create and support new initiatives, and advocate for the implementation of the SDGs. Bristol surveyed the businesses and organizations participating in its SDG Alliance, capturing the contributions of its members (now over 130) toward specific goals and raising awareness of the VLR.

Communities and residents can also be closely associated through consultation and information.

Mannheim estimates that 2,500 residents were directly involved in workshops and discussions that shaped the development strategy that provided the basis for its VLR, with another 10,000 participating through opinion polls and presentations of the process at different events. As it starts to undertake its VLR, Pittsburgh is partnering with a regional leadership association, CORO, to steep their fellows in sustainable development practice and deploy their skills within city government and throughout different sectors in the community. The city will depend upon their contributions for their VLR but also benefit from their active leadership in implementation.

VLR 2.0 opportunity: During the process of developing a VLR, cities or local governments might use commonly agreed data and intended results to unify stakeholders around common priorities, using the opportunity to cultivate and create new partnerships to address gaps or seize opportunities. A step further, cities could mobilize energy and garner support from other sectors by transparently highlighting gaps and shortcomings in the current progress. This could build trust and new partnerships that are issue-specific and action-oriented.

“You have to be honest about what’s not working in order to build trust and advance” toward the global goals, says Mayor Bill Peduto of Pittsburgh.

3. Implementation activities and partnerships comprise the bulk of first-generation VLRs.

Each of the reviewed VLRs contains detailed qualitative descriptions of the city’s initiatives and policies that advance sustainable development. Cities outlined their ongoing or future government programs and how they contribute to local progress or, more specifically, towards an SDG target. The descriptions and case studies often include the outputs of a project and specify the number of people served or touched. Overall, these qualitative descriptions tell a story and create a coherent narrative of the various efforts the city is making to achieve its targets.

At the same time, these descriptions provide a limited perspective regarding the depth of effectiveness or breadth of reach of these policies and programs, especially in relation to the outcome-level gaps that may need to be narrowed or overcome. Activities or numbers of people are often enumerated, but the connections or causal effects between such program outputs to the necessary community-level outcomes are rarely made explicit or measured quantitatively.

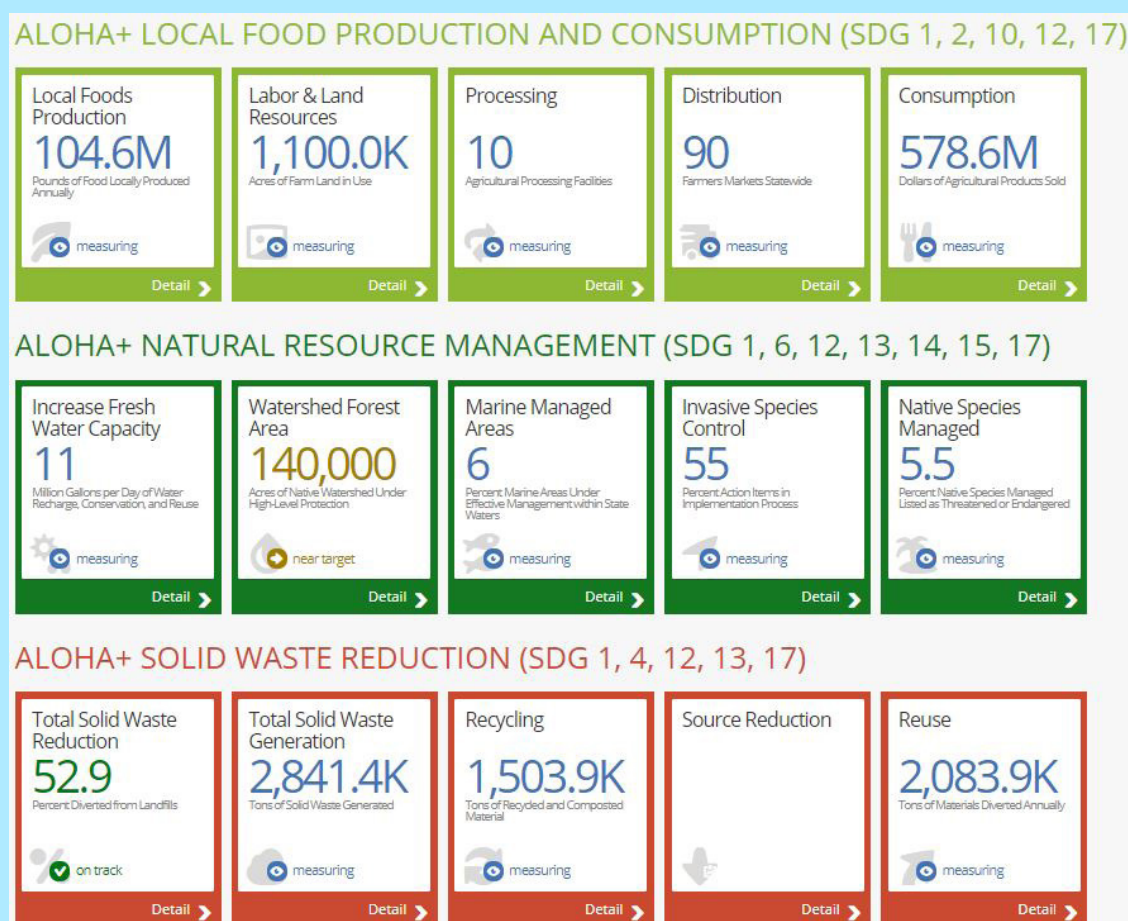
Cities often accompanied descriptions of their government initiatives with descriptions of major partnerships with other stakeholders that are relevant to particular SDG targets. Some cities undertake specific SDG-branded efforts. One example is Bristol’s “year-long sprints” where it prioritizes and focuses on implementing three SDG-related projects a year. Another is Buenos Aires’ UNDP Accelerator Lab that the city relies on to experiment with innovative approaches to achieve the SDGs.

VLR 2.0 opportunity: To best describe the effectiveness of these activities in pursuing the SDGs, cities could combine quantitative data reporting with outcome-level data and/or an impact assessment of its programs. Including honest assessments as to why something is succeeding or not, or whether the breadth and depth of program impact is adequately covering the distance needed to achieve the SDG target, will provide the basis for unlocking new thinking and partnerships.

Hawai'i Green Growth UN Local2030 Hub

The Hawai'i Green Growth UN Local2030 Hub is a public-private partnership leveraging the political leadership of the governor, legislature and Congressional delegation, and four county mayors to advance the state's sustainability agenda. As they develop their VLR, they intend to leverage their online open-data platform, the Aloha+ Challenge Dashboard, to engage a Sustainable Business Forum and a working group of other stakeholders to develop new partnerships and initiatives. Across these different groups, data can be an organizing and mobilizing catalyst for collective impact.

Figure 5. The Aloha+ Challenge Dashboard



Source: Hawai'i Green Growth and State of Hawaii

4. Other elements of SDG localization receive uneven attention.

Budget. City leaders face extraordinary pressures to manage the effects of the unprecedented pace of change while grappling with profound challenges driven by urbanization, demographics, and climate change implement sustainable development strategies. They all face a financing gap to achieve the SDGs. The VLRs provide an opportunity to reflect on how financing and resources match local aspiration. By embracing the SDGs, cities can potentially tap other financing mechanisms that exist at the global level, including development banks, Green Climate Fund, and private equity.

The reviewed VLRs don't integrate a rich discussion about budgetary resources yet. Mannheim highlighted some alignment between key initiatives and their budgeting process. New York City associated the City's Office of Management and Budget to the development of the strategy to ensure funding to the strategy. In general, though, budget trade-offs, challenges, or opportunities were not addressed. At the country level, Voluntary National Reviews (VNR) face similar limitations: less than one-third of the 47 VNRs reported in 2019 include specific details about the budget for SDG implementation.⁵

Leave No One Behind: The SDGs mandate about focusing on the most vulnerable first encourages a shift in mindset about public policy. No reviewed VLRs dedicated a section specific to leaving no one behind, but cities sometimes localize this key commitment of the SDGs in a locally-relevant way. In some

instances, they devoted specific analysis or disaggregation of data to identify key populations or neighborhoods—Bristol did this most regularly throughout their VLR. In Los Angeles, the commitment to equity and to help the vulnerable homeless population is consistent with the leave no one behind agenda.

Connection to Voluntary National Reviews: Cities are localizing the SDGs of their own accord, without the explicit direction for their national government. These VLRs were all self-directed, based on the value proposition recognized by the cities for themselves. As a consequence, these VLRs do not contain any official connection with the national-level review. During the process of conducting the VLR, none of the SDG Leadership cities were approached by their national governments. Bristol proactively reached out to its national government, with limited coordination.

As the use of VLRs matures, cities could use their work to inform the national government review. The VLR provides a useful basis for dialogue and conversation with the national government, drawing the central government's attention into local opportunities. The alignment of policies, and the sharing of information bottom-up and top-to-bottom, could improve the overall coherence of sustainable development policies.

⁵ Source: Partners for Review (2019). Voluntary National Reviews submitted to the 2019 High-level Political Forum for Sustainable Development – a Comparative Analysis. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

It is time to bring the data revolution to the local level

A global call for a data revolution accompanied the advent of the SDGs, asking for investments and renewed focus on strengthening the statistical capacity of governments and developing data-focused partnerships among public entities, civil society, researchers, universities, and the private sector. This call to action recognized the importance of being able to measure outcomes and progress with confidence.

Four years in, it is increasingly clear that local leaders will play a pivotal role in helping achieve sustainable development. Given the gaps in data availability and capacity at the local level, the data revolution must also extend to local statistics for the world to be successful on the SDGs.

Data collection and processing are resource-intensive tasks. Cities have various levels of expertise and capacity to conduct data analysis. Some cities have large capacities (Helsinki has a 60-strong statistical team), whereas most cities, in particular in the Global South, rely on limited resources. Data is also collected at irregular intervals, with some collected every year, some every other year, and some intermittently. This hinders the ability to analyze trends and compare across time. The SDG Leadership Cities suggest that using fewer robust indicators can be more useful than collecting a large quantity of lower-quality indicators.

Data collection and analysis also reflect political decisions. Selective reporting; choices about which data is counted; and decisions about what data is shared are often based on political agendas. For example, one-sixth of those who die by homicide in Rio State are killed by the police; however, these deaths are not included in the homicide statistics.ⁱ Such selective reporting leads to sudden changes and statistical oddities as counting methodologies change during political transitions.

i. Homicides by military police in the city of Rio de Janeiro. Amnesty International. 2015. Retrieved from https://www.amnestyusa.org/files/youkilled_final_bx.pdf.

Using data for evidence-based policy

Data and urban planning have been linked for a long time: local governments, city planners, businesses, associations use data to understand the urban world and guide policymaking. They use data to monitor

trends, account for progress, and legitimize policy.⁶ The evolution in recent years by cities in using data, visualizations, and planning to ensure social and environmental well-being has accelerated, and the application of scientific methods and knowledge posits cities as complex systems that can be mapped, diagnosed, and improved with calibrated, evidence-based solutions.

6 Rob Kitchin et al., *Data and the city*, Regional Studies Association, Routledge, 2018

The world of big data provides new tools, new access, and new usage of data to solve complex problems like never before. In

today's Smart Cities, data drives city services and infrastructures, sometimes in real-time. City technology is used to test innovative transportation networks, map commuting patterns, visualize economic assets, or forecast neighborhood crime. Data can even be collected from the streets and users to calibrate a city's performance.

Data occupies an important role in first-generation VLRs. Statistics provide much of the basis for the reporting captured in these VLRs. Data analysis and disaggregation sometimes point to the policy areas of greatest need; in other instances, statistics are cited as proof of adequate progress. There is great potential for innovation and the use of more sophisticated analytics to improve statistical conclusions and increase the prospects of using VLRs as tools for transformation.

1. It is helpful to distinguish the different types and uses of data.

These VLRs mix qualitative and quantitative data throughout their reporting. We suspect the choices about which data to present are often related to availability and quality, though the choices may also be signaling level of priority. The SDG Leadership Cities often feel pressure to make as much use as possible of quantitative metrics in SDG reporting. They saw data falling into two main categories:

Management & process indicators: A majority of the data cited in these VLRs are process- and management-oriented. The indicators predominantly measure the outputs that a city's initiatives are producing—e.g., the number of children that an early childhood

development program is serving, and whether it is reaching a higher or lower number of children than intended.

This provides an important measure of accountability, highlighting the city's ability to meet its mark in managing and delivering its services. However, it is difficult for these indicators to shed much light on the extent to which a city's initiatives are affecting overall outcomes at the community level.

Result & outcome indicators: The targets of the SDGs ask for measurement of community outcomes. Outcomes at this level are due to a complicated web of reasons, and many of them will not be under the managerial control of the city government. Yet metrics at this level provide a more accurate depiction of the city's overall well-being and prosperity.

Changing community-level outcomes often requires a change in mindset and leadership approach, and encourages city government leaders to engage and mobilize other community stakeholders; innovate and identify higher-impact interventions; and take on more political risk and uncertainty.

VLR 2.0 opportunity: Dependant on their capacity and access to data, cities can diversify their approach to measuring progress by distinguishing among the different categories of indicators they are using. A first step would be to categorize management/ process indicators versus results/ outcome indicators. Their process metrics might go beyond program outputs to relate to other impacts of their activities and new policies implemented, also highlighting:

- The mobilization and successful engagement with the number as well as diversity of partners recruited to the SDG efforts.
- The growth of awareness of the sustainable development strategy, with survey results tracking the visibility of the effort in different audiences.
- The amount of new resources raised or dedicated to support the SDG agenda also signals progress in the city strategy.

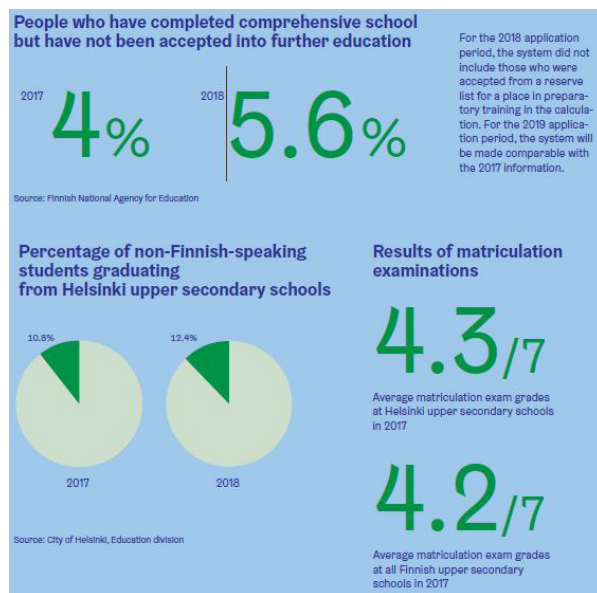
Such process metrics can complement the extent to which the VLR reports the impact of policies on the attainment to the SDGs. When data is available, it is beneficial for the city's review to strive to include outcome-level metrics that demonstrate the reduction in gaps to be overcome to reach 2030 targets.

2. Most VLRs visualize data by emphasizing static measures.

The SDGs provide an emphasis on evidence that gives cities the opportunity to report data in creative ways. Most VLRs reported snapshot metrics, describing the city's position at a particular point in time on a target, using the most recent data point available. Most often these statistics were woven into narratives describing the city's initiatives or programs to promote key objectives. Like Helsinki's, VLRs can use infographics to make data easily accessible to the audience (Figure 6).

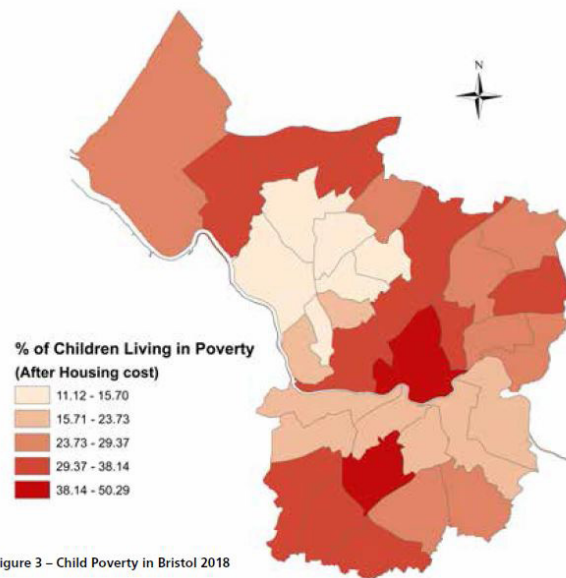
On selected measures, Bristol used maps to show geographic differences across different neighborhoods. Such disaggregation can be a powerful basis for developing targeted interventions for vulnerable groups (Figure 7).

Figure 6. Helsinki's VLR used diverse data visualization methods



Source: City of Helsinki

Figure 7. Bristol's VLR mapped 2018 child poverty data



Source: City of Bristol

3. Data disaggregation offers powerful possibilities for targeting evidence-based policy

In addition to geographic disaggregation, Bristol also separated outcomes for selected indicators by demographic factors such as sex, age, and ethnicity. While localizing its SDG targets, Los Angeles discovered that African-American women are experiencing maternal mortality at 3-4 times the average rate of other women in the county. Even though Los Angeles has technically met the SDG target rate, the city added “for every race and ethnic group” to the revised target language to focus on the inequity of this outcome. In Bogota’s statistical plan, crime data is broken down by neighborhood and mapped, to highlight the parts of the city where crime has increased (even though overall crime has decreased city-wide).

These examples showcase the ability of VLRs to bring analysis to the granular level and target policy on those being left behind. Metrics of social progress are most often analyzed at national or city-wide aggregates or wide demographic categories, and the SDGs—set at the national and global level—are no exception. Such aggregate data are often too broad or general to result in targeted policy recommendations. Breaking




down data by detailed sub-categories and sub-geographies can reveal inequalities that may not be fully reflected in aggregated data.

VLRs provide the possibility to drill down to the specific groups and neighborhoods—the specific problems and the specific places—to implement people-based or place-based policies. New techniques, including geospatial observations coupled with micro survey data and machine learning can yield approximations for granular estimates of various indicators within a city’s boundaries.

4. Moving from static measures to time series offers new insights.

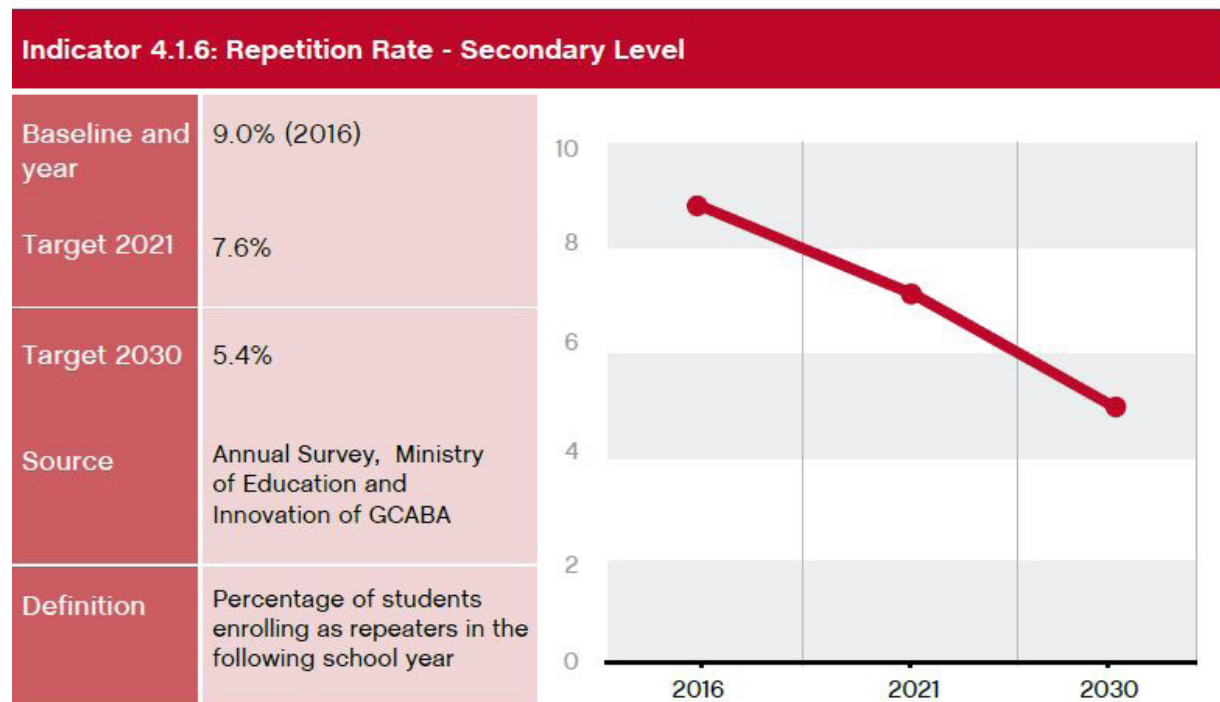
In addition to snapshot metrics, Bristol and Mannheim included analysis of selected trends in their VLRs to assess the city’s performance on these metrics over time, giving a sense of the direction the city is heading. The analysis is fairly rudimentary, simply indicating whether a metric is moving in a positive or negative direction, but it acknowledges that the SDGs ask for progress within an ambitious timeline—and that deadlines can be a mobilizing force for new policy and partnerships.

Figure 8. Mannheim used data timeseries to display progress trends

SDG		Indicator	Goal direction	2012	2013	2014	2015	2016	2017	2018
	1_01	Average rent per square meter	→	6.26		6.71		6.71		7.71
	1_02	Children without Speech Difficulties	↗	79.7	83.1	81.8	81.8	81.3	81.6	
	1_03	Percentage of students who drop out of secondary school before attaining a diploma	↘	8.0	6.3	8.0	7.0	7.9	9.7	

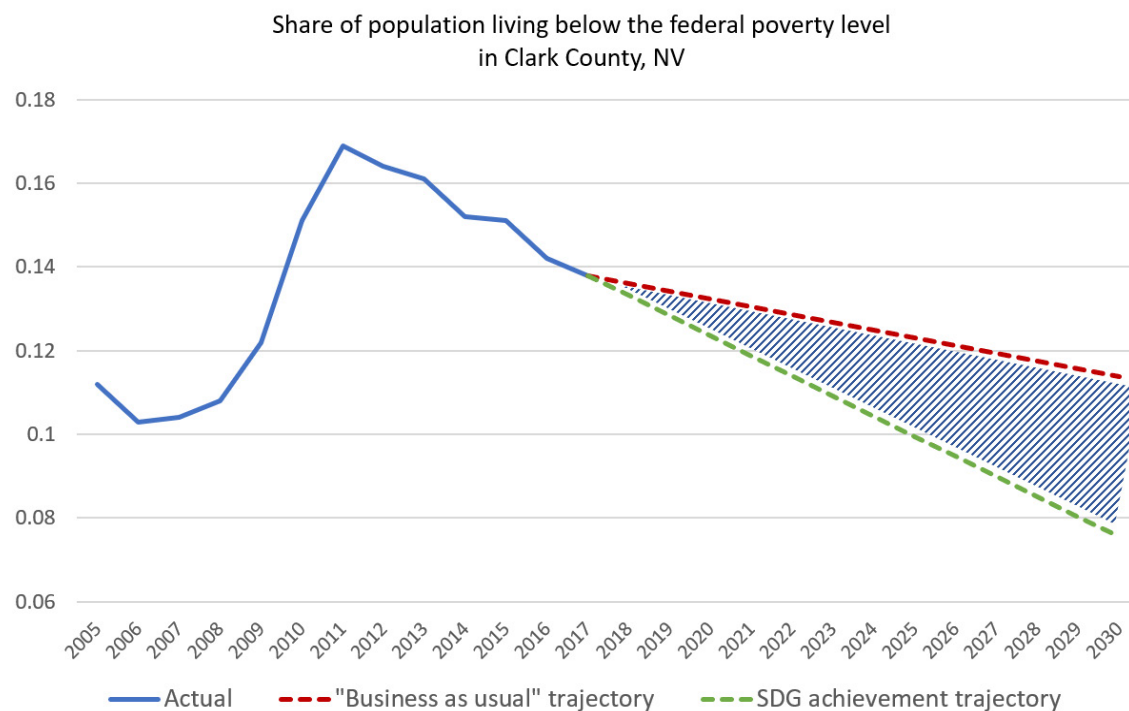
Source: Mannheim’s VLR

Figure 9. Buenos Aires' VLR includes goals and projections



Source: Buenos Aires' VLR

Figure 10. Gap analysis to correct the course of SDG target attainment



Sources: American Community Survey and authors

Buenos Aires mapped out prospective trends by graphing intermediate benchmarks it seeks to reach on the way to the 2030 target. In one chart, Buenos Aires plots the current level for a specific metric, the goal 2030 level, and an intermediate 2025 target. The targets were set by each government agency according to mid and long-term planning and demonstrate a key component for next generation planning—a targeted progress line.

Although they require more data collection, trend analyses offer new insights. By tracking the changes in a specific metric over a 5-6-year timeframe and visualizing this change in a table or a graph, cities are able to clearly illustrate the progress, direction, and pace of change. An extrapolation of this trend analysis can also provide a prediction of the city's future progress, which is the first key component of producing a true gap analysis (Figure 10).

VLR 2.0 opportunity: A true gap analysis, which rigorously extrapolates current progress (i.e., “business as usual”) based on a historical data and compares it against the progress necessary to meet the 2030 target, can deepen understanding of the size of the gap that needs to be overcome—setting the stage for developing the policy interventions that will be necessary to bend the curve.

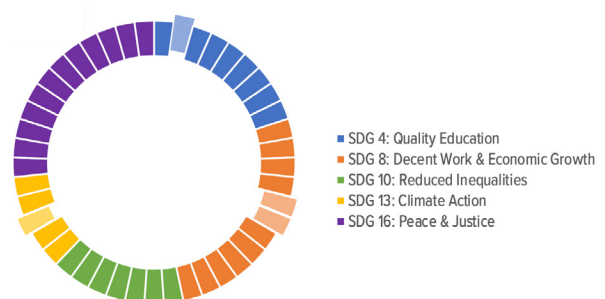
5. First-generation VLRs have very few indicators in common.

Although the use of snapshot metrics is popular, there is little similarity in the indicators used. Across five goals that each

of the studied 2019 VLRs had in common, only five indicators featured in at least three of the six VLRs examined. None of these was shared across all six VLRs, and only one indicator was found in five VLRs. SDG 8 had three of the metrics most in common: the unemployment rate, gender gap in income, and percentage of youth not in education, employment, or training (Table 3).⁷

The five indicators that were featured in at least three VLRs represent just 10 percent of the available targets. At the global level, national governments use a common set of indicators chosen by the U.N. Statistical Commission. At the local level, this analysis of VLRs suggests that trying to create a full set of internationally accepted local indicators for the SDGs would be exceptionally complicated and likely counter-productive. While comparability might be attractive, cities and local governments pursuing VLRs seem most interested in exchanging and learning from each other—which the common language of the SDGs facilitates without standard indicators.

Figure 11. Proportion of SDG targets which contained an indicator used by three or more VLRs



Note: Each slice of the donut chart represents one target. Slices which have been exploded are those which contain at least one indicator used by three or more VLRs reviewed in the report.

⁷ To see the full diversity of indicators chosen by the cities across these five SDGs, see Appendix II.

Table 3. Indicators used in three or more VLRs

		Bristol	Buenos Aires	Helsinki	LA	Mannheim	NYC
SDG 4: Quality Education							
4.2: Pre-Pri. Education	Day care participation rate						
SDG 8: Decent Work & Economic Growth							
8.5: Full Employment	Unemployment rate						
	Gender gap in income						
8.6: Youth Employment	% Youth not in edu, employ, or training						
SDG 10: Reduced Inequalities							
	No indicators in common						
SDG 13: Climate Action							
13.x:	CO ₂ / Greenhouse gas (GHG) emissions						
SDG 16: Peace & Justice							
	No indicators in common						

VLR contains specified indicator

VLR doesn't contain specified indicator

Source: Cities' VLR and authors

The SDG Leadership Cities have suggested that identifying a small subset of indicators common to all cities pursuing a VLR might strike the right balance of comparability versus customization. Los Angeles has developed a prototype urban dashboard of 39 indicators, based on a meta-analysis of several SDG city indices. Such a tool—developed by cities for cities—could provide a starter kit for cities while continuing to offer ample room for innovation and flexibility as they develop a VLR specific to their realities and context.

VLR 2.0 opportunity: Using VLRs as the basis for a peer review exercise with counterparts would help cities maximize the opportunity for learning that the common language of the SDGs promises. A peer-review process could also provide a healthy platform for cities to be candid about their challenges, avoiding the pitfalls that the VNR process has experienced, with countries criticized for being overly positive about their prospects for reaching the SDGs. Peer reviews might enable similar size cities, or cities with similar histories (e.g., post-industrial cities) to compare notes and import innovations and best practices from counterparts across the globe. They could help cities fulfill their eagerness to maximize the use of the VLR as a tool for learning and exchange.

Local SDG dashboards

In addition to a VLR, some cities have developed a Data Dashboard that visualizes their data targets and progress. Hosting their indicators of progress on an online platform allows residents to access up-to-date measurements of progress and view historical trends on the journey to sustainable development. It promotes accountability while also acting as an awareness and mobilizing tool.

With the Center for Open Data Enterprise, Los Angeles built an open-source dashboard based on the US and UK government's online reporting portal. Scaling up dashboards and helping other cities adopt the concept could help for inter-operability and learning exchange from city-to-city: it's not about city competition but coordinating goals and building closer relationships across boundaries. The dashboard might also be a helpful tool for investors and private sector partners.

Figure 12. Los Angeles online data reporting

Targets	Indicators
10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average to significantly reduce the wage gap, paying special attention to age, sex, sexual orientation, gender identity and expression, disability, race, ethnicity, origin, religion or economic or other status	10.1.1 Exploring data sources Growth rates of household expenditure or income per capita among the bottom 40 per cent of the population and the total population
10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, sexual orientation, gender identity and expression, disability, race, ethnicity, origin, religion or economic or other status	10.1.2 Reported online Gini index New
	10.2.1 Reported online Proportion of people living below 50 per cent of median income, by sex, age and persons with disabilities

Source: Los Angeles SDG data dashboard

Concluding reflections

The use of Voluntary Local Reviews (VLRs) is a rapidly emerging movement with significant potential to improve development planning and practice at the local level. Cities that are pursuing the SDGs are in the forefront of applying state-of-the-art practices to advance the local social and environmental progress. The SDGs require a mindset shift and a focus on evidence while also supplying a common language useful for engaging multiple stakeholders, sectors,

and investors. A VLR is a tool for setting forth a narrative that communicates a coherent, integrated vision of a city's sustainable development priorities, and presents evidence and analysis that can help catalyze new policy interventions, partnerships, and financing.

As a bottom-up innovation that is building momentum for local leadership and transformation on sustainable development, cities should continue to have the freedom to adopt and adjust a VLR to their needs and capacity. While there are many common elements among first-generation VLRs, there is no one-size-fits-all approach, and cities

often receive as much value from the process of doing a VLR as from the final product. While it may be useful for provide guidance that emphasizes certain elements—most early VLRs highlight a combination of political leadership, policy commitments, and data presentations—the most important thing for a city is to get underway, rather than waiting to pursue a VLR based on a particular standard. Any city should see itself as capable of committing to and signing the Voluntary Local Review Declaration promoted by New York City.

By using the common language of the SDGs, a VLR can help facilitate new models of local governance. City governments will often lack the resources and capacity to achieve all their sustainable development priorities. A VLR can provide an opportunity to pull together contributions from multiple stakeholders in the city, and act as a coordinating mechanism to drive community progress.

Future VLRs offer the opportunity to push the boundaries of using data and analysis to target policies for maximum impact.

Current use of data in most VLRs focuses on articulating the current state of progress toward the 2030 targets. However, the timebound nature of the SDGs, as well as their ambitious targets, offer the opportunity for cities to incorporate more sophisticated data analytics—extrapolating trends, analyzing future scenarios, disaggregating by demographics or geography, developing spatial analysis. Future VLRs may also present themselves in different formats—less narrative, with more data visualizations.

As more cities take on VLRs, they provide momentum for strengthening city diplomacy and facilitating the city voice in global policy. While cities were not signatories to the 2030 agenda, VLRs highlight the

importance of their leadership to fulfilling the global aspirations of the SDGs. As the number of cities undertaking VLRs increases, their combined influence and importance to achieving sustainable development will be increasingly apparent. By encouraging a shift in mindset and a transformation at the local level, VLRs provide further proof that local progress has global implications—and that cities deserve a place at the table when global policy on sustainable development is developed.

Appendix I: Literature and activities on Voluntary Local Reviews

The VLRs analyzed in this report include those from [Bristol](#), [Buenos Aires](#), [Helsinki](#), [Kitakyushu City](#), [Los Angeles](#), [Mannheim](#), and [New York City](#).

A team of students from Carnegie Mellon University's Heinz College of Information Systems and Public Policy Carnegie Mellon published a [handbook](#) to help cities report local progress on the SDGs.

Local2030 is a [network and platform](#) sharing tools to localize the SDGs.

The city of Bristol published a [handbook](#) for U.K. cities based on its experience in developing a VLR.

The Institute for Global Environmental Strategies (IGES) launched [an online platform](#) that showcases local government actions on the SDGs.

The Chicago Council on Global Affairs published a [report](#) on the localization of the SDGs.

ICLEI—Local Governments for Sustainability launched a [training platform](#) to help cities develop a VLR.

United Cities and Local Governments (UCLG) created a [module](#) on the role of local governments and associations in reporting SDG progress in Voluntary National and Local Reviews.

The City of Los Angeles developed multiple tools to help other cities localize the SDGs, including a [GitHub SDGs Wiki](#), a [starter's kit](#), and a [four-phase approach](#) to SDG implementation.

SDSN's USA-Sustainable Cities Initiative (USA-SCI) and TRenDS launched [SDSN Local Data Action Solutions Initiative](#) to share knowledge on localizing SDG targets.

Appendix II:

Indicators chosen by city for each target

Included in 2019

VLRs

		LA	Bristol	Mannheim	Helsinki	Buenos Aires	NYC
SDG 4: Quality Education							
4.1: Primary & Secondary Education	% students w/ minimum proficiency in reading & math, by sex	x	x				
	Secondary school enrollment rate		x			x	
	% students who don't complete secondary school			x			
	% students in public schools				x		
	Average matriculation exam grade in upper secondary				x		
	Effective promotion rate in Secondary School					x	
	Repetition Rate in Secondary School					x	
	# public school students who graduate on time						x
4.2: Pre-Primary Education	% children under 5 developmentally on track		x				
	Gap between children in the 30% lowest neighborhoods achieving a good level at Early Years Foundation		x				
	% children achieving a good level at Early Years Foundation, by ethnicity		x				
	Day care participation rate		x	x	x		x
	Participation rate in organized learning (one year before the official primary entry age), by sex	x					
	Quality of public day care				x		
4.3: Vocational/ Tertiary Education	Participation rate in education and training	x	x				
	% population with higher education degrees		x		x		
	% students who complete compulsory education but not accepted into further education				x		
	% college-readiness						x

		LA	Bristol	Mannheim	Helsinki	Buenos Aires	NYC
4.4: Skills	% adults w/o full Level 2 qualification (equivalent to 5 GCSEs)		x				
4.5: Equal Access	% children under 5 who are developmentally on track, by sex		x				
	% students who attend a special school			x			
	% non-native-speaker student graduating from local upper secondary schools				x		
	Graduation rate gap, by race						x
	# districts with diversity plans						x
	# teachers who receive implicit bias training						x
4.6: Literacy & Numeracy	Literacy Rate						x
4.7: Education on Sustainable Development							
4.a: Education Facilities	% students who feel safe in school and neighborhood around it	x					
4.b: Scholarships	Volume of official development assistance flows for scholarships by sector and type of study	x					
SDG 8: Decent Work & Economic Growth							
8.1: Economic Growth	GDP		x	x			
	GDP Growth Rate	x	x				
8.2: Economic Productivity	% Change GDP/ Employed Person	x	x				
	% Employed in Complex or Highly Complex Activities			x			
8.3: Development oriented policies	Business Stock/ 10,000 People		x				
	% Employees Receiving Welfare Payments in Addition to Income			x			
	% Enterprises Very Happy or Satisfied with the Supply of Skilled Labor			x			
	# Start-up Businesses				x		
	# Open APIs				x		
	# Privately-Held Businesses						
	# Women- and/or Minorities-owned Businesses	x					x
8.4: Resource Efficiency	Greenhouse Emission/ Traffic	x			x		
	Material Footprint	x					

		LA	Bristol	Mannheim	Helsinki	Buenos Aires	NYC
8.5: Full Employment + Equality	Unemployment Rate	x	x	x	x		x
	Unemployment Rate, by sex and ethnicity		x				
	Long-term Unemployment Rate				x		
	Labor Force Participation Rate						x
	Gender Gap in Income	x	x			x	
	Gross Income/ Taxpayer						
8.6: Youth Employment	% Students Potentially Staying in City After Studies			x			
	% Youth Not In Education, Employment Or Training	x	x		x	x	
8.7: Ending Forced Labor, Trafficking							
8.8: Safe Work Environments	Frequency of Occupational Injuries	x					
	Level Of Compliance With Labor Rights	x					
8.9: Sustainable Tourism	#, % Jobs in Tourism, by Sex					x	
	% Direct Tourism GDP / Total GDP	x					
	% Sustainable Tourism Jobs/ Tourism Jobs	x					
8.10: Domestic Financial Institutions	% Adults with a Bank Account with a Mobile-money-service Provider	x					
8.b: Global Strategy for Youth Employment	Existence of a Distinct National Youth Employment Strategy	x					
SDG 10: Reduced Inequalities							
10.1: Wage Gap	Income disparity, by sex (Bristol) or race (NYC)		x				x
	Gini Coefficient		x				

		LA	Bristol	Mannheim	Helsinki	Buenos Aires	NYC
10.2: Inclusivity	% low-income households	x		x			
	% youth experiencing mood-related problems recently				x		
	% youth experiencing loneliness recently				x		
	Deprivation index				x		
	% youth with a hobby				x		
	% people engaging in exercise or sports, by age				x		
	# initiatives that promote social inclusion & Human Rights					x	
10.3: Equal Opportunity	% people who have been victim of racial discrimination/harassment		x				
	# Hate Crimes		x				
	Race Pay Gap in Bristol City Council		x				
	Gender pay gap		x				
	% Geographical Segregation by Education Level, Income, and Ethnicity				x		
	# completed housing units, # Building permits granted				x		
10.4: Public Policy							
10.6: Equal Representation							
10.7: Migration	# countries that have implemented well-managed migration policies	x					
	% Employment rate of foreigners/ total employment rate			x			
	% School dropout rates of foreigners/ total school dropout rate			x			
	Wealth gap between immigrant and U.S.-born households						x
10.x: LTBTQIA+ Equality	Whether or not legal frameworks are in place to promote, enforce and monitor equality and non discrimination on the basis of sexual orientation and gender identity	x					
	% students who feel that LGBTQ students are accepted at their school	x					
	Whether or not there are centralized protocols for updating sex/ gender in official certifications	x					

		LA	Bristol	Mannheim	Helsinki	Buenos Aires	NYC
SDG 13: Climate Action							
	Total CO2/ Greenhouse Gas Emissions		x		x	x	
	CO2/ Greenhouse Gas Emissions per capita		x		x		
	Greenhouse gas emissions eliminated, reduced, or offset						x
	Greenhouse gas emissions from transport sector						x
	% by mode of transportation				x		x
	Total Energy Consumption				x		
	% Energy Consumption from Renewable Sources				x		x
	System Average Interruption Frequency						x
	Curbside diversion rate						x
13.1: Adaptive Capacity	# deaths, missing persons and directly affected persons attributed to disasters per 100,000 population	x	x				
	Whether or not the country has adopted and implemented a national disaster risk reduction strategy in line with the Sendai Framework for Disaster Risk Reduction 2015–2030	x					
	Whether or not the city has adopted and implemented a disaster risk reduction strategy in line with the Sendai Framework for Disaster Risk Reduction 2015–2030	x					
	# flood insurance enrollments						x
13.2: City Policies	Amount of city pension fund invested in fossil fuel VS renewable energy						x
13.3: Education	% people concerned about climate change		x				
13.b: Inclusive Capacity Building							

		LA	Bristol	Mannheim	Helsinki	Buenos Aires	NYC
SDG 16: Peace & Justice							
16.1: Violence	# victims of homicide per 100,000 population, by sex and age	x					
	# gun-violence victims, by sex, age and cause	x					
	% people victim to physical, psychological, or sexual violence in last yr	x					
	% people feel safe walking alone around the area they live	x			x		
	% people whose daily life is affected by fear of crime		x				
	Crime Rate		x	x			
	Youth Crime Rate		x		x		
	Violent Crime Rate		x				x
	Average daily jail population						x
16.2: Exploitation, Violence Against Children	# victims of human trafficking per 100,000 population, by sex, age and form of exploitation	x					
	% youths who experienced sexual violence by age 18	x					
	# Domestic abuse cases per 1000 people		x				
	# cases of Human Trafficking		x				
	Rate of sexual offences		x				
16.3: Rule of Law	Unsentenced detainees as a proportion of overall prison population	x					
	% mediations concluded with agreement					x	
16.4: Organized Crime	% seized, found or surrendered arms with illicit origin	x					
16.5: Corruption	# people who paid or received a bribe from a public official	x					
	Active Transparency Index					x	
16.6: Institutions	% primary government expenditures/ original approved budget, by sector	x					
	% people satisfied with the way the council runs things		x				
	% growth in full-time jobs in the private sector/ growth of population				x		

		LA	Bristol	Mannheim	Helsinki	Buenos Aires	NYC
16.7: Inclusive Decision-Making	% people who believe decision-making is inclusive and responsive, by sex, age, disability and population group	x					
	% Civil Servants who are women		x				
	% people who feel they can influence decisions that affect their local		x				
	% staff who feel like they have the opportunity to influence their work				x		
16.8: Inclusive Governance	#/% people registered to vote	x					x
	% informal citizen participation			x			
	Voter Turnout in Local Elections						x
	# Volunteers						x
16.9: Legal Identity	# Naturalized Immigrants						x
16.10: Fundamental Freedoms	# city departments that adopt and implement guarantees for public access to information	x					
	# open APIs & # external APIs				x		
	# opened datasets				x		
	# digitalization projects by the central government administration and the cities						
16.a: Institutions Tackling Crime							
16.b: Non-Discriminatory Laws	% people reporting having personally felt discriminated against or harassed	x					

Source: Authors and cities' VLRs

