

Community Quality-of-Life and Well-Being

Frank Ridzi  
Chantal Stevens  
Lyle Wray *Editors*

# Community Quality-of- Life Indicators

Best Cases IX

 Springer

# **Community Quality-of-Life and Well-Being**

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Frank Ridzi • Chantal Stevens • Lyle Wray  
Editors

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# Chapter 1

## A Call to Measure Community Resilience



Chantal Stevens

**Abstract** Against the backdrop of a difficult year for the Earth and humankind, the Community Indicators Consortium held a conference on community resilience. CIC defined community resilience as the capacity of all of a community's parts, including individuals, communities, institutions, nonprofits and foundations, businesses, and systems, to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience. Sustainability attempts to eliminate or moderate shocks and stresses while resilience is about preparing for, tackling and overcoming change without being completely overwhelmed by it. Populations that are generally or specifically vulnerable need to be identified and the focus needs to expand from concerns over the built environment to the understanding of social networks and social capital. Identifying and measuring risk and vulnerability can promote understanding, engagement and action.

**Keywords** Community engagement · Resilience · Sustainability · Climate change · Equity · Community indicators

### Introduction

2020 was a challenging year for the Earth and for humankind. The COVID-19 pandemic upended life as we know it throughout most of the world and ultimately claimed an estimated 3 million deaths across the globe (as of April 2021), closing businesses, events and transportation, with consequences on global and local economies and human physical and mental health that are not fully understood yet. At the same time, the world faced a record year for natural disasters that caused vast ecological and economic devastation. Among the worst: wildfires in Australia; typhoons, cyclones and hurricanes in the Philippines, India, Bangladesh, Haiti and the Dominican Republic and elsewhere in Central America; volcano eruptions in the Philippines; earthquakes in Turkey; flash floods in Indonesia and Afghanistan

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(Hubbard, 2020). Across the US, 22 separate billion-dollar weather and climate disasters linked to tropical cyclones, severe storms, drought, and wildfires shattered the previous annual record. The 22 events cost the nation a combined \$95 billion in damages (Smith, 2021).

Against this backdrop, the Community Indicators Consortium (CIC) chose community resilience as the theme of its 2020 Impact Summit. Held August 3–7, 2020, the online conference was titled: Building Resilience with Community Data. CIC intended for this event to be an exploration of the role of community data in building and supporting resilience at the local level, providing examples and tools for community indicators practitioners and researchers, and for community leaders to understand, measure and strengthen resilience within their communities.

Recognizing that families and children are not only the first to suffer the consequences and manifestations when communities fail to prepare but are also central change agents in promoting resilience for themselves, others, and their community, CIC invited presentations on specific efforts that focus on improving child and youth family well-being.

Most of the chapters within this volume started as presentations at the 2020 Impact Summit and relate explicitly or indirectly to resilience.

## Definition of Community Resilience

It is generally agreed upon that resilience has to do with the ability of a community to prepare so it can bounce back and recover from adverse situations. A 2017 systematic review of the literature found the concept elusive and even amorphous.

The concept of ‘community resilience’ is almost invariably viewed as positive, being associated with increasing local capacity, social support and resources, and decreasing risks, miscommunication and trauma. Yet consensus as to what community resilience is, how it should be defined and what its core characteristics are does not appear to have been reached, with mixed definitions appearing in the scientific literature, policies and practice. (Patel et al., 2017)

We settled on the following definition, amalgamated from several sources: community resilience is the capacity of all of a community’s parts, including individuals, communities, institutions, nonprofits and foundations, businesses, and systems, to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience. From the effects of pandemics and climate change to changing population structures and infrastructure support, resilience is what helps communities adapt and transform in the face of these challenges, helping them to prepare for both the expected and the unexpected. Resilience planning requires assessing the durability and flexibility of the ecosystem upon which the community depends, the infrastructure that supports it, the governance that organizes it, and the economic and social capitals that sustain it in order to strengthen them as needed.

What is worth noting is that talks of resilience are usually reactive. A typical line of inquiry will ask how we can do better now that we know how this disaster has

impacted that community. It also usually focuses on addressing major impacts. By proactively assessing and building the capacity of a community to be resilient, resilience can become preventive and restorative.

Communities are facing challenges from multiple fronts in a world where pathogens can travel around the world in days and some climate experts believe we may have already crossed, or will soon cross, the thresholds for dangerous warming (Hébert et al., 2021). As a result, sources of stress on our communities are likely to continue to intensify and diversify.

According to the United Nations Office for Disaster Risk Reductions, there has been a rise in climate-related disasters during the past 20 years. Between 1980 and 1999, there were 3656 climate-related events, as opposed to 6681 between 2000 and 2019. Those differences are reflected in the number of floods, which has more than doubled in the past 20 years, while the incidence of storms increased from around 1457 to around 2034 (United Nations Office for Disaster Risk Reduction, 2020).

Furthermore, climate change, together with other natural and human-made health stressors, can influence human health and disease in numerous ways. Some existing health threats will intensify, and new health threats will emerge. In the U.S., public health can be affected by disruptions of physical, biological, and ecological systems, including disturbances originating here and elsewhere. The health effects of these disruptions include increased respiratory and cardiovascular disease, injuries and premature deaths related to extreme weather events, changes in the prevalence and geographical distribution of food- and water-borne illnesses and other infectious diseases, and threats to mental health (Center for Disease Control and Prevention (CDC), Reviewed March 2, 2021).

## **Resilience Versus Sustainability**

Resilience and sustainability are often used interchangeably. Sustainability strives to achieve a balance between nature and human activities to avoid environmental impacts and support quality of life for current and future generations, while resilient communities are prepared to survive and thrive despite those impacts. Similar practices can be used to improve both the sustainability and the resilience of communities. Supporting local farms can decrease reliance on fossil fuels and pollution, improve public health and boost the local economy while also increasing a region's food security and food resilience.

Resilience is the practice of designing our physical environment to absorb environmental, physical, social and economic shocks and stresses. So, it could be said that sustainability attempts to eliminate or moderates those shocks and stresses while resilience is about preparing for, tackling and overcoming change without being completely overwhelmed by it. One can argue that using sustainable practices to avoid catastrophes should be viewed as the first step (prevention) in strengthening the resilience of a community, but since some events are unavoidable (e.g., earthquakes), resilience goes beyond keeping the natural, economic and social realms in

balance and also prepares for the poorly planned, human errors, and the inescapable (restoration).

The definition of resilience from the Stockholm Resilience Center (<https://www.stockholmresilience.org/>) comes closest to bridging the gap between sustainability and resilience, describing resilience as “a capacity to persist, adapt or transform in the face of change in a way that maintains the basic identity of a system.”

## **A Special Case of Resilience Planning: Localizing Climate Change**

In the context of tracking and building resilience, climate change is in a special category. It is primarily driven by the combustion of fossil fuels, and, to a lesser extent, by the clearing of land for agriculture, industry, and other human activities (NASA, [n.d.](#)) that has led to increased concentrations of greenhouse gases in the atmosphere, causing the planet to warm with a suite of known and yet to be understood consequence. Climate change has the potential to worsen almost every aspect of life on the planet from the availability and quality of food to the kinds and transmissibility of diseases to the destruction of complex ecological systems (Watts et al., 2019).

The argument can be made that, since factors contributing to climate change are mostly outside the control of individuals and many indicators, like global annual average surface temperature or atmospheric concentration of carbon dioxide, are meaningless at the local level, tracking climate change has no purpose in promoting action at the local level. Yet, failing to report on climate change-related indicators is a lost opportunity to: (1) educate the community about climate change and its localized impact and link to community wellbeing, (2) identify areas where action can be taken locally, as the cumulative benefits of millions of little actions amounts to significant improvements, and (3) understand and plan for local impacts of climate change.

The science of climate change describes a range of possible futures, which are largely dependent on the degree of action or inaction in the face of a warming world. The policies implemented will have far-reaching effects in determining these eventualities, [...] Understanding these decisions as a choice between one of two pathways—one that continues with the business-as-usual response and one that redirects to a future that remains “well below 2°C”—helps to bring the importance of recognising the effects of climate change and the necessary response to the forefront (Watts et al., 2019)

Coastal communities are particularly vulnerable. Leaders of the Small Island Developing States (SIDS) have been vocal at highlighting the vulnerability of their nations. SIDS are already experiencing significant impacts from a wide range of climate hazards, from loss of land caused by sea-level rise, to decreases in freshwater aquifers and declining fisheries (Thomas et al., 2020). In this volume, we find out that the island town of Vinalhaven, Maine (USA), is experiencing some of the direct

effects of sea level rise, with roads being overtopped by the ocean and ferry trips being cancelled because the seas are too high (Grabill, 2022).

In other communities, the effects are not as direct or may be conflated with others. In the US, the West has always experienced forest fires during its dry summers. Many factors have jointly or separately led to record burning years: more human encroachment, vandalism, forest practices, droughts and warming air temperatures. The clearest connection to global warming is in the last two points. The planet has heated up nearly continuously since the late 1800s, when humans started burning massive quantities of fossil fuels, and global average temperatures have risen roughly 1.8 degrees Fahrenheit (1 degree Celsius) while California's change is closer to 3 degrees Fahrenheit. Hot air acts like a thirsty sponge, soaking up water from, and parching, plants and soil. Climate change is also changing the seasonal rain and snow patterns across the Western U.S. with Springtime coming earlier and melting the snowpack sooner, giving the plants and soils longer to dry out (Borunda, 2020). Tracking climate metrics such as local air temperatures, water levels of adjacent water bodies, regional snowpack, and rain falls within the community help communities understand and assess risk and prepare for the worst. To further the understanding of how hazard risk and vulnerability interact, Austin Area Sustainability Indicators offers "a set of indicators to assess the risks that certain climate-related hazards pose, how those risks are spatially and socially distributed, and how households, neighborhoods and cities can build resilience." Those indicators include: a wildfire risk index (includes the probability of wildfire events, fireline intensity and spotting distance), creek flooding risk index (includes "creek flooding problem scores and FEMA floodplain data), heat risk index (includes data on imperviousness and tree cover) and then combines it all on a multi-hazard climate risk map. Those risk assessments are overlaid upon A2SI's social vulnerability index to explicitly link community vulnerability with hazard risk as further described in Chap. 2 (Bixler & Jones, 2022).

## Resilience and Equity

Vulnerability and resilience are tightly coupled concepts where increasing resilience is likely decreasing vulnerability (Bixler & Yang, 2020). Sustainable Development Goal (SDG) Target 1.5 promotes building the resilience of the poor and those in vulnerable situations and reduce their exposure to economic, social and environmental shocks. As quoted in Rangwala and Ramesh (2022):

While disasters affect several cities across the world, the poor and vulnerable communities face a disproportionately higher exposure to risks than those living in wealthier neighbourhoods (Galvin, 2017).

The Organisation for Economic Co-operation and Development (OECD) further recognizes that highly unequal cities—with high concentrations of urban poor—are more vulnerable to social, economic and environmental shocks (OECD, 2018).

Individuals and communities who experienced chronic stresses from poverty and racism and/or a variety of social, economic, and physical and mental health-related impacts, sometimes coupled with dependence on services and institutions, are at a higher risk of trauma or disruption when disaster strikes. In addition, vulnerable populations tend to occupy locations that are more naturally unstable or more isolated, compounding their vulnerability. In this volume, Rangwala and Ramesh (2022) exposes many such situations: inadequate infrastructure leading to unsafe water systems, higher heat index, limited waste collection, etc. Barge (2022) relays the story of mobile home park residents burdened by chalky, foul-smelling tap water and Kimiagar and March (2022) informs us that New York families in the lowest income quintile are more likely to be severely rent burdened, lack health insurance, and lack access to broadband internet, all of which are also barriers to participating in community planning processes. Not only that, but this additional and disproportionate burden and unequal access to resources brings on further variations in morbidity and mortality. For example, in some regions in Mexico, Chile and the United States, close to 40% of the population is obese (OECD, 2020), exacerbating vulnerability to health crises, such as COVID-19, and susceptibility to a host of health problems.

Matin et al. (2018, #) defines equitable resilience as a form of resilience that takes into account issues of social vulnerability and differential access to power, knowledge, and resources; it requires starting from people's own perception of their position within their human-environmental system, and it accounts for their realities and for their need for a change of circumstance to avoid imbalances of power into the future.

Efforts, such as the Austin Area Sustainability Indicators (A2SI)'s dashboard of community resilience that disaggregate the data down to the census tract (Bixler, 2021) or Measure of America (Lewis, 2022) that reports regionally, but breaks down data by race, ethnicity, gender, and age and drills down on a variety of characteristics such as disabilities, poverty, living arrangements, etc. can help identify vulnerable populations and address their needs in the resilience planning process. Keough (2022) talks about bringing into relief the social dimension of sustainability as Rangwala and Ramesh (2022) call for a shift of focus from the role of physical infrastructure to the role of social networks and social capital in disaster planning and resilience building.

Accurate counts that do not neglect any of the potentially vulnerable populations, such as young children, are necessary to ensure that those populations are included in the reliance planning process. In this volume, we find out from the Citizens' Committee for Children (Kimiagar & March, 2022) that around 70,000 young children in New York were not counted in the 2010 Census, which influences the funding the state received for census-guided federal spending on housing, education, health and nutrition programs.

## Resilience, Indicators and Community Engagement

If we accept the proposed definition of community resilience, as noted above, that it is the capacity of all of a community's parts, including individuals, communities, institutions, nonprofits and foundations, businesses, and systems, to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience, we must accept the premise that, although we may not know all the stresses and shocks that are in store, we need all of those parts to participate, and be fully engaged, in a meaningful process of resilience planning. Concerns will vary widely among the different "parts" and preparedness may take different forms, but the process should weigh the needs of vulnerable populations more heavily, and particular strategies and tools may be necessary to include their views, concerns and needs.

Those experiences with the public and decision-makers are fraught with risks as they relate to people's lives and livelihoods (on either side—whether some actions or no action is taken) and can be tinged with passionately held political views. Experts recommend starting the conversation on common ground, using clear language and examples the audience is more likely to be familiar with (Climate Outreach, *n.d.*). Indeed, Grabill (2022) is concerned that information known is not always contextualized in a way that is meaningful to the local community experience. Moloney et al. (2022) recognizes that indicators that track resilience and adaptation are useless if they are not meaningful to users, i.e., policymakers and community members. She recommends a mix of qualitative and quantitative measures that engages the future users at the same time as it builds capacity within the community, e.g., through a series of well-planned workshops.

To do their part in the planning and implementation of a robust resilience building process, community indicators should do two things: (1) help identify, monitor or anticipate those stresses and shocks and, (2) help uncover and then monitor those populations, elements of the built environment and ecosystems that are most vulnerable.

Indicators that help understand risk often must use proxies. One cannot foresee what type of pathogen may be responsible for a future outbreak, but knowing how healthy the local population is, the percentage of insured people and the number and proximity of hospital beds and medical personnel will help understand how prepared a community is to face a health emergency. Similarly, one needs to understand not only the snowpack and rain level and the health of the surrounding forest, but also the proximity and capacity of firefighting personnel and equipment to assess the risk of wildfire to a community.

A2SI tracks three interrelated indicators: social vulnerability, hazard exposure, and adaptive capacity. Social vulnerability, as an indicator of social resilience, refers to the degree to which a population or asset is susceptible or resistant to impacts from shocks or stressors; exposure refers to the presence of people, livelihoods, environmental services and resources, infrastructure, economic, social, or cultural assets that could be adversely affected; and, adaptive capacity refers to the ability of a system (i.e., people, environmental services and resources, or cultural assets, etc.) to cope

with stress or adjust to new situations (Bixler & Jones, 2022). Rangwala and Ramesh (2022), as well as Kimiagar and March (2022) suggest ways to poll the population and understand its appetite.

## Conclusion

Over the years, the focus of community indicator projects has changed, from social indicators in the early days, to sustainability indicators in the 1990s and 2000s to the recent interest in wellbeing. This chapter does not argue for a resilience-centered framework for community indicator projects, but rather for an awareness of resilience and a call to include indicators of community resilience as part of a wider array of indicators.

A disaster can wipe out years of work to improve community wellbeing and sustainability. Indeed, as just one example, Lewis (2022) fears that the recent COVID-19 pandemic may have wiped out a decade of progress in reducing the youth disconnection rate. As money is diverted to address natural, health and social disasters, less is available for prevention and to support quality of life and essential services.

While some risks are mostly universal (e.g., pandemic, earthquake), many are specific to a region (e.g., volcanic eruptions, hurricanes, tsunamis). Understanding the potential hazards of a place can help identify what should be tracked. Identifying risk-specific vulnerability as well as general vulnerability (e.g., due to race, age, health conditions, mobility) will help with prevention and recovery, as well as offer tools to improve wellbeing and sustainability.

Funding is always where the rubber hits the road. Kraeger et al. (2022) argue that community indicators can be helpful in carrying out the core mission of community foundations. The inverse is also true: community foundations can play an important role in supporting a community's need and right to access data that support its sustainability and resilience. Local governments are also generally invested in protection of their communities with particular attention to the infrastructure. Since they do not always have the community engagement expertise and the mandate to work beyond certain service areas, they are in a great position to partner with community organizations to support the identification and research behind including sets of resilience indicators as part of a complete set of community indicators.

In reviewing the value of community sustainability indicators projects, Keough (2022) argues they provide a benchmark for sustainability—raising the bar for understanding, creating tools for, and taking action on, sustainability while contributing to the creation of an enabling environment for sustainability and nurturing a sustainability network across civil society, local government, the private sector and citizens. It is likely that the addition of community resilience indicators, identified through a meaningful community engagement process, would bring on the same benefits: promoting understanding, engagement and action.

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## Chapter 2

# Indicators for Community Resilience: Social Vulnerability, Adaptive Capacity, and Multi-Hazard Exposure in Austin, Texas



**R. Patrick Bixler and Jessica Jones**

**Abstract** Social vulnerability, hazard exposure and adaptive capacity are three sets of indicators that provide insights into community resilience. Climate vulnerability, a combination of social vulnerability and climate-related hazard exposure, is a socio-spatial index of neighborhoods and communities most at risk of climate-related hazards. Adaptive capacity can help reduce social vulnerability and make communities more resilient. We discuss the efforts of the Austin Area Sustainability Indicators program to develop these indicators along side qualitative research to cross reference the indicators with experience from community organizations doing resilience work in Austin, Texas.

**Keywords** Community resilience · Adaptive capacity · Social vulnerability · Natural hazards · Climate risk · Community indicators

## Introduction

Resilience is a ubiquitous concept in society today and is now considered an integral part of local, national, and international policy making, as well as a hot topic in many research domains. As an interdisciplinary science, resilience science is supported by research across multiple disciplines and practitioners (Xue et al., 2018). Today, many major cities in the U.S. have chief resilience officers in senior executive positions. The Rockefeller Foundation has invested \$164 million in 100 Resilient Cities and the UN-Habitat is implementing a resilience profiling program in cities around the world. Diverse research agendas are driven by a resilience paradigm: ecological resilience, social-ecological resilience, urban resilience, resilience to risk and disaster, community resilience, and climate resilience. Additionally, an entire

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international professional society has developed a robust membership organized around resilience scholarship (<https://www.resalliance.org/>).

Despite this, there has been inadequate development of indicators for assessing community resilience in an urban social-ecological-technical systems context (Bixler et al., 2019; Chuang et al., 2018). Our chapter addresses this gap by outlining a set of indicators: social vulnerability (sensitivity), adaptive capacity, and multi-hazard exposure. Each of these concepts are well established in the literature and the combination of these three forms the basis of “vulnerability” in resilience research (Adger, 2006). What is novel is the measurement strategies presented here and the application of these concepts as a set of indicators for community resilience in metropolitan settings (or social-ecological-technical systems).

This chapter will proceed as follows. First, we will provide some background on our community indicators project—the Austin Area Sustainability Indicators ([www.austinindicators.org](http://www.austinindicators.org)), followed by background on the different threads of resilience thinking and research to frame this work. We then present a summary of qualitative research where we sought feedback from Austin community organizations regarding “resilience”. Moving from a combination of the literature and interviews, we present our indicators starting with social vulnerability, followed by hazard exposure and then adaptive capacity. We will conclude by sharing a prototype data visual for the combined community resilience indicator.

## The Austin Area Sustainability Indicators

The Austin Area Sustainability Indicators (A2SI) is a community indicators project run by the RGK Center for Philanthropy and Community Service at the Lyndon Baines Johnson School of Public Affairs at the University of Texas at Austin. A2SI provides a data-driven narrative about the sustainability and quality of life for Austin area residents. Data is analyzed by our research team and the results are utilized by policy makers and community leaders to inform decision-making.

A2SI collects and analyzes data related to key indicators of sustainability and quality of life across the six-county Austin region. Data for the project comes from a biennial community survey and aggregation of publicly available sources. The 2020 survey is the seventh survey implemented since 2004, resulting in a longitudinal dataset of beliefs, attitudes, preferences, and behaviors of Austin Area residents. Since 2017, the project has published a series of focused research reports on a variety of topics, including:

- “When Hispanics Rise, Austin Rises” (2017) in collaboration with the Austin Community Foundation
- “Greater Austin Civic Health Report” (2018) with the following partners: Leadership Austin, KLRU, KUTX, Austin Community Foundation (ACF) and the Annette Strauss Institute for Civic Life
- “The Role of Equity in Sustainability in Austin” (2019)

- “Climate Vulnerability in Austin, Texas” (2020)
- “Community and Climate Resilience in Austin, Texas” (2020)

This chapter summarizes the efforts of the last two reports, which were developed in collaboration with the City of Austin Office of Sustainability and a grassroots community organization, Go Austin Vamos Austin ([www.goaustinvamosaustin.org](http://www.goaustinvamosaustin.org)). Our first step was to explore the research and literature of resilience and resilience-related indicators.

## From Resilience to Community Resilience

The term *resilience* was first applied by Holling (1973) to describe how ecosystems respond to changing conditions. The paradigm of ecological resilience developed by Holling and colleagues refers to the ability of the natural system to absorb disturbances while maintaining the persistence of system component relationships without crossing a threshold and entering another domain (Gunderson et al., 1995). Early on, Holling and others distinguished between an engineering understanding of resilience, as resistance, and an ecological system definition of the term, as the ability to rebound. Engineering resilience implies the ability of a system to remain stable and to return to a steady state quickly after a disturbance (Folke, 2006; Gunderson et al., 1995). Ecological resilience focuses on the dynamic functioning of the system in relation to disturbance and ability to adapt to change (Anderies et al., 2004).

During the late 1980s and early 1990s research on individual resilience was developed independently of ecological resilience (Masten, 1990; Egeland et al., 1993, among others). Emphasis on resilience by mental health professionals focused on the ways individuals endured personal trauma without spiraling into pathology. This body of literature frames resilience as the process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances (Masten, 1990). While there are apparent similarities between the ways resilience has been understood in ecological and psychological sciences, the two remained in separate domains with different levels of analysis and methods of research and application.

A third strand of resilience research began in the late 1990s and continues today: socio-ecological system (SES) resilience, frequently defined as the ability of groups or communities to cope with external stresses and disturbances because of social, political, and environmental change (Anderies et al., 2004; Folke, 2006). Further, social resilience has economic, spatial, and social dimensions and hence its observation and appraisal require interdisciplinary understanding and analysis at various scales (Adger, 2006). It is important to note that, because of its institutional context, social resilience is defined at a collective level, rather than being a phenomenon pertaining to individuals. Social vulnerability indices have been developed and are increasingly applied as indicators of social resilience (Cutter et al., 2003).

Most recently, resilience framed in an urban context, or urban resilience, has grown exponentially. Here, the urban system is conceptualized as an open, complex adaptive system (Bai et al., 2016) composed of social-ecological and socio-technical networks, increasingly referred to as social-ecological-technical systems or SETs that extend across multiple spatial scales (Bixler et al., 2019; McPhearson et al., 2015). Urban resilience has been defined as: “the ability of an urban system—and all its constituent socio-ecological and socio-technical networks across temporal and spatial scales—to maintain or rapidly return to desired functions in the face of a disturbance, to adapt to change, and to quickly transform systems that limit current or future adaptive capacity” (Meerow et al., 2016, p. 39). Notably, in hazards and disaster research, synthesis between systemic and individual resilience research is beginning to occur (Xue et al., 2018).

More than an academic exercise, the conceptual lineage provides a roadmap for developing our indicators of community resilience. Social vulnerability from the social resilience heritage, hazard exposure from the urban resilience lineage, and adaptive capacity from the individual or socio-psychological frameworks. With this in hand, our research team sought input from practitioners on the ground.

## Perspectives of Community Resilience on the Ground

The review of community resilience indicators led us to taking a unique path forward with our 2020 A2SI indicator report focused on community resilience. Instead of publishing an encyclopedia-like report on Austin Area Sustainability Indicators backed by survey, census, and regional data, we decided to craft a report around stories and lived experiences (<http://www.austinindicators.org/reports/>). From October 2019–July 2020, our team collected stories focused on community and climate resilience in Austin. We were curious about whether lived experiences matched the diversity of academic definitions on resilience. Is resilience acknowledged as a policy or program objective in Austin and in Travis County, and if so, how is it practiced?

To conduct this work, our research team interviewed thirteen community representatives from a wide array of backgrounds. We met with service providers, community organizers, and city and county government employees. They shared their work with us, invited us to meet them at their work sites, and when the COVID-19 Pandemic struck, shared time with us over zoom and by phone.

For some of our interviewees, resilience was a goal that their agency or organization is actively working toward. For example, representatives from the City of Austin’s Office of Sustainability are actively working to address resilience as it relates to climate change. Their work is guided by city council resolutions and climate action planning. The Office defines climate resilience as the “*the ability to effectively manage both immediate shocks and long-term stressors related to climate change and weather extremes*” (Jones et al., 2020). Despite having council resolutions and plans in place, they showed us that climate resilience implementation is



**Fig. 2.1** Inaugural City of Austin Climate Ambassador Cohort

complicated. Climate resilience work involves collaborating with other city departments to help educate and interweave resilient themes to new and ongoing projects and initiatives. An example is a partnership with the Austin health department and community members to make a new clinic in a historically disenfranchised neighborhood a “resilience hub”. Utilizing solar battery technology, the resilient clinic would be able to operate when the power goes out, additionally outdoor outlets would offer residents the ability to charge important devices. Such work is long in the making and can get pushed to the wayside due to competing priorities. For example, when the pandemic hit, the designing of the resilience hub clinic was put on hold as resources were redirected to COVID-19 relief efforts.

The Office of Sustainability staff explained to us that resiliency needs to involve the community. A city cannot be climate resilient if the members of the community are not resilient. The Office has adopted a practice of working with nonprofits and community leaders to help identify and prioritize community needs. These community partnerships provide the Office with direction for projects, the ability to find shared goals, and the capacity to identify and direct City resources. In 2019, the Office hired community representatives to be climate ambassadors for the city. These ambassadors focused on collecting community-wide feedback that would go on to shape the city’s climate action planning process (Fig. 2.1).

Front from left to right: Deborah Beresky, Nakyschia Fralin, Sheridan Ray, Andrea Casares, Sayuri Yamanaka, and Celine Rendon (Office of Sustainability Staff).

Meanwhile, for others that we interviewed, resilience was a loaded buzzword that could only be understood or appreciated with a historical lens. In interviews with representatives from Huston Tillotson University, a Historical Black College, and a community organizer from the Dove Springs neighborhood in Southeast Austin, we learned that referring to certain communities as being resilient could have negative connotations or shade historical inequalities. For example, by labeling a group as resilient we may diminish the struggles communities face due to historical disinvestment. In our interview with a community organizer with the Austin nonprofit, Go Austin! Vamos Austin! (GAVA) we learned about the disparities faced by communities that have received inadequate infrastructure investment. In Southeast Austin, the Dove Springs neighborhood scores high adaptive capacity indicators, but also high in hazard exposure and social vulnerability. Additionally, the Dove Springs neighborhood has experienced major flooding events. These floods have wreaked havoc, causing loss of life and property. One way to increase community resilience is to decrease the hazard exposure, in this case improving inadequate stormwater drainage infrastructure which offers little protection from being situated amidst a growing floodplain.

Despite these hardships, there are many signs within this community of social cohesion and social capital. Neighbors come together to support one another. With programming support from GAVA, neighbors teach one another on how to be advocates and reach out to their elected leaders. Additionally, thanks to innovative partnerships with the City and researchers from the University of Texas at Austin, neighbors from the Dove Springs neighborhood are being trained to be ‘Climate Navigators’. As Climate Navigators, residents collect and provide information to neighbors on how to prepare for natural disasters. The stories we captured from this community organizer wove together perceptions of social resilience, adaptive capacity, and climate hazard exposure into a rich, dynamic, and complex understanding and practice of resilience (Fig. 2.2).

Another highlight in our work was the understanding that populations that were and are disenfranchised in Austin are not socially resilient because they necessarily want to be but are resilient because they must be. In our interview with a representative from Huston Tillotson University, the word resilience was challenged and questioned, where the interviewee asked us “*What communities do we ask to be resilient? They’ve always been resilient in our county, given our history, so why are we applauding when it’s just what they’ve had to do to survive. . . it’s a complicated term.*” (Interview with Huston Tillotson University staff in Jones et al., 2020).