



Urban Resilience: From Global Vision to Local Practice

Executive Summary of the Final Outcome Evaluation of the 100 Resilient Cities Program

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Today, the term resilience is commonplace in the global discourse. Cities, states, and countries have pursued recovery initiatives that aim not only to bounce back from downturns, but also to learn from them and to transform in ways that that can accommodate uncertainty and flexibility. But people have been promoting urban resilience for much longer than the last few years. For city-level governance, one of the biggest champions for increasing resilience was The Rockefeller Foundation's 100 Resilient Cities (100RC) program.

In 2013, The Rockefeller Foundation announced the creation of 100RC to support the transformation of public institutions, functions, and operations in 100 cities around the globe, with the goal of enabling them to “survive, adapt, and grow in the face of chronic stresses and acute shocks.” This holistic definition of resilience extends beyond responding to individual emergencies. It also includes addressing the economic, social, and physical challenges that cities continue to face, such as climate change, migration, civil unrest, and global pandemics. This vision of urban resilience addresses chronic “stressors,” such as inequality, high unemployment, and access to basic services, as much as it does the

hazard events that exacerbate them. The 100RC program was the largest and most well-resourced programmatic effort to date to build urban resilience by providing in depth support to a diverse selection of cities around the world.

Shortly following the launch of 100RC, The Rockefeller Foundation commissioned the Urban Institute to monitor and evaluate its core features. To assess the program, Urban selected a sample of 21 cities and monitored their progress toward increasing resilience over five years. The final report is the result of that monitoring and evaluation, beginning with a formative evaluation (“M&E Phase 1”) conducted from November 2014 to March 2016, which led into the current outcome evaluation that began in September 2016 (“M&E Phase 2”). In 2018, Urban released a midterm report on progress to date with strategic insights (Martin and McTarnaghan 2018). The final report focuses on two parallel inquiries: the cities’ outcomes that are attributable to 100RC’s intervention and the salience and influence of the 100RC model within the pool of other civil-sector city resilience programs, contemporary scholarship, and related indicators of urban resilience in the global zeitgeist. Data assessed for this report were collected for each sample city first in 2017 (including retrospective baseline data collection for cities that were well into their 100RC membership), and at six-month intervals from the beginning of 2018 to a final data collection in the fall of 2021. For baseline and final data collection, we conducted qualitative interviews with local stakeholders in all sample cities.

Complicating both the long-term impact of the program and our evaluation, the funding for 100RC was terminated in July 2019. The program closed its offices two months later. At this time, 100RC was helping 24 cities finalize their remaining strategies and was supporting 73 cities as they implemented their resilience strategies. The program closure disrupted cities’ progress toward institutionalizing resilience outcomes into city planning and operations. Previously high levels of buy-in from local political leadership and partners diminished, and those cities in the midst of completing 100RC-defined products received significantly less engagement and support. Several gaps remained in cities’ tools, plans, and relationships. Six months after 100RC’s closure, the devastating impacts from the COVID-19 pandemic exacerbated inequalities in cities and heightened the need for social and economic systems to be resilient to health crises—not the climate effects, environmental hazards, and political and economic upheavals on which the program had largely focused.

The discontinuation of funding and the COVID-19 pandemic had obvious effects on the cities’ resilience outputs as defined by 100RC. Few new strategies were drafted, and fewer strategy-identified projects were launched. Turnover and demotion of Chief Resilience Officers (CROs), who had been embedded within governments as program interventions, increased. The sustained effect of 100RC on the expected midterm outcomes remains variable. Although several cities discarded their resilience plans and the proposed operational changes amid this internal and external turmoil, others are thriving. After 100RC’s closure, new civil-sector and global multilateral programs have filled the urban resilience capacity-building space. Jurisdictions beyond the original 100RC member cities are producing their own resilience strategies. Scholars of urban resilience continue to reference 100RC as a touchstone, for better or worse. Ultimately, in ways both desired and unanticipated, 100RC’s legacy continues.

Key Findings

How did 100RC work?

In size, scale, and ambition, 100RC was a highly unique global intervention. The 100RC theory of change assumed that cities did not integrate resilience into plans or institutional planning practices prior to the intervention but would begin to do so after undergoing the process. 100RC focused on transforming city government planning and operations to build a greater capacity for resilience. It posited that institutional de-siloing efforts, cross-functional collaboration, and a central coordinating role could improve a city's ability to implement resilience projects.

The program offered a relatively standard set of tools and milestones for member cities, which were dispersed over three major lifecycles. Lifecycle 1 included identifying and onboarding a CRO, who would lead the city's resilience efforts. Lifecycle 2 saw the development and release of resilience strategies, and Lifecycle 3 was the implementation period. But not all cities accessed the services in each lifecycle. Cities joined the program at different times, so cities that were admitted in 2013 had continued access to the program supports for several years after releasing their resilience strategy, whereas many cities that were admitted in 2016 did not publish resilience strategies because of 100RC's closure. The 100RC program also modulated the intervention based on the capacity and commitment of the cities, with more committed cities (as determined by 100RC staff and leadership) receiving more support.

Generally, 100RC met key targets for Lifecycle 1, as 97 percent of all member cities had a CRO at some point during 100RC membership. As of October 2021, 65 percent of member cities still have one. For all but one sample city, the CRO role was a new function within city government. Most sample cities saw value in the CRO in terms of leading the city through strategy development and continuing to facilitate connections over time. In city stakeholder interviews, the CRO position was far and away the most supported intervention, with the informal network of CROs also lauded.

A significant but smaller share of cities completed Lifecycle 2 goals, as 86 percent of member cities released resilience strategies. Stakeholders said that the holistic resilience concept helped them develop a coherent plan of action and an integrated way of working across multiple themes. Several cities emphasized that 100RC encouraged an inclusive and collaborative approach that differed from prior practice. Although the planning tools and methodologies were broadly appreciated, some cities noted that they were too complex, cumbersome, or difficult to implement. Additionally, the tools were difficult to adapt to local contexts, especially for regional efforts involving more than one jurisdiction, such as Santiago, Lagos, and Greater Miami and the Beaches. Interviewees in most sample cities noted that they still refer to the strategy, and about a third of sample cities have updated or evolved their strategies. In a handful sample cities, stakeholders noted barriers to updating their strategies, such as existing planning institutions.

Lifecycle 3's achievements are more varied and difficult to assess. No standard data on implementation are available after 100RC's closure, forcing a reliance on qualitative, self-reported accounts. Based on city documentation, physical interventions to build resilience were most common, especially those related to water control (flooding or drought) or water quality. Cities also have socially oriented resilience initiatives underway, such as racial equity dialogues or public education campaigns. European cities tended to have the highest self-reported rates of project implementation, and medium-sized cities in middle- to high-income nations appear to have broader implementation efforts, which interviewees attributed to public and private financial resources.

Political will, access to funding, technical assistance, the ability of a CRO to advocate for an initiative, and, to some extent, having cross-functional working teams are all important to the successful implementation of projects. But lack of funding, lack of support from the mayor or local government, changing administrations, staff turnover, department restructuring, and difficulty coordinating across departments were all mentioned as major barriers.

Given the original 10-year targets, the closure of the 100RC program after 6 years came as a surprise to all member cities and caused a significant interruption in local progress, particularly for cities that were admitted later. Many stakeholders shared concerns that there was a mismatch in attention and support for the planning phase versus the implementation phase and that progress toward implementation was limited without access to the tools and partners they relied on. They also noted weaker connections to other cities and global resilience leaders. The COVID-19 pandemic challenged the durability of the 100RC intervention further, as only two cities included pandemic preparation in their strategies and neither had taken action following the strategies' release.

Ultimately, these disruptions severely hampered the fundamental vision of 100RC. The 100RC model put forward a standardized intervention with ample resources that would quickly scale to 100 city units (not metropolitan or urban conglomeration units, with a few exceptions). In theory, this intervention would occur through public-sector institutions and officials, with an emphasis on institutional changes. This model made two assumptions. First, that it would generate resilient institutions in cities, with discernable change within five years of the intervention. And second, that these interventions would build a global urban resilience movement.

Was 100RC effective?

Through the evaluation, we tracked evidence of how cities were able to institutionalize resilience practices in city planning and operations. Across the 21 sample cities, almost all cities advanced on at least a few outcomes, but very few advanced across all domains. In several cases, cities with stronger capacity at baseline, such as Norfolk in the US and Wellington, New Zealand, were able to accelerate and institutionalize their resilience practices so that these practices are now part of business as usual for the city government. On the other hand, some cities that started out with a lower capacity for resilience, such as Addis Ababa, Ethiopia, were able to demonstrate incremental progress across indicators but need more capacity support. A few cities demonstrated uneven progress across the evaluation period, showing early progress before being set back.

Key contextual factors, such as city size, development context, and governance capacity, also shaped cities' experience and progress, but the sample cities did not demonstrate consistent patterns across these domains. Cities in more stable and middle- to high-income countries generally improved their planning practices for resilience the most.

Across the five-year evaluation period, sample cities experienced a range of disruptions, including political and social unrest (Byblos), political transitions that affected city operations (Colima), and major national or regional shifts in power (Chennai, Athens, Medellin, and Santiago). Those with higher and more sustained levels of disruption were generally not able to generate positive change across the resilience outcomes of interest. All cities experienced the disruption of the COVID-19 pandemic, which further demonstrated the need for resilience but also pulled attention away from resilience efforts.

CITY PLANNING

Our evaluation tracked six constructs in order to understand the extent of resilience integration into city planning. These constructs are (1) explication of resilience in plans; (2) use of science and evidence in plans; (3) internal consistency across plans; (4) vertical planning integration; (5) community participation and access in planning; and (6) alignment with vulnerable populations in plans. These constructs are backed by the literature to assess whether the interventions increased resilience in a city's long-term planning processes. Across the six constructs, the M&E team found evidence of resilience integration in all the sample cities and modest movement to include all the measured resilience principles in planning.

In almost all cities, we observed progress toward the explication of resilience, or the degree to which plans outside of the resilience strategy either explicitly or implicitly include resilience priorities. Progress was observed on this indicator across cohorts, city size, and development context. Generally speaking, cities had limited to no integration of resilience at baseline, but almost all sample cities progressed.

For most of the planning constructs, a more patchwork pattern of resilience integration was observed. About half of the cities saw a positive change for the following four constructs: internal consistency of plans, vertical integration, community accessibility to plans and plan making, and alignment with vulnerable populations. Movement on these indicators was mostly observed in cities with stronger pre-existing planning capacity and some degree of resilience integration at baseline. About a third of the cities started at a weak or middling baseline for those constructs and did not see positive movement, suggesting that more work is needed to increase capacity.

Finally, we did not observe any change in use of science and evidence for most cities. A significant share of cities, especially in those with high incomes, started strong in this construct. Byblos and Lagos started and remained weak on this construct. In a handful of cities with middle or low incomes, such as Chennai, Addis Ababa, and Can Tho, we observed benefits from the influx of international technical assistance including and beyond 100RC.

Although all sample cities made gains in one or more of the constructs, contextual factors such as development status and degree of disruption during the evaluation period had a large influence on which cities benefited the most. Cities in more stable and middle- to high-income country contexts were most likely to improve planning practices for resilience, while cities with high disruption—including shock exposures and political turnovers—were more likely to observe no change across planning indicators. Unlike development context and income, cohort, city size, and number of city leadership transitions showed no discernable effects on progress for planning outcomes.

CITY OPERATIONS

Our research team selected six core constructs to assess whether a city's CRO enhanced resilience efforts by affecting collaborations and administrative functions across city siloes. These constructs are (1) government structure (CRO); (2) function and government "silos;" (3) political/public discourse; (4) transparency and accountability; (5) budget integration; and (6) governance operations.

Across the sample cities, patterns regarding these changes mirror those found in planning. Overall, CROs showed moderate influence across departments. Although successes have not occurred in each city across all of the core constructs, most sample cities have made gains in one or more constructs. Only two cities, Byblos and Washington, DC, show little to no evidence of change from baseline to the present. Most cities progressed on three of the six operations indicators and stayed the same or regressed on the remaining desired outcomes. For three cities, the lack of change represented indicators they were already strong on, while the majority of cities failed to see positive change for constructs for which they were weak or middling at baseline. Five cities regressed on one or more indicators during the evaluation period. Change in government function (e.g., role of the CRO) was the most sustained outcome of the 100RC intervention. More than 85 percent of cities experienced and sustained positive change on this construct, from meeting the program milestone of hiring a CRO to institutionalizing that role within the city government even after the funding ended.

For other indicators, it was a mixed story. About half of all sample cities documented progress on government function, political commitment, budget commitments, and vertical governance operations. The transparency and accountability construct showed the least change. Across cohorts, nine cities started with moderate transparency and remained at that level over time, two cities began strong and remained strong, and two others held steady with weak transparency. This lack of change can partially be explained by the widespread pre-intervention practice of posting datasets, official reports, meeting notes, and other information online.

How influential was the 100RC model?

A primary goal of the 100RC theory of change was to catalyze a movement around urban resilience. And, in contrast to the goal of transforming city-level outcomes, this vision was significantly achieved. 100RC's previously unmatched scale, resources, and visibility helped accelerate the urban resilience movement as evidenced by the proliferation of comparable programs to it during the evaluation as well as the scholarly attention paid to 100RC (in praise and in criticism).

As we indicated in our midterm report, 100RC sought “to transform fundamental public institutions, functions, and operations in city government as its primary strategy to impact how cities mitigate shocks and reduce chronic stressors, particularly among poor and vulnerable citizens.” With city institutions and governance continuing to solidify urban resilience in literature and practice and with significant attention on the resilience strategies produced across member cities, it would appear that this fundamental goal has been achieved. Multiple programs focused on urban resilience evolved at the same time as 100RC or have launched since its closure. Programs across the multilateral, nonprofit, and philanthropic spectrum vary in how they attempt to build urban resilience, but most were influenced by the 100RC program.

The 100RC program took the city as the unit of intervention to improve resilience locally, but there is increasing attention on the importance of national policy environments that enable coordination across levels of government. Recent efforts have emphasized the need for better national and regional coordination in addition to the innovation and proximity that city leaders bring to relevant local issues.

With its driving focus on cities, 100RC placed outsized importance on individuals within city government, starting with the professional and personal development of CROs but also on mayoral and related authorities. The verdict is still out as to whether intervention via individuals creates lasting change. Strong leadership is important but not everything. Practitioners and the literature acknowledge that the amount of change a single person can affect is limited: the CRO function alone cannot ensure resilience. Other intervention points, such as grassroots activists, could enhance the resilience model.

Another dimension where 100RC did not fully manifest its vision is in the conceptualization of resilience. Definitions of resilience and resilience goals are still inconsistent, but there is a growing consensus that urban resilience extends beyond climate resilience. In fact, those in the field believe resilience should be considered through multiple dimensions, including infrastructural, ecological, social, and economic. The tendency of programs such as 100RC to allow for a broad set of goals can limit effectiveness, but one size or type of program does not work for all cities. The literature cites that inequality and social exclusion undermine resilience-building efforts, so inclusion is a necessary condition for effective programs. More voices are needed in planning processes, especially with the COVID-19 pandemic drawing attention to societies’ underlying inequities. To date, the literature has not found evidence that 100RC successfully drove equity outcomes. To build a more cohesive definition of resilience, practitioners and the literature highlight a need for more data and methods to measure and monitor resilience, but claim that doing so has been very difficult to date.

Lastly, a critical way that the 100RC model failed was beyond its control: its timeframe. Resilience takes a long time to build. Practitioners consider resilience-building a long game, with individual procedural changes and significant physical interventions like infrastructure construction requiring at least 10 years to grow. The closure of the 100RC program came before resilience could take hold in cities. Literature has also highlighted the short 100RC timeframe, critiquing the fast turnaround time for strategy development, which put cities at risk of compromising the quality of community engagement during planning, limiting the scope to municipal boundaries despite regional challenges, and lacking consideration for the most vulnerable communities.

Final Reflections

Reflections from city outcomes, resilience practitioner perspectives, and current trends in urban resilience have informed lessons and thoughts for future interventions.

The world is becoming more complex, with a multitude of shocks and stressors afflicting cities. In the second half of 2021, more than a third of sample cities experienced civil unrest. Fewer, but still a notable amount of cities experienced floods, shootings, terrorism events, and heat waves. All cities felt the impact of the COVID-19 pandemic. Despite the holistic nature of the 100RC model, not all vulnerabilities were accounted for, particularly the potential for a global pandemic. Programs should help prepare cities for resilience in face of all shocks and stressors, but experience shows that prioritization of projects can be critical for implementation.

A prestigious brand can influence city leaders to support certain priorities, but this approach is vulnerable to changes in prioritization or direction. The level of familiarity and buy-in with resilience concepts has grown significantly in member cities, many of which attributed this increasing attention to the 100RC program. In some cities, such as Belfast, Ireland, and Semarang, Indonesia, 100RC served as a catalyst for climate resilience in city government. But the early closure of the program meant that the progress made in cities to adopt a resilience frame was called into question, and city leaders across multiple cities lost confidence in the approach.

Networks and city-to-city learning, especially around complex, new topics have value. Most cities noted that access to a global network of CROs was the most valuable program offering, as they could learn from others and share knowledge. Many CROs noted that they remain in communication with each other through formal and informal mechanisms. Despite the global nature of the program, regional networks and relationships proved particularly important, and CROs were most likely to be in close contact with their national or regional peers.

The success of program uptake is highly dependent on local political support and governance structures. Lack of support from city leadership was noted as one of the key barriers to resilience planning and implementation. The institutional arrangements in which cities operated, such as the degree of centralization, also influenced outcomes. Implementation of resilience projects was most successful in cities in middle- and high-income nations with considerable need, capacity, and resources, although the program yielded outcomes in planning and operations to support resilience across varied city contexts.

Chief Resilience Officers are important champions for pushing a resilience agenda within city government, but vulnerable to turnover and change. Most cities saw the CRO position as valuable for leading a shared resilience vision during strategy development and for making connections among diverse stakeholders. Indeed, most sample cities saw operational improvements, including breaking down silos in city government. Despite the general success of CROs, many cities are losing their CROs or downgrading their level of influence or authority. In many cases, the CROs were not the main lead in

their respective cities' pandemic response, despite health shocks falling within their purview. Addressing the long term role of the CRO with respect to other critical city functions is necessary.

Programs should focus on solutions delivery and funding barriers in addition to city planning.

Urban resilience stakeholders want to see a greater focus on solutions delivery because risks and shocks that cities can address are happening now. Resource investments in the 100RC program favored city planning versus implementation, and without additional external support, cities often lacked technical capacity and budget resources to advance priority projects in the resilience strategies. Now, practitioners have taken a renewed focus toward making connections with experts to substantively support project implementation. In addition, urban resilience practitioners see the need to bring experts from different sectors together to shift practices and policies surrounding the technical aspects of resilience building. Lack of funding remains the main barrier to following through on implementation. More than anything, cities need the resources to support staffing and the capital to get projects initiated.

Resilience building has a long timeline. The focus on planning that 100RC offered attempted to address an environment where there are too many siloes and short-term actions. Despite the urgency to implement these interventions, urban resilience practitioners have not overlooked the continued need to help cities understand their vulnerabilities and prioritize long-term interventions. The 100RC closure taught the field that losing support for long-term change can set a movement back. Programs that commit to providing consistent support to cities can help the field realize the potential of the urban resilience movement.

Errata

This executive summary was updated on September 20, 2022. On page 3, the percentage of member cities that had a chief resilience officer in October 2021 is 65 percent, not 76 percent.

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