



**CITY OF BOULDER
ENVIRONMENTAL ADVISORY BOARD MEETING AGENDA**

DATE: June 3, 2015

TIME: 6 p.m.

PLACE: 1777 Broadway, 1st floor, 1777 W. Conference Room

1. CALL TO ORDER

2. APPROVAL OF MINUTES

- A. The [May 6, 2015](#) Environmental Advisory Board meeting minutes are scheduled for approval.

3. PUBLIC PARTICIPATION

4. PUBLIC HEARING ITEMS

5. DISCUSSION ITEMS

- A. [Resilience](#) (Guibert)
- B. Climate Commitment (KenCairn)
- C. [Engagement Strategies regarding Municipalization and Climate](#) (Huntley, Smith)

6. OLD BUSINESS/UPDATES

**7. MATTERS FROM THE ENVIRONMENTAL ADVISORY BOARD, CITY
MANAGER, AND CITY ATTORNEY**

8. DEBRIEF MEETING/CALENDAR CHECK

9. ADJOURNMENT

For more information call (303) 441-1880. Board packets are available after 4 p.m. Friday prior to the meeting, online at www.bouldercolorado.gov

**CITY OF BOULDER ENVIRONMENTAL ADVISORY BOARD
MEETING GUIDELINES**

CALL TO ORDER

The board must have a quorum (three members present) before the meeting can be called to order.

AGENDA

The board may rearrange the order of the agenda or delete items for good cause. The board may not add items requiring public notice.

PUBLIC PARTICIPATION

The public is welcome to address the board (three minutes* maximum per speaker) during the Public Participation portion of the meeting regarding any item not scheduled for a public hearing. The only items scheduled for a public hearing are those listed under the category PUBLIC HEARING ITEMS on the agenda. Any exhibits introduced into the record at this time must be provided in quantities of eight to the Board Secretary for distribution to the board and admission into the record.

DISCUSSION AND STUDY SESSION ITEMS

Discussion and study session items do not require motions of approval or recommendation.

PUBLIC HEARING ITEMS

A Public Hearing item requires a motion and a vote. The general format for hearing of an action item is as follows:

1. Presentations

- Staff presentation (15 minutes maximum*) Any exhibits introduced into the record at this time must be provided in quantities of eight to the Board Secretary for distribution to the board and admission into the record.
- Environmental Advisory Board questioning of staff for information only.

2. Public Hearing

Each speaker will be allowed an oral presentation (three minutes maximum*). All speakers wishing to pool their time must be present, and time allotted will be determined by the Chair. Two minutes will be added to the pooled speaker for each such speaker's allotted time up to a maximum of 10 minutes total.

- Time remaining is presented by a green blinking light that means one minute remains, a yellow light means 30 seconds remain, and a red light and beep means time has expired.
- Speakers should introduce themselves, giving name and address. If officially representing a group please state that for the record as well.
- Speakers are requested not to repeat items addressed by previous speakers other than to express points of agreement or disagreement. Refrain from reading long documents, and summarize comments wherever possible. Long documents may be submitted and will become a part of the official record.
- Any exhibits introduced into the record at the hearing must be provided in quantities of eight to the Board Secretary for distribution to the board and admission into the record.
- Interested persons can send a letter to the Community Planning and Sustainability staff at 1739 Broadway, Boulder, CO 80302, two weeks before the Environmental Advisory Board meeting, to be included in the board packet. Correspondence received after this time will be distributed at the board meeting.

3. Board Action

Board motion. Motions may take any number of forms. Motions are generally used to approve (with or without conditions), deny, or continue agenda item to a later date (generally in order to obtain additional information).

- Board discussion. This is undertaken entirely by members of the board. Members of the public or city staff participate only if called upon by the Chair.
- Board action (the vote). An affirmative vote of at least three members of the board is required to pass a motion approving any action.

MATTERS FROM THE ENVIRONMENTAL ADVISORYBOARD, CITY MANAGER, AND CITY ATTORNEY

Any Environmental Advisory Board member, City Manager, or the City Attorney may introduce before the board matters which are not included in the formal agenda.

ADJOURNMENT

The board's goal is that regular meetings adjourn by 8 p.m. Agenda items will not be commenced after 8 p.m. except by majority vote of board members present.

*The Chair may lengthen or shorten the time allotted as appropriate. If the allotted time is exceeded, the Chair may request that the speaker conclude his or her comments.



Study Session MEMORANDUM

To: Members of the Environmental Advisory Board

From: Greg Guibert, Chief Resilience Officer
Jane S. Brautigam, City Manager
David Driskell, Executive Director of Community Planning & Sustainability (CP&S)
Susan Richstone, Deputy Director of CP&S

Date: June 3, 2015

Subject: Resilient Boulder - Phase I summary and Phase II preliminary focus areas

Study Session Purpose

Provide an update to the Environmental Advisory Board on findings from Resilient Boulder Phase I engagements and receive Council feedback on potential Focus Areas for Phase II.

Questions for the Environmental Advisory Board

1. Does the Environmental Advisory Board have any questions about the Phase I process to date?
2. Does the Environmental Advisory Board have any feedback on the initial scoping of potential Phase II focus areas?

Executive Summary

100 Resilient Cities (100RC) is a global network pioneered by the Rockefeller Foundation to help cities around the world become more resilient to the physical, social, and economic challenges that are a growing part of the 21st century. Boulder joined the network as part of its first wave in 2013 and through its participation, is committed to demonstrating leadership in resilience as well as take advantage of the resources and opportunities it presents.

100RC supports the adoption and incorporation of a view of resilience that includes not just the shocks – floods, wildfires, violence, and other acute events – but also the stresses that weaken the fabric of a city on a day to day or cyclical basis, such as economic hardship or social inequality. By addressing both the shocks and the stresses in a holistic manner, a city becomes more able to respond to adverse events, and is better able to deliver basic functions in both good times and bad, to all populations.

The 100RC program supports resilience building activities at the city level along four pathways:

- Financial support for the creation of a new position in the government who will lead the effort, the Chief Resilience Officer (CRO)

- Technical and logistical support for the development of a resilience strategy that will serve as the city's roadmap to resilience activities and priorities
- Access to tools and specialized partnerships to help developed a sophisticated understanding the city's risks, assets, weaknesses, and opportunities and how they interlink in unanticipated ways
- Inclusion into a network of 99 other cities from which best practices, innovation, and peer-to-peer learning can advance the practice of resilience globally.

The objective of the City Resilience Strategy is to provide a roadmap for building resilience in the city. The strategy should trigger action, investment, and support within city government and from outside groups. Rather than a static road map, the resilience strategy should be a living document to be continuously fine-tuned as priorities are addressed and initiatives get implemented.

The strategy development process is divided into two phases: Phase I establishes the foundation for the resilience strategy. Phase II encompasses strategy build-out. Boulder is now at the end of Phase I, during which the city has conducted a series of workshops, diagnostics, and analyses in order to identify areas for focused activity in Phase II.

This memo summarizes the Phase I activities and results and identifies the potential focus areas for council review and feedback.

Resilience Work Plan and Schedule

100RC has outlined a general approach and methodology for developing resilience strategies that the city has used to customize a process according to community goals and capacity and in coordination with other city projects. Generally, the phases of work are as follows:

1. **Phase I (through May 2015): Preliminary Resilience Assessment.** The Preliminary Resilience Assessment (PRA) is a synthesis of the outputs and findings of Phase I. Additional work to be completed in Phase I includes identifying gaps, opportunities and challenges and identifying preliminary focus areas for work in Phase II.
2. **Phase II (through late 2015): Strategy Development.** The second phase will focus on creating the resilience strategy for the identified focus areas.
3. **Phase III (in 2016)** will be dedicated to early implementation activities and ensuring financial sustainability of resilience beyond the initial 100RC investment.

Summary of Phase I - Preliminary Resilience Assessment

The Preliminary Resilience Assessment (PRA) is a synthesis of the outputs and findings of Phase I and is used to develop the analytical foundation for selecting Focus Areas. The PRA builds on specific Phase I activities, which included a shocks and stresses workshop with 100RC staff in April 2014, the CRO hiring in September 2014, and the creation of working teams and a steering committee. In late October 2014 the city began diagnostic and analytical activities designed to more assess the city's risk profile (i.e., what is the city's exposure), and catalogue the existing portfolio of resilience-related projects, policies, and programs (i.e., what is currently happening that relates to resilience?) See Appendix A for more details on Phase I diagnostic tools and processes), and map a stakeholder engagement plan (see Appendix B). In February, the city hosted a web-based resilience Perceptions Survey for two weeks (see below for a summary of results and Appendix C, pages 26-32 for some additional details). Additional work to be completed in Phase I includes finalizing the PRA and formalizing preliminary focus areas for

work in Phase II. (see Appendix C for a draft PRA in powerpoint presentation format – the final format will be a written report).

Resilience Perception Survey – February 2015

In February 2015, the city hosted a web-based Resilience Perceptions survey. Five hundred fifty people responded. To notify the community, the city issued a press release, sent email to the resilience and planning email lists, and issued other social media notices. The survey is not statistically valid because respondents were self-selecting; however, the respondent profile indicates some diversity in terms of tenure in Boulder, place of residence, and work sector. A high level summary of results are noted below, highlighting some potential topics for further analysis and discussion. A full analysis will be incorporated into the final Preliminary Resilience Assessment in May.

1. **Boulder is viewed as having strengths in resilience areas of:** safety/crime deterrence, robust local economy, protection of natural resources and ecosystems, emergency information systems, water supply, sufficient and affordable local or organic food supplies, hazard monitoring and alerts, updated codes and standards and plans for urban development.
2. **The community is viewed as having weaknesses and work to be done in areas of:**
 - a. **Community Engagement** – providing greater sense of belonging in the city and being more integrated and inclusive engagement of civil society within the city. Adding measures to promote trust of government.
 - b. **Transportation Systems** – Integrating transportation links with other cities/regions, and providing a multi-modal system with inclusive coverage of city.
 - c. **Inclusive Housing/Health Care** – Addressing Boulder’s affordability and social and economic challenges related to housing and access to health care and mental health.
 - d. **Resilient Governance** – increasing transparent, inclusive, and integrated decision-making and leadership; increasing collaboration, and integrating land use and inclusive planning process.

Growing Up Boulder / Youth Engagement – February 2015 - on-going

In collaboration with the City’s resilience staff and the Youth Services Initiative (YSI), Growing Up Boulder (GUB) worked with youth to develop their own meanings of resilience through art by considering the Rockefeller definition of resilience: “the capacity to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks [people] experience.” To our knowledge, Boulder is the only member of the Rockefeller network to engage youth in their processes. This pilot was meant to explore ideas of resilience and to test methods that might yield meaningful conversations and useful information (see Attachment D for an interim report). Additional work with children and youth will continue in the fall of 2015. The work included two groups of participants from the Youth Services Initiative, a program of Boulder’s Parks and Recreation Department that serves youth from Boulder’s public housing sites, as follows:

- Approximately 25 middle and high school students
- Approximately 10 elementary students from the Kalmia housing site

Growing Up Boulder used a variety of methods to facilitate conversation, including a resilience “question ball,” drawing, and mural making with elementary school students, and drawing, photovoice, a nested ecologies activity, and art boxes with middle and high school students.

Elementary School Student Themes:

Not Resilient: School and home; Guns and dying; Bullies; Dangers, such as falling from trees

Resilient: Home, family and pets; Nature, parks, hiking; Ice cream, fresh fruits; Activities, such as art, music, sports and holidays

Middle and High School Student Themes

Not Resilient: Money and the expense of living here; Housing ; Negative global issues as portrayed on the news; Cultural exclusion

Resilience Workshop – April 2014

In April 2014, the city hosted a kick off workshop. Nearly 50% of attendees were city staff, with under-representation from the non-profit and business community. Nevertheless, key takeaways from the workshop have proven consistent with other community engagements over the last 6 months:

1. Boulder is **well prepared to address acute shocks**, as reflected in a high level of preparedness across City-controlled systems for both physical protection and continuity of services;
2. The City has opportunities **to improve its capacity to address chronic stresses**, such as housing affordability, economic diversity, and income inequality;
3. There is opportunity to **better coordinate regionally** to address shocks and stresses that fall outside of Boulder’s jurisdictional boundary;
4. For the resilience initiative to be successful, it must **leverage Boulder’s existing planning processes** and other ongoing initiatives.
5. **Strong consensus on shocks** - Wildfire, drought, and flooding dominated the discussion, with an additional emphasis on infrastructure, water shortage, economic downturn, and extreme temperatures.
6. Each table/group identified housing affordability as a priority issue, with economic issues a close second.

Preliminary Focus Areas:

Focus areas can correlate directly to specific resilience strengths and weaknesses, specific shocks and/or stresses, and/or cross-cutting issues. The city is working toward identifying initial Focus Areas from the stakeholder engagements to date. Generally, Focus Areas should:

- Address further understanding and analysis of a city’s vulnerability to a shock;
- Analyze how shocks and stresses might interact (for example -- how aging infrastructure and poverty impact the city’s ability to respond to flooding events);
- Integrate and prioritize existing planning efforts;
- Enable cities to customize and narrow the scope of activities to be undertaken in Phase II, and define a Scope of Work that reflects each city’s capacity and needs;
- Build a fact base, and deepen a city’s knowledge and understanding around a few specific issues the resilience strategy will aim to address; or
- Help ensure that cities identify actionable priorities and specific initiatives for discovery/planning/implementation.

The expectation is that Boulder will choose three to six Focus Areas to help build out the resilience strategy. However, time, staff, and resource constraints will also determine the number of areas and activities that can be viably undertaken over the next six months. To the extent possible, activities will be aligned with existing city efforts, with the obvious acknowledgement that Focus Areas are intended to address gaps in current data, analysis, and effort and therefore represent new or novel approaches and work elements.

Initial outputs from the Preliminary Resilience Assessment would suggest the potential to focus additional analysis in some of the following areas, not necessarily in order of priority. They are further described in the sections below:

1. Resilient Recovery
2. Resilient Governance
3. Climate Wealth and Security
4. Understanding Changing Risk
5. Business Community Resilience
6. Economic Resilience
7. Ecological Services

Resilient Recovery

- *Gap:* Current assessments of the city's response to the 2013 Flood, as well as the institutional transition to longer-term recovery activities, allow for new or novel policies and plans that build local and regional resilience to future disasters.
- *Existing Areas of Effort:* A staff team dedicated to recovery efforts, BoCoStrong is expanding resilience planning efforts in the county.
- *Potential Focus Area Activity(s):* Several broad areas that could benefit from further investment have already been identified through staff's on-going assessment of community and organizational performance. For example, there is significant room for new efforts to build community awareness of future wildfire and flood risk and to encourage personal protective action at the neighborhood level. Additionally, specific new hazards, such as groundwater intrusion, require new groundwater mapping and analysis as well as policies to promote mitigative activities at the individual household level. Institutionally, several lessons learned would suggest reexamining flexible staffing and financing options to allow for more efficient and rapid response during crisis. There is potential to leverage emerging resilience projects and funding at the regional/state level through the Colorado Resilience Framework and at the national level through the NIST Resilient Buildings and Infrastructure Framework.

Resilient Governance

- *Gap:* Although many existing city activities can be characterized as 'resilient' (ex. progressive flood plain management), core resilience principles are not well incorporated into city planning, strategy, or budget documents or processes.
- *Existing Areas of Effort:* Sustainability is well integrated in the city's ethos but resilience as a comparable and complementary value system does not yet exist.
- *Potential Focus Area Activity(s):* The current efforts to update to the Boulder Valley Comprehensive Plan and the Human Services Master Plan provides a unique opportunity to further resilience thinking in Boulder in two major areas (land use and social safety and support programs) and allows for the deep and immediate infusion of resilience policies and programs across a range of city priority areas and activities. The focus on developing cutting edge approaches to resilient land use builds on outcomes from the Phase I scoping workshop on Leveraging Land Use Regulation to Achieve City Resilience Goals, sponsored by 100RC and facilitated by strategy partner HR&A. The potential exists to replicate the workshop at a local level to more deeply focus on integrating resilience that is contextually relevant. Further, by leveraging 100RC platform partner Palantir, the city can support the Human Services Master

plan by designing big data analytics around community well-being trends as performance metrics for the future activities.

Climate Wealth and Security

- *Gap:* Boulder's current energy production and distribution system is not well designed to withstand the shocks associated with future natural hazards nor to mitigate the current and future price volatility in the fossil fuel-based energy markets.
- *Existing Areas of Effort:* Climate Action Plan, Energy Future, Boulder Valley Comprehensive Plan
- *Potential Focus Area Activity(s):* How can a transition to a low/no carbon community provide new opportunities for individuals, families, and neighborhoods to increase their own resilience to environmental, social, and economic shocks and stresses? Boulder's commitment to low or no carbon future will require a wholesale transformation of the community's energy production and distribution system. The transformation will have several major elements that can benefit from the inclusion of resilience thinking including:
 - How civic engagement can build initiative ownership,
 - Strategies for increasing resilience through a distributed energy system design,
 - Highlighting resilience benefits from both distributed generation and storage at the household or sub-community scale.

While the timeframe for this energy system transition is well beyond the scope of the 2-year 100RC investment, the early design and community engagement efforts have the potential to enhance both the participation and content of this initiative in both the short and long-term.

Understanding Changing Risk

- *Gap:* Although the city and the community are well aware of the local risks associated with climate change in the most general sense, there has been no comprehensive analysis of likely impacts to the city's infrastructure or ecological systems. Further, specialized analyses that have been conducted are piecemeal and use widely varying climate projections and methodologies, ensuring that policy and planning outcomes are inconsistent.
- *Existing Areas of Effort:* Some climate impact analysis is included in the Multi-hazard Mitigation Plan, Water Utility Master Plan, Drought Preparedness Plan, Climate Change Preparedness Plan
- *Potential Focus Area Activity(s):* Using local partner Resilient Analytics, the city will conduct an initial climate risk and vulnerability analysis for major city infrastructure assets (e.g. roadways and critical facilities), coupled with a first-order economic analysis of avoided costs through basic adaptation efforts that will provide a roadmap for adopting specific plans and investments in the future. Further, by leveraging the community's vast expertise and talent in climate science, the city will develop a rigorous process for selecting a core set of future climate models and scenarios for use across all city activities to ensure consistent analysis.

Business Community Resilience

- *Gap:* The disasters of the last five years have largely spared the local business community and many businesses remain unprepared for future events.
- *Existing Areas of Effort:* The economic vitality team will be posting resources on developing business continuity planning on their website this summer.
- *Potential Focus Area Activity(s):* In many communities, business preparedness, to the extent that it exists at all, is often limited to encouraging 'business continuity planning' – self-directed planning for business disruption that includes tasks such as off site data storage and flexible

staffing strategies. However, there exists the possibility for developing a deeper level of partnership between city and business interests that facilitates the broader uptake of risk transfer or reduction strategies and/or encourages building relationships and resource development prior to a crisis event. Significant research has shown that communities whose businesses rebound more quickly after a disaster fare substantially better in both the near and long term recovery phases.

Economic Resilience

- *Gap:* While there is a general understanding of Boulder's economic risks, a more robust understanding of the city's exposure to wider economic trends, such as shifts in credit markets and availability, declines in federal investments in research and development, or the role the succession or maturation cycle of Boulder's start up or small businesses play in the wider Front Range economy is lacking.
- *Existing Areas of Effort:* A small economic vitality team, focused largely on business retention.
- *Potential Focus Area Activity(s):* What steps can the City of Boulder take, if any, to more fully understand, anticipate, and mitigate the exposure of core local economic sectors to trends broader national and global economic trends and risks? Boulder has a diverse economic base and weathered the 2008 economic downturn better than many communities. However, future economic shocks may represent different risks than those experienced before and, further, prevailing economic and political trends may have increased the community's exposure to volatility in the economy since the last crisis. Example economic analysis could include coping with the loss of federal funding to one or more of the research labs, anticipating a dramatic tightening of credit markets for tech start up ventures, or developing a greater understanding of the local risk to increasing wage and housing affordability gaps.

Ecological Services

- *Gap:* The city's current ecosystem management and performance assessment efforts lack coordination and integrated across departments and currently do not provide a broader strategic vision for anticipating, mitigating, and managing rapid changes in the regional ecology.
- *Existing Areas of Effort:* Individual staff across city departments dedicated to urban forestry, integrated pest management, environmental and resource management, and urban wildlife, among others.
- *Potential Focus Area Activity(s):* The creation of an urban forestry master plan would provide strategic direction and activity prioritization for addressing the complex ecological transformation associated with climate change and invasive species, such as the emerald ash borer and the pine bark beetle. Additionally, an urban wildlife and biodiversity corridor plan will allow for leveraged efforts across city departments, such as Parks and Rec, Community Planning and Sustainability, and Utilities, among others, while promoting new habitat and ecosystem resources that serve multiple benefits to community.

Other Resilience Activities:

In addition to the activities directly associated with the 100RC Phase I scope of work detailed above, the CRO has represented the City in several high profile national and regional resilience initiatives:

National Institute for Standards and Technology (NIST): NIST is conducting a national wide effort to develop a framework for disaster resilience buildings and communities. The CRO has participated as an expert in two workshops on both the technical aspects of the framework and the development of a civic

process for actualizing the framework principles. Through this work the NIST framework has become more closely aligned with the 100RC effort and has the potential provide complementary analysis to ongoing activities. Further, NIST has designed Boulder to be one of three major case study cities and will undertake an expert analysis of the City's critical infrastructure during the 2013 Flood at no cost to the City. (See http://www.nist.gov/el/building_materials/resilience/index.cfm for more information)

Colorado Recovery Office: Similarly, the CRO has provided expert peer review and guidance to the Colorado State Recovery Office's State Resilience Framework. As a result, the City of Boulder, in partnership with the County, will likely pilot the State's resilience building process in surrounding communities during the summer of 2015, while providing valuable feedback to the Recovery Office. Additionally, the CRO, via the 100RC program, assisted state representatives in the preparation of a phase 1 submission for the HUD sponsored National Disaster Resilience Competition, a \$1billion national initiative to enhance resilience building at the local level. (See <http://portal.hud.gov/hudportal/documents/huddoc?id=NDRCFactSheetFINAL.pdf>)

National Renewable Energy Laboratory (NREL): NREL, based in Golden, CO is developing a resilience planning program for federal facilities under a presidential mandate and is seeking to pilot a resilience analysis and building process in a small set of communities and facilities around the country during the summer and fall of 2015. Initial conversations between NREL and the CRO have explored how an analysis of the federal facilities within the city limits can be integrated in the more holistic assessment being conducted under the 100RC program.

BoCoStrong: Boulder County's community resilience effort, known as BoCoStrong, was successfully awarded an 18 month, \$300,000 award from the State of Colorado to advance resilience planning across the County. The award is composed of 4 main elements, all with the goal of developing and sustaining community participation in resilience building activities. The CRO has provided input and assistance in the grant development and has worked to align county-wide activities with those envisioned within the City. (See <http://www.bocostrong.org/>)

Next Steps:

Following input from Council on May 12, revised Focus Areas will be presented to the Resilience Steering Committee for additional comment and review, with the intention of finalizing areas by the end of May. Once finalized, Focus Areas activities for Phase II through November 2015 will be integrated with existing staff work plans. In mid-October, staff will present a draft outline for the Resilience Strategy, based on outputs and analysis over the next 6 months, for The Environmental Advisory Board review and input.

Attachments:

- A: Overview of individual Phase I diagnostic tools and methods
- B: Draft resilience strategy community communications plan
- C: Draft Preliminary Resilience Assessment in a presentation format
- D: Growing Up Boulder interim report, April 2105



City Resilience Strategy

The City Resilience Strategy development process has been designed by 100RC in conjunction with a broad range of global experts, and is a process which all cities in the 100RC Network undertake.

It is a six to nine month process, which requires engaging with a diverse set of city stakeholders, analyzing and understanding the data on a city's risks and assets, and developing a strategy to leverage and address the city's opportunities and challenges in building urban resilience.

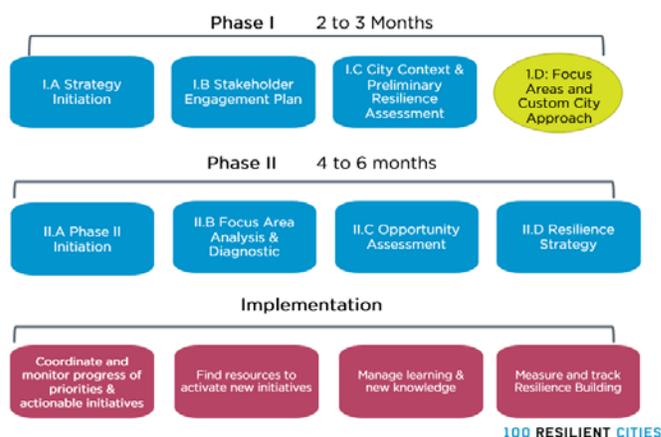
This process is designed to help a city think broadly and comprehensively about understanding and planning for its risks and assets, and identifying solutions that will deliver multiple, sustainable benefits. It is also designed to help cities in the network understand the common challenges and opportunities of building urban resilience, facilitate knowledge exchange through the 100RC Network, and identify potential solutions through the 100RC Platform.

The Resilience Strategy Process in Detail

The Strategy process is comprised of two phases, ultimately leading to a period of implementation. The first phase is a 2-3 month period designed to help the city understand its profile, and its risks and potential opportunities. During the first phase, the CRO leads a comprehensive scan of the city's shocks, stresses, risks and assets in relation to building resilience. This is done through stakeholder engagement, research, and application of a number of tools: a) **City Resilience Actions Inventory** – which documents and analyzes existing plans, policies and projects in the city; b) **City Resilience Perceptions Assessment** – which gathers stakeholder perceptions about the city's resilience, and c) **Risk Assessment and Asset Scan** - which identifies the key shocks and stresses a city faces, and the impact of these on the city's assets. The first phase ends with a synthesis of the research and analysis conducted, and a number of key focus areas that the CRO and city want to research in more depth.

The second phase is a 4-6 month period when the CRO and relevant stakeholders undertake further research and analysis in each focus area, and ultimately identify tangible resilience goals and implementable actions that the CRO and city can take next. Each CRO and city will decide what further analysis and diagnostic work will be conducted in this phase, and what human and other resources are available to undertake the work. These resources could include university research institutes or partners from the 100RC Platform.

OVERVIEW OF THE CITY RESILIENCE STRATEGY





Context

The City Resilience Perceptions Assessment tool was developed by 100RC and Arup ID for cities to use during Phase 1 of the City Resilience Strategy development process. The purpose of the tool is to help cities:

1. Understand what resilience means to a broad range of city stakeholders
2. Assess how the city is perceived as performing across the 12 drivers of resilience

The Perceptions Assessment is one of the key inputs used by 100RC Member Cities early in the Strategy development process in conducting a Preliminary Resilience Assessment (PRA). From the PRA, the city identifies the key focus areas that the CRO and city will research in more depth during Phase II as they work towards a defined list of resilience goals and initiatives.

The tool is currently being used by 100RC Member Cities as a required activity in the Strategy development process.

Components

City stakeholder perceptions are recorded and classified on a form in excel which is linked to worksheets that automatically generate analysis of the perceptions in the form of narrative summary and graphs.

The classification includes mapping perceptions to the 12 drivers of resilience which comprise the 100RC City Resilience Framework ([learn more about the CRF](#)), and rating the cities performance as area of strength, doing well but can improve, need to do better, or unknown.

The outputs illustrate what aspects of resilience are most relevant to the city by stakeholder group, how the city is performing according to stakeholders, and the ways in which issues raised touch on multiple aspects of resilience.

Images: from left to right tool input worksheet, and two sample outputs

Entry Number	Consultant	Consultative Details	Enter Factor mentioned by stakeholder	Provide Additional Narrative (if necessary)	Issue Rating	Select a Driver	Select a Sub Driver
1	Business	Representative from the IT sector	We have good IT contingency plans which are being rolled out across major businesses within the city.	IT standard 25995	Area of strength	8.Fosters economic prosperity	Other
2	Civil Society	NOD ForwardEarth	The mangrove areas on north-east coastline now have protected status as a place of natural importance.	Maine Bay area - 10km stretch, important for wildlife and flooding	Area of strength	7.Maintains and enhances protective natural and man-made assets	7.1 Environmental policy
3	Business	Chamber of commerce	We have a strong tourism sector thanks to the local architecture and history of the old town.	The historic quarter attracts 7million visitors a year (Office for tourism, 2012)	Area of strength	6.Fosters economic prosperity	6.4 Local economy
4	Governments		Clean mains water is provided to 98% of houses	source: Dept. of Public Services 2013	Area of strength	1.Meets basic needs	1.3 Water
5	Civil Society	Homeless Charity Inspire	There is a large homeless population which do not receive sufficient housing and financial support.	From the 2011 report, 40% of these fall within the 18-25 demographic.	Need to do better	1.Meets basic needs	1.1 Housing
6	Civil Society	Professor of social science, City University	The city comprises of several local languages which can often reduce collective community cohesion.	2 different languages spoken, only 72% speak the official language. This has increased in recent years due to improvements in education and social programs.	Doing well, but can improve	4.Promotes cohesive and engaged communities	4.1 Community social connectivity

Process

The excel workbook is accompanied by a manual which provides detailed information on the data entry fields and how to interpret the outputs, as well as guidance for designing a process to collect stakeholder perceptions that will capture broad and diverse perceptions that are representative of a range of city stakeholders.

Cities may use a workshop, focus group, interviews, surveys, or any combination of methods to gather perceptions. The process is designed in coordination with the Strategy Partner and 100RC Relationship Manager in order to ensure that a broad group of stakeholders, including the poor and vulnerable, are represented.



Context

The City Resilience Risk Assessment & Asset Scan tool (BETA) is currently under development by 100RC and AECOM. The purpose of the tool is to help cities:

1. **Prioritize shocks and stresses in the context of different potential future scenarios**
2. **Understand how shocks and stresses are connected to each other**
3. **Assess how potential risks may be exacerbated based on:**
 - a. **the condition of physical assets (i.e. roads, buildings, water and sewer systems, etc.)**
 - b. **interactions between shocks and stresses**

The Risk Assessment & Asset Scan is being designed for use by 100RC Member Cities as a way to engage stakeholders and gather information that will be used in the city's Preliminary Resilience Assessment (PRA). The PRA is conducted early on in the Strategy development process and results in key focus areas that the Chief Resilience Officer (CRO) and city will explore in more depth during Phase II as they work towards a defined list of resilience goals and initiatives.

Components

The tool is an excel workbook which consists of multiple modules (worksheets) designed to be completed sequentially, but which can be used semi-independently. The modules can be completed using a participatory approach (e.g. focus group or workshop) or as a desktop exercise, and are complimentary to existing data/analysis the city may have already undertaken.

The purpose of the modules are as follows:

1. **Inventory asset data and their conditions**
2. **Identify top shocks**
3. **Impact of top shocks on assets (connects 1 & 2)**
4. **Analysis of potential future scenarios**
5. **Identify top stresses in context of scenarios**
6. **Link impacts of shocks and stresses (connects 2 & 5)**
7. **Weight top shocks & stresses to consider potential connections (mapped in 6)**

The accompanying manual provides detailed information on the modules and further explanation of important concepts such as likelihood, consequence, intensity, frequency, direct, indirect, etc.

Shock	Has the shock occurred previously in the city?	Current Trend		Likelihood of shock occurring in the future	Maximum credible consequence of future shock	Risk to city	Relevant to city?
		Intensity	Frequency				
Flash / surface flood (pluvial flood)	Yes	Unknown	Steady	High	Low	Medium	Yes
River flood (fluvial flood)	Yes	Unknown	Unknown	Low	High	Medium	Yes
Glacial melt flooding	No						Yes
Landslide	No						
Avalanche	No			Medium	Low	Low	Yes
Rockfall	No						
Drought	No						
Unexpected lack of snowfall	No						
Subsidence							
Snowstorm / blizzard	Yes	Increasing	Unknown	High	Medium	High	Yes
Earthquake	No	Not applicable	Not applicable	Low	High	Medium	Yes
Logjacking	No			Medium	Medium	Medium	Yes
Tornado	Yes	Steady	Unknown	Medium	Low	Low	
Tsunamis	No						
Coastal storm surge	Yes	Increasing	Increasing	Medium	High	High	Yes
Disease outbreak?	No	Decreasing	Decreasing	Low	Medium	Medium	Yes
Healthcare	Yes	Increasing	Increasing	Medium	Medium	Medium	Yes
Wildfire / bushfire	No			High	Low	Medium	Yes
Extreme cold snap	Yes	Unknown	Unknown	Medium	Low	Low	
Cyclone/typhoon/severe tropical storm	Yes						
Dust storms/sand storm	No						
Salt water intrusion							
Volcanic Activity	No						
Riot / Civil Unrest	Yes	Decreasing	Decreasing	Low	Medium	Medium	Yes
Terrorism	Yes						
Major infrastructure failure (e.g. bridge/building collapse)	No						
Nuclear incident							
Other hazardous materials incident							
Add others as required							

Image: module 2 - shock screen module



Context

The City Resilience Actions Inventory tool was developed by 100RC and Arup ID for cities to use during Phase 1 of the City Resilience Strategy development process. The tool inventories actions taken by city stakeholders (public/private/civil society) and may include any type of action such as plans, programs, projects, practices, initiatives, studies, or legislation. The purpose of the tool is to help cities:

- 1. Establish a baseline of where the city is taking action across the 12 drivers of resilience; and**
- 2. Identify past, current and planned efforts the City Resilience Strategy can build off of.**

The Actions Inventory is one of the key inputs used by 100RC Member Cities early in the Strategy development process in conducting a Preliminary Resilience Assessment (PRA). From the PRA, the city identifies the key focus areas that the CRO and city will research in more depth during Phase II as they work towards a defined list of resilience goals and initiatives.

The tool is currently being used by 100RC Member Cities as a required activity in the Strategy development process.

Components

A city’s current actions are recorded and classified on a form in excel which is linked to worksheets that automatically generate analysis of the actions across the 12 drivers of resilience which comprise the 100RC City Resilience Framework ([learn more about the CRF](#)). The outputs use the CRF to illustrate where the city has most focused its efforts to-date; identify areas of potential coordination; and show where limited action has been taken and opportunities may exist.

The data entry fields have also been explicitly designed to help cities flag actions which may be incorporated into, built off of, or otherwise leveraged in their Resilience Strategy; however, this determination is made qualitatively and not generated automatically.

Images from left to right: input worksheet, and two sample outputs illustrating how actions map to the CRF

Process

The excel workbook is accompanied by a manual which provides: detailed information on the data entry fields, explanation of how to interpret the outputs, guidance for identifying city actions to include in the inventory, and best practices for stakeholder engagement.

To gather the actions which constitute the inventory, cities may use a combination of desktop research, stakeholder engagement, and/or surveys. The process is designed in coordination with the Strategy Partner and 100RC Relationship Manager to ensure that actions taken by a broad range of sectors are included, and to scope the inventory reasonably given the Strategy development timeline.

DRAFT3

2015-2016 Resilience Communications and Engagement Plan

Project Objectives for 2015 and 2016:

1. Complete series of assessment tools, with both internal and external audiences, to evaluate challenges and opportunities related to building our community's resilience.
2. Draft a resilience strategy that builds on input from an engaged community and bring to council for review and edits or acceptance.
3. Begin implementation of resilience strategy.

Communication Plan Objective:

To provide effective and integrated communications and outreach support for all phases of the resilience strategy effort in 2015, including the evaluation of challenges and opportunities, the creation and vetting of a draft strategy and the public/City Council processes related to its adoption; and the initial stages of implementation.

Communication Plan Goals:

1. Raise awareness about the concept of resilience and how it applies in a variety of contexts related to both acute and chronic shocks and stresses
2. Create meaningful, community-focused engagement opportunities that inform individuals, groups and neighborhoods about the role they play in building resilience and ways they can help shape the city's resilience strategy
3. Promote the city's participation in the 100 Resilient Cities effort, as well as the value to the community of this partnership

Challenges:

- Resilience is a fuzzy concept for many in our community. There is little alignment about what it means, and even among those who work in this area, the context is often limited to acute shocks, like the 2013 flood.
- The city's connections with individual neighborhoods have deteriorated over the years and are in the very early stages of being re-established.
- While this program has been staffed with a CRO, the team working with him is comprised of individuals with other responsibilities and duties and often, very full work plans. There is no non-personnel budget associated with this effort.
- The city is not interested in having a standalone resilience plan that sits on a shelf and becomes the responsibility of one person or one division in a department to implement.

Instead, Boulder wants a holistic strategy that can become a part of what we all do in our organization and that can be embraced by the community and partners in the community. This could add to the complexity of the planning and engagement efforts.

- This is a time of some controversy in our community, especially when it comes to planning for our future. Many community members are tapped in terms of the engagement they are already providing, and others are questioning the path the city is taking. References to “growth” or helping the community “grow” will require particular sensitivity.

Opportunities:

- We have a highly skilled, full-time CRO who is working closely with other CROs across the world and 100 Resilient Cities in a coordinated and continuous learning way. Boulder is not alone in the challenges it faces – and we are already benefitting from the experiences of others and the resources that membership in this impressive group includes.
- The community has a recent history of bouncing back in the wake of disasters – the 2013 flood and before that, a series of wildfires – so there is familiarity with the importance of resilience as well as some pride and momentum created by that survivor spirit.
- The city is reinvigorating its engagement with individual community members and neighborhoods. All City Council meetings and study sessions, as well as many board and commission meetings are being televised live and offered for viewing later, and the city is in the process of hiring a Neighborhood Liaison. There is agreement among city leadership that resilience would be a good starting point for this new liaison. We are also becoming more adept at utilizing effective listserv communication tools, Inspire Boulder and video to share our story with a wider audience.
- There are several significant engagement efforts occurring in 2015, including the BVCP update, the Human Services Master Plan and Boulder’s Climate Commitment, that are closely linked with resilience and provide clear opportunities for integration. (This is also a bit of a challenge, as it requires more coordinated and strategic planning, as well as cross-departmental communication. If not managed well, this could lead to action paralysis and overwhelming complexity.)
- Boulder is a community of highly educated people who are passionate about a variety of issues and have shown a willingness to tax themselves to promote a future they believe in. It is also home to the University of Colorado’s flagship school and federal labs that could serve as strong partners in this work.

Audiences

1. External

- a. Individual community members
- b. Neighborhood groups (both formal and informal)
- c. Nonprofit organizations and service providers
- d. Business community and potential investors in community resilience efforts
- e. Institutions, including the University of Colorado-Boulder, schools and federal labs
- f. First responders
- g. Other resilience strategy stakeholders
- h. 100 Resilient Cities organization and peer cities

2. Internal

- a. City staff members in departments that are most likely to be called upon to provide support in crisis situations
- b. City staff members in departments that are building infrastructure, social networks and policies to improve resilience in the event of future stresses
- c. Boulder City Council as ultimate adopters of overall resilience strategy

Strategies

- Leverage Boulder's participation in the 100 Resilient Cities program, using strategies and tools that are provided whenever possible, rather than creating new ones.
- Utilize the city's multi-faceted communication and engagement platforms, including the website, a MyEmma account created for resilience, Inspire Boulder, Channel 8 and demonstrated media interest to bring the story and engagement opportunities to where people already are.
- Conduct most, if not all, of our come-to-us engagement opportunities with other planned forums where there is a clear relationship or nexus with resilience and the scheduled topic, i.e. the Boulder Matters approach of several years ago.
- Identify and leverage any door-to-door/face-to-face engagement opportunities by city department, i.e. Fire, LEAD and the CU Green Teams, water conservation, OSMP, etc. through which we can share resilience messages and invite participation.

- Tailor the resilience definition to Boulder’s unique needs, assets and sensitivities. Focus on the attributes of what makes a resilient community and the roles individuals, local government, nonprofits, businesses and institutions can play. Capitalize on Boulder’s can-do attitude, sense of pride and history of leadership, especially around sustainability.

Tactics

- Update and improve ResilientBoulder.com, which lives on the city’s overall website (by early February)
- Build out ResilientBoulder listserv group, create template and start an editorial calendar for a minimum of bi-monthly updates related to this effort (by early February)
- Provide communications support to let internal audience members know about stakeholder mapping, overall process and need for/value of their participation and coordination with other related engagement efforts (February and early March)
- Build and promote external survey to community members and maybe businesses/non-profits/institutions about what they perceive as biggest risks and opportunities (Mid-February to early March)
- Partner early with new Neighborhood Liaison to chart plan for using resilience as a key concept in introductory meetings. Create a calendar, communications materials and a staffing plan to attend targeted neighborhood meetings (start in mid-February with outreach continuing through the end of December)
- Work with Channel 8 on a three- to five-minute video tracing Boulder’s work to date on examining the issue of resilience and several likely components of a forthcoming strategy to drive community interest in offering feedback on draft plan (April-May)
- Plan and execute a resilience component at a minimum of six open houses/engagement events that are being held in 2015 (throughout the year)
- Use Channel 8, social media and InspireBoulder as auxiliary methods for sharing surveys, information about events and drafts of the strategy for community feedback. (throughout the year)

- Solicit and provide information for Daily Camera articles both at the height of seeking community engagement around challenges and opportunities and at the time of rolling a draft strategy out for community vetting (at appropriate points in the process)
- Youth engagement photo project with YSI and Growing Up Boulder

Key Messages:

- Boulder is focusing on resilience to preserve the quality of life we enjoy today and support our community's commitment to leaving a strong and sustainable city for generations to come.
- Resilience, put simply, is the ability of a community to not only bounce back, but bounce forward in the face of stress. Some of the stresses will come on more suddenly, like the 2013 flood, wildfires, acts of violence or pandemics. Others are more gradual and take their toll over time, such as economic recession, social inequality, or the declining health of a community and its members.
- True resilience will require involvement from all sectors of our community, as well as individual participation and accountability.
- We can do this! Boulder has shown time and again that it has the innovation, grit and commitment to rise to challenges and find solutions.
- The city's selection as one of the 32 inaugural 100 Resilient Cities initiative gives us a unique and valuable opportunity to build partnerships, expand our resources and learn from other communities.
- In today's world, every one of us is vulnerable to change and stress, both chronic and acute, and planning for this can mitigate its negative impacts and have positive side benefits, such as building a sense of community, lessening anxiety about the what ifs and helping our children learn to cope and adapt in uncertain times.
- Get involved, stay involved and help us build our community's resilience!

Resources:

There is no non-personnel budget associated with this effort. All communications work will be conducted by Sarah Huntley, media relations/communication manager, in partnership with communication counterparts at 100 Resilience Cities and with reliance on Chief Resilience Officer Greg Guibert as subject matter/content expert. Outreach and engagement efforts will be dependent upon the availability and training of existing city staff, likely across departments and projects. We will need assistance from the newly hired Neighborhood Liaison as well.

Timeline:

Specific deadlines/timelines are in parentheses next to each tactic, but more generally:

- Assessment phase – January through April 2015
- Draft strategy and vetting with the community – May through December 2015
- Adoption of strategy and initial implementation steps – First half of 2016

Measures of Success:

- Active participation in both external and internal assessment efforts, i.e. stakeholder mapping and the community survey
- Sustained engagement and relationship-building with three targeted neighborhoods in 2015 and presentations to at least eight neighborhood groups throughout the year
- Participation that results in meaningful dialogue and positive community feedback in a minimum of three open houses/engagement opportunities with similar audiences or focus as resilience
- Doubling the starting number of individuals who are signed up to receive e-mail updates on this project and meeting our goals to push out helpful and valuable content at least twice a month
- Webpage analytics that show increasing traffic and click-throughs on ResilientBoulder.com
- An increase in community understanding of resilience and the process the city is taking to draft a strategy
- Active community participation in vetting a draft strategy and the development of clear community recommendations/feedback report to City Council
- Two accurate, positive and well-placed articles in the Daily Camera at the appropriate time
- Generally positive and supportive community feedback about the city's efforts and Boulder's involvement in 100 Resilient Cities

**PIONEERED BY THE
ROCKEFELLER FOUNDATION**

100



CITIES



Resilient Boulder

Agenda



100 Resilient Cities Process and Updates

Timeline

Engagement

Preliminary Resilience Assessment

Boulder's Preliminary Resilience Assessment

Risk Overview and Profile

Resilience Perceptions

City Actions

Conclusion

Goal

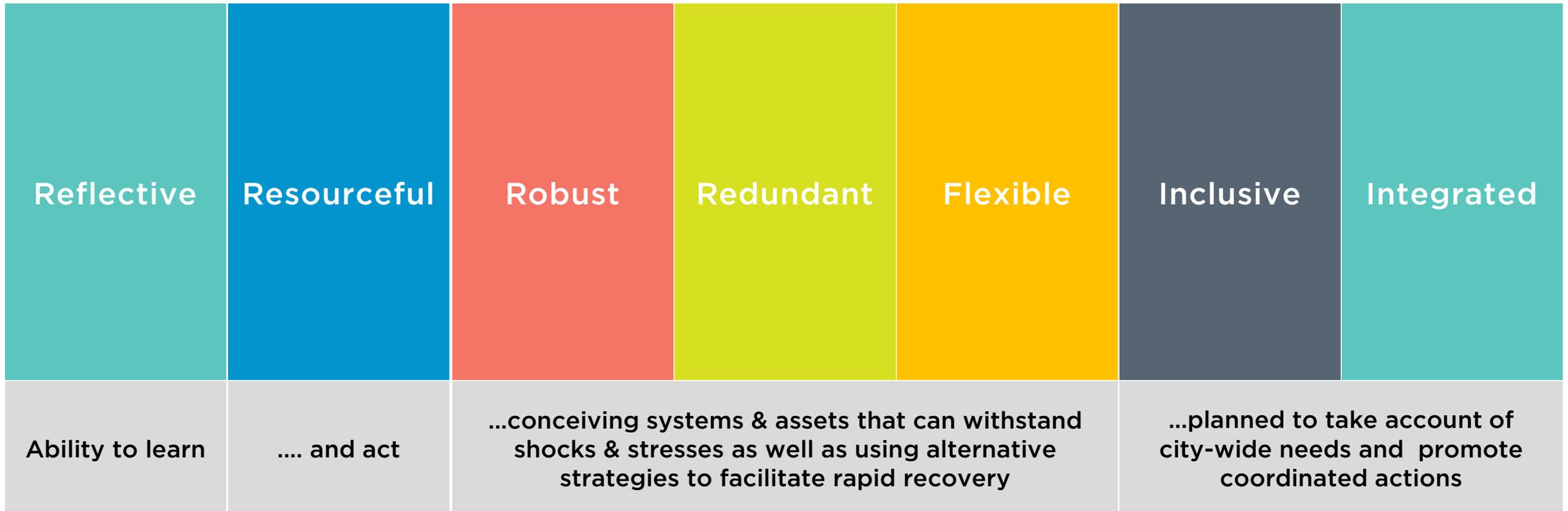


To share findings from early Resilient Boulder Phase I engagements and to get Council feedback on potential Focus Areas for Phase II.

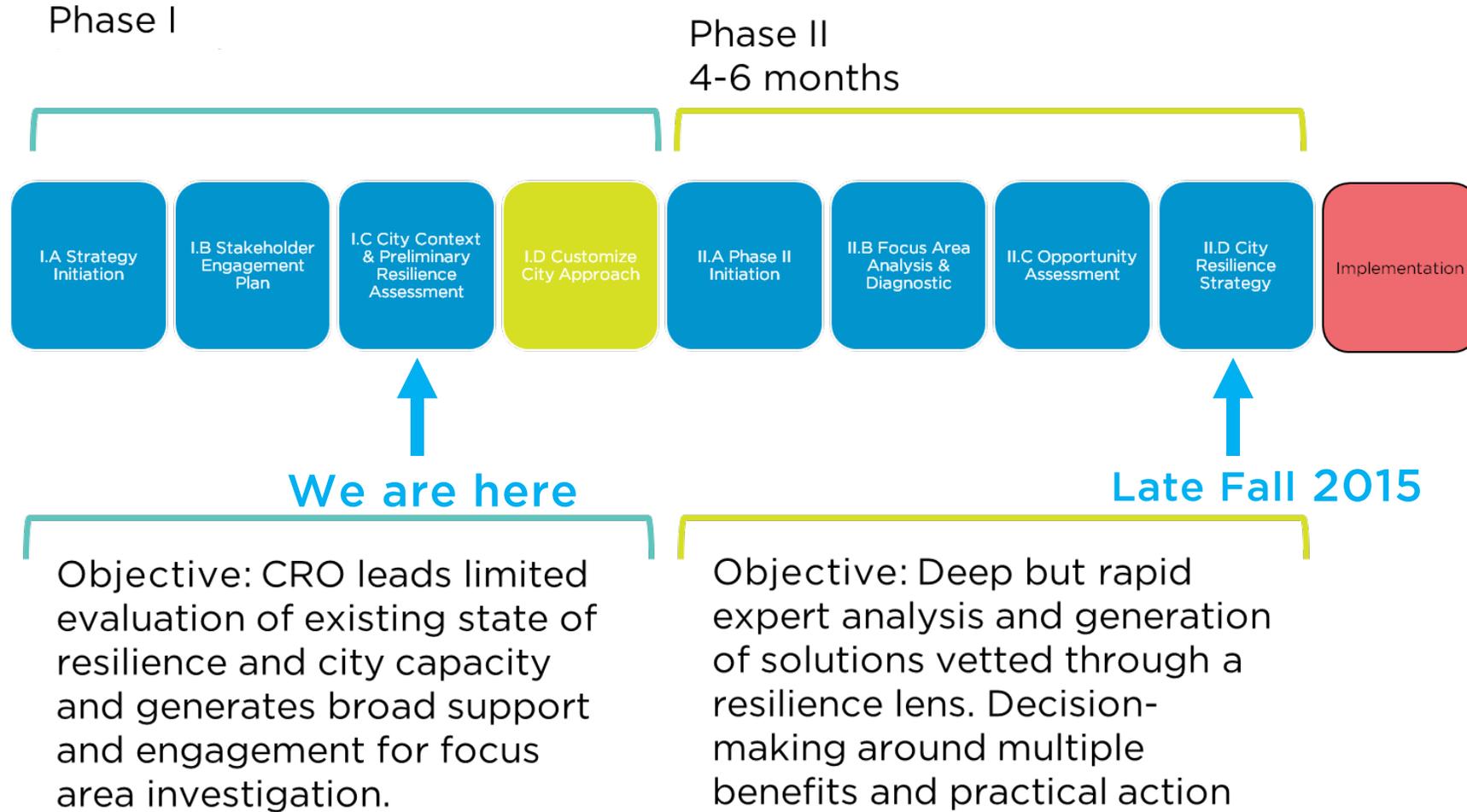


**100 Resilient
Cities
Process and
Updates**

Resilient systems exhibit certain qualities that enable them to withstand, respond, and adapt more readily to shocks and stresses



Timeline

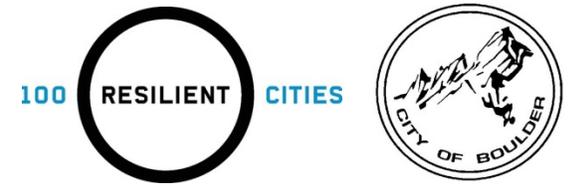


Resilient Boulder Engagement



- **Steering Committee** will meet 2-3 times at important junctures to provide input into development of the Resilience Strategy
- **Working Groups** will coalesce around Focus Area topics as scope of Phase II begins to take shape
- **Partnerships** with Platform Partners, trainings, and events with specific departments (e.g., emergency responders or teams involved in the Comprehensive Planning process) will occur periodically
- **Public engagement** will occur through tie-ins to existing events and initiatives and targeted presentations to neighborhood groups

Steering Committee



- **Charged with providing input** on the development and implementation of the Resilience Strategy
- **Composed of a diverse set of members** who are deeply immersed in the concepts around urban resilience, including representatives from:
 - City of Boulder
 - Boulder County
 - Colorado Recovery Office
 - University of Colorado
 - Private sector
 - Non-profits
 - Philanthropy

Stakeholder Engagement Plan



Goals are to:

- **Raise awareness** about the concept of resilience and how it applies in a variety of contexts related to both acute and chronic shocks and stresses
- Create meaningful, **community-focused engagement opportunities** that educate individuals, groups and neighborhoods about the role they play in building resilience and ways they can help shape Boulder's resilience strategy
- **Promote Boulder's participation** in the 100 Resilient Cities effort, as well as the value to the community of this partnership

Phase I Inputs and Outputs

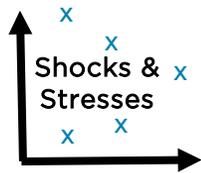


Inputs

Stakeholder



Planning



Unique City Context



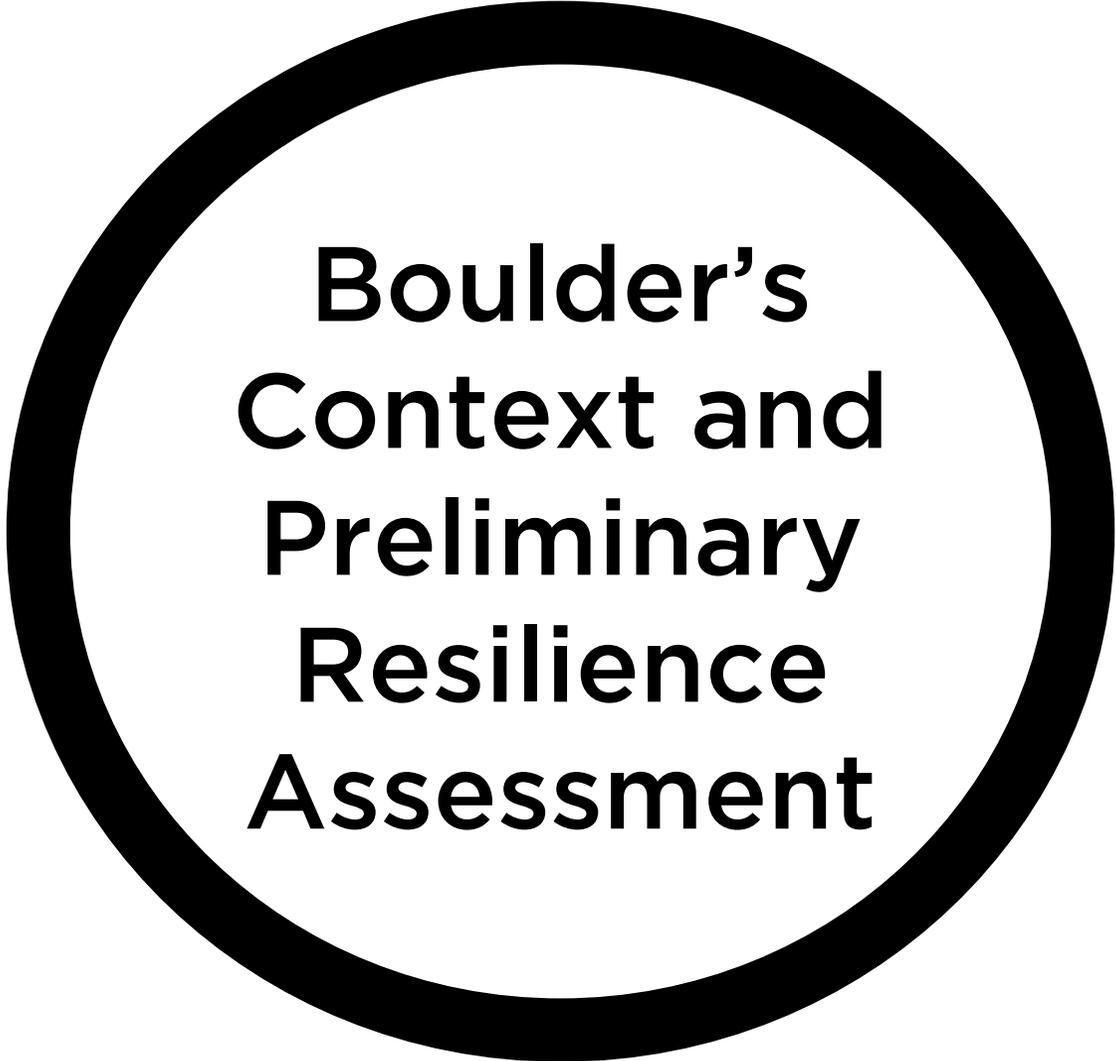
Preliminary Resilience Assessment



Validated by Steering Committee



Outputs



**Boulder's
Context and
Preliminary
Resilience
Assessment**

Risk Overview

Results from March 2015 Resilient Boulder mini-workshop

- Well-defined risk from shocks, such as **wildfire, flooding, and drought**.
- City has opportunities to **improve capacity to address chronic stresses** (e.g., housing affordability, economic diversity, income inequality).
- **Social assets** identified through March 2015 mini-workshops include:
 - Retail stores
 - Tech and scientific community
 - Cycling community
 - Local food production systems

We learn a lot from anecdotal conversations, which allow us to identify issues before they start to show up in the data.



Mike Chard
Director,
Boulder Office of
Emergency Mgmt

Risk Profile

Results from March 2015 Resilient Boulder mini-workshop
Incorporating analysis of hazard mitigation plans and April 2014 workshop feedback



High risks

Drought
Floods
Pandemic flu
Wildfire
Winter storms

Medium risks

Dam failure
Extreme temperatures
Infrastructure/building failure
Hazardous materials accident

Top stresses linked to shocks

Environmental degradation

Transportation options

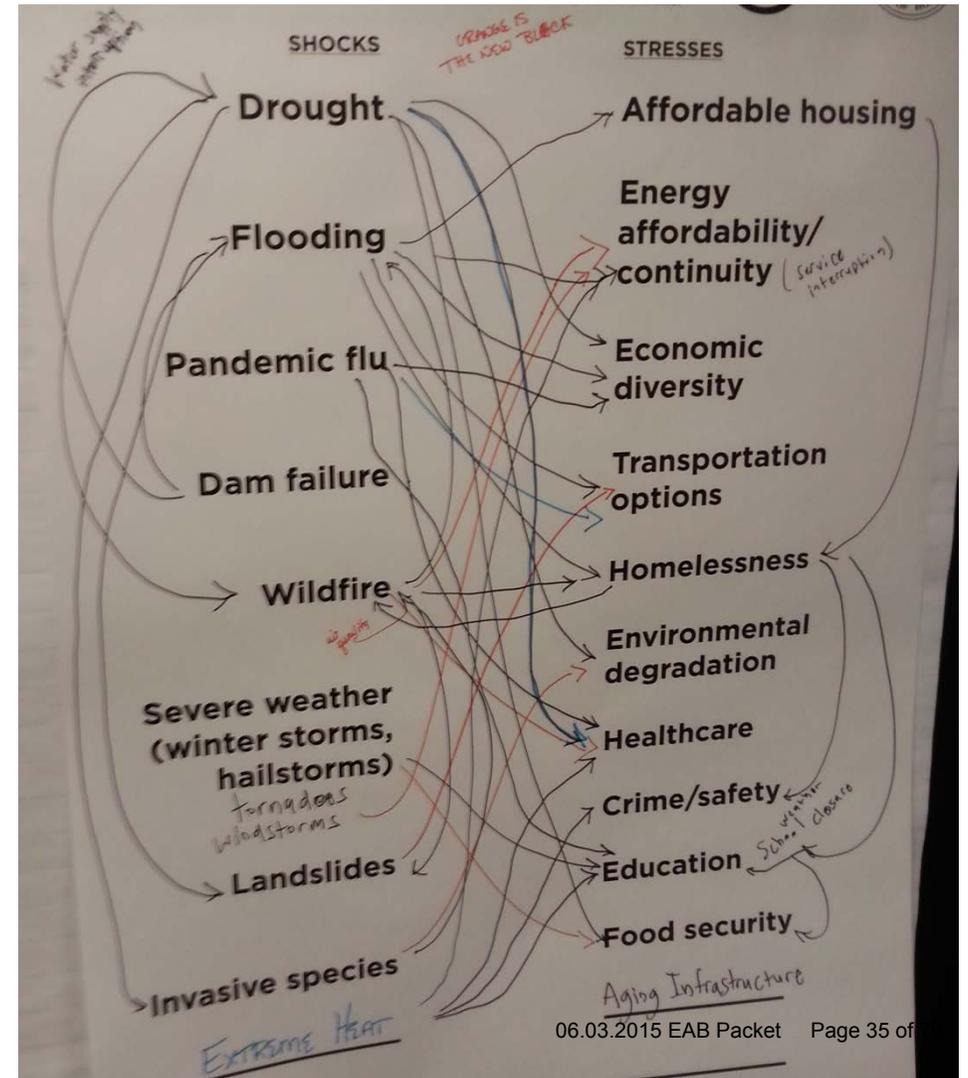
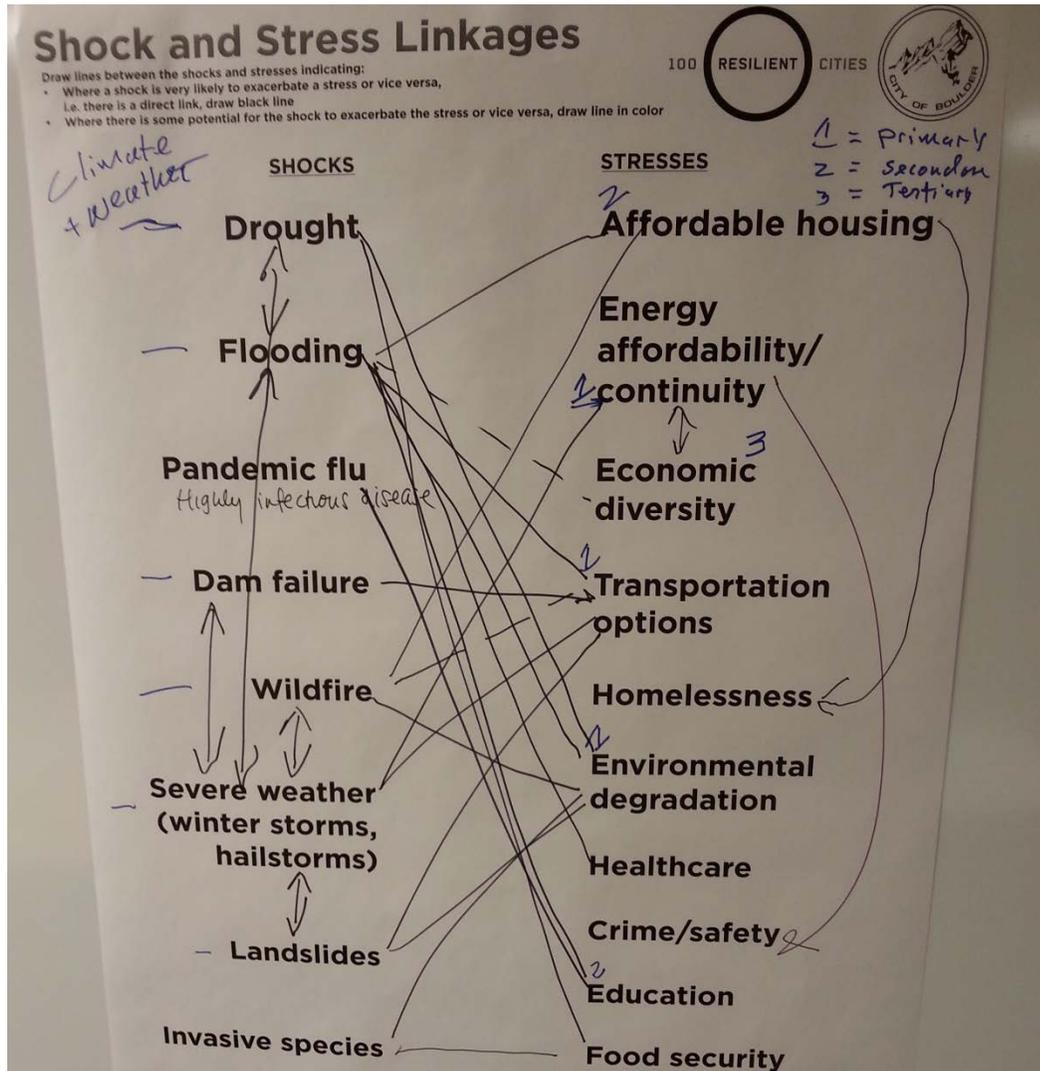
Energy affordability/continuity

Economic diversity

Housing affordability

Interrelationship of Risk

Results from March 2015 Resilient Boulder mini-workshop
 Incorporating analysis of hazard mitigation plans and April 2014 workshop feedback



Phase I Inputs and Outputs

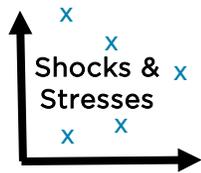


Inputs

Stakeholder



Planning



Unique City Context



Preliminary Resilience Assessment



Validated by Steering Committee



Outputs



Phase I Inputs and Outputs

Inputs

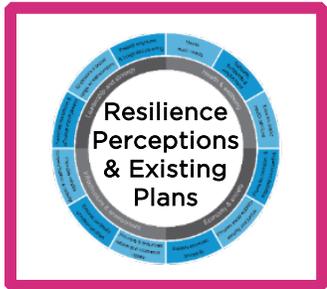
Stakeholder



Planning



Shocks & Stresses



Unique City Context



For discussion today through the lens of City Resilience Framework

**Kickoff Workshop
April 2014**

**Citywide Online Survey
February 2015**

**Topic-Based Workshops
March 2015**

Preliminary Resilience Assessment



City resilience has four key elements:

- Health and wellbeing
- Economy and society
- Infrastructure and environment
- Leadership and strategy



Preliminary Resilience Assessment



City resilience has four key elements:

- **Health and wellbeing**
- **Economy and society**
- **Infrastructure and environment**
- **Leadership and strategy**



Preliminary Resilience Assessment



City resilience has four key elements:

- Health and wellbeing
- **Economy and society**
- Infrastructure and environment
- Leadership and strategy



Preliminary Resilience Assessment



City resilience has four key elements:

- Health and wellbeing
- Economy and society
- **Infrastructure and environment**
- Leadership and strategy



Preliminary Resilience Assessment



City resilience has four key elements:

- Health and wellbeing
- Economy and society
- Infrastructure and environment
- **Leadership and strategy**

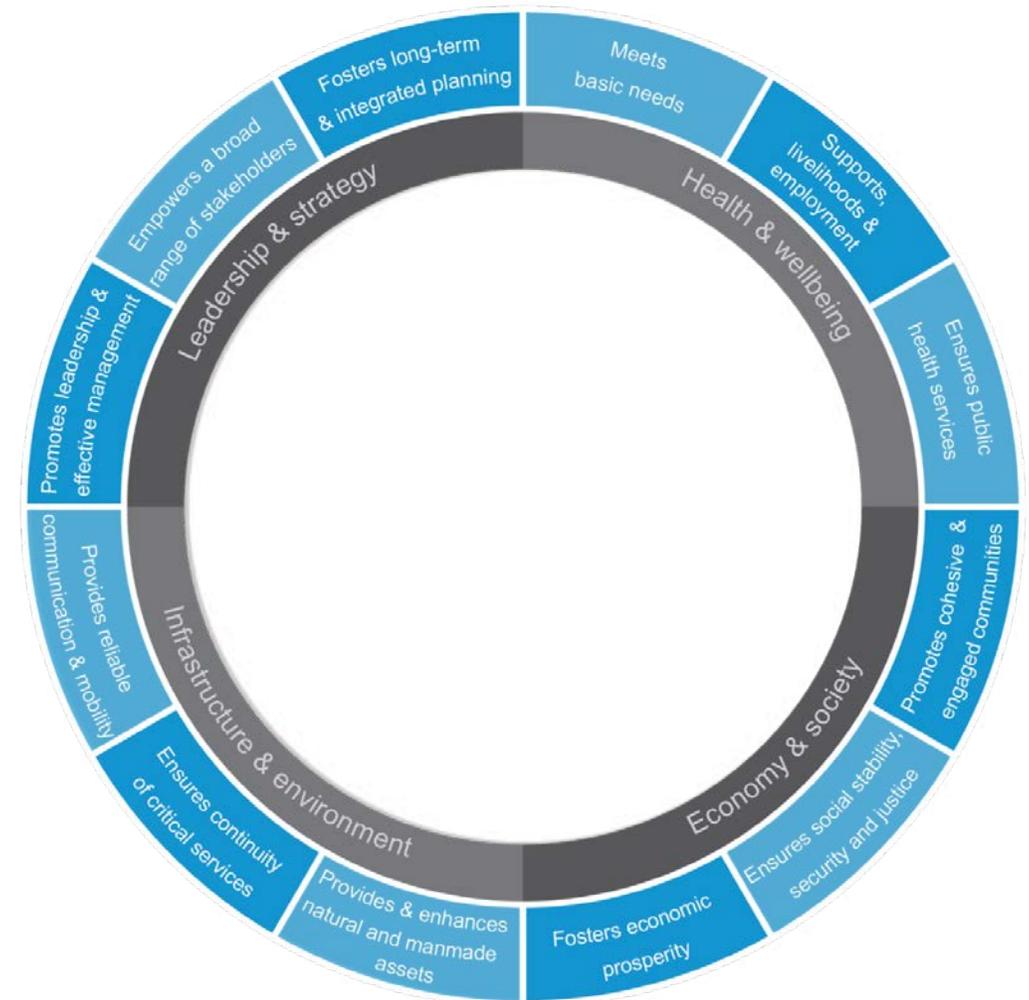


Preliminary Resilience Assessment



City Resilience Framework

The 12 drivers in the City Resilience Framework collectively determine the city's ability to withstand a wide range of shocks and stresses.

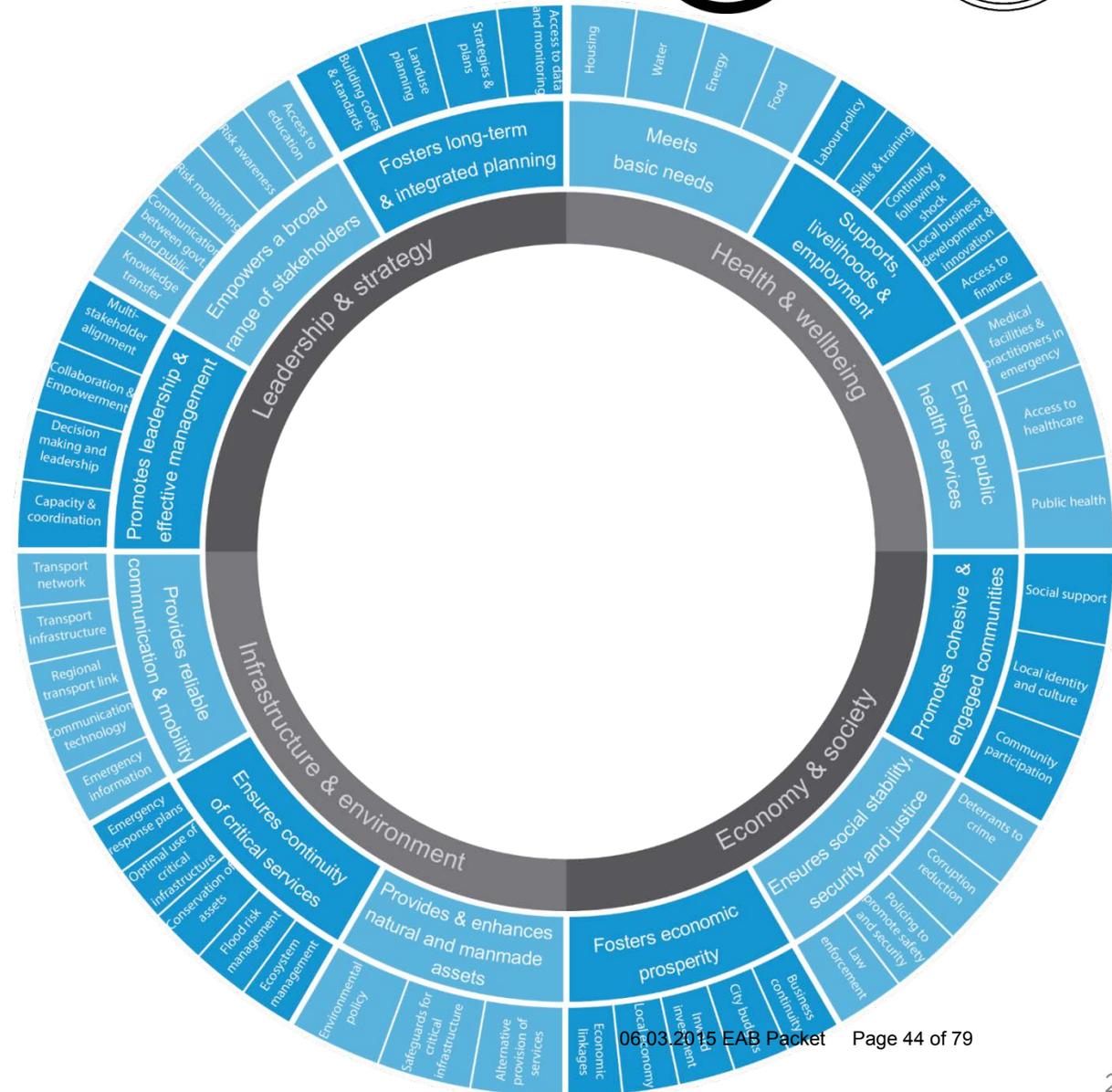


Preliminary Resilience Assessment



City Resilience Framework

These drivers are comprised of **50 indicators**, 3-5 for each driver. We used a condensed list of these indicators to gauge Boulder's resilience through the Preliminary Resilience Assessment.



Resilience Perceptions

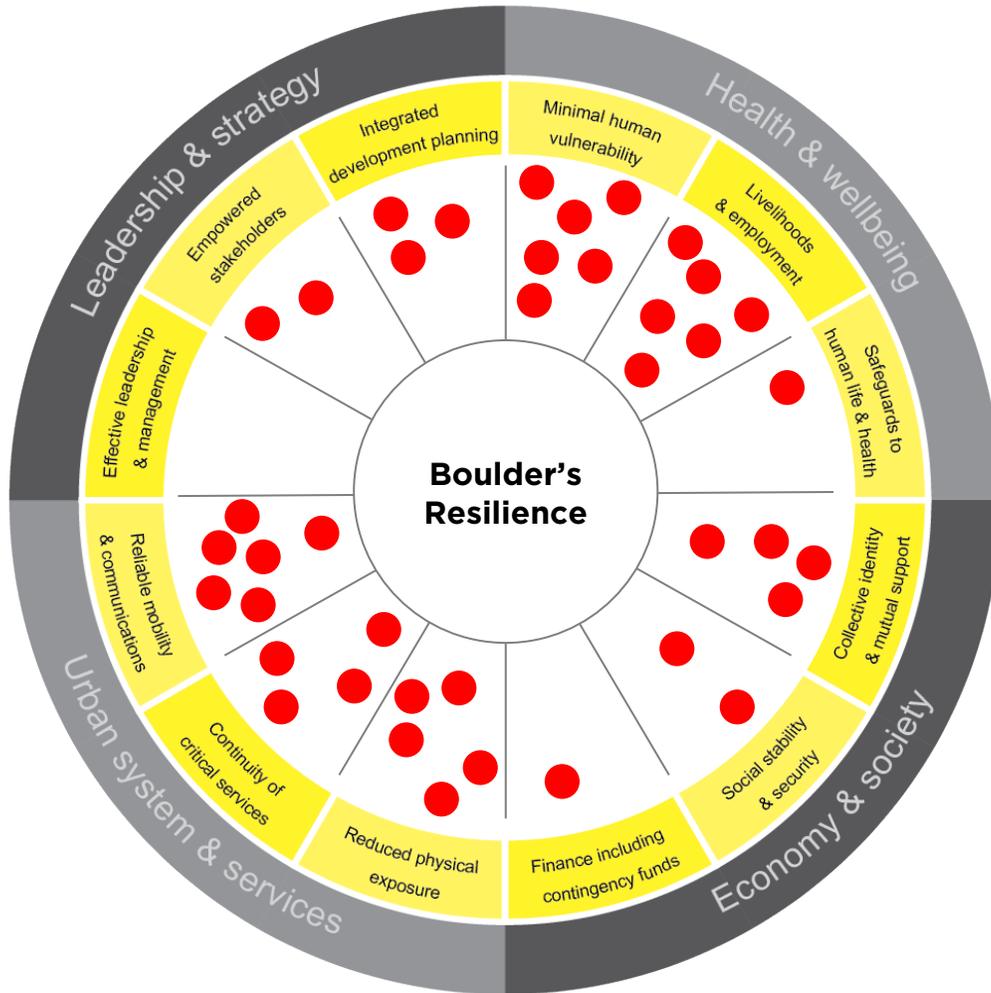
Results from April 2014 Resilient Boulder Kickoff Workshop

Kickoff Workshop

Using an earlier version of the City Resilience Framework, workshop participants in April 2014 identified the following as particular weaknesses:

- Minimal human vulnerability
- Livelihoods and employment
- Reliable mobility and communications

Discussion around these topics occurred before the standardized development of indicators, meaning participants brought their own interpretations to each driver.



● = Group consensus around weakness

Resilience Perceptions



Citywide Online Survey

Over 400 respondents provided ratings on the list of indicators. Major survey takeaways:

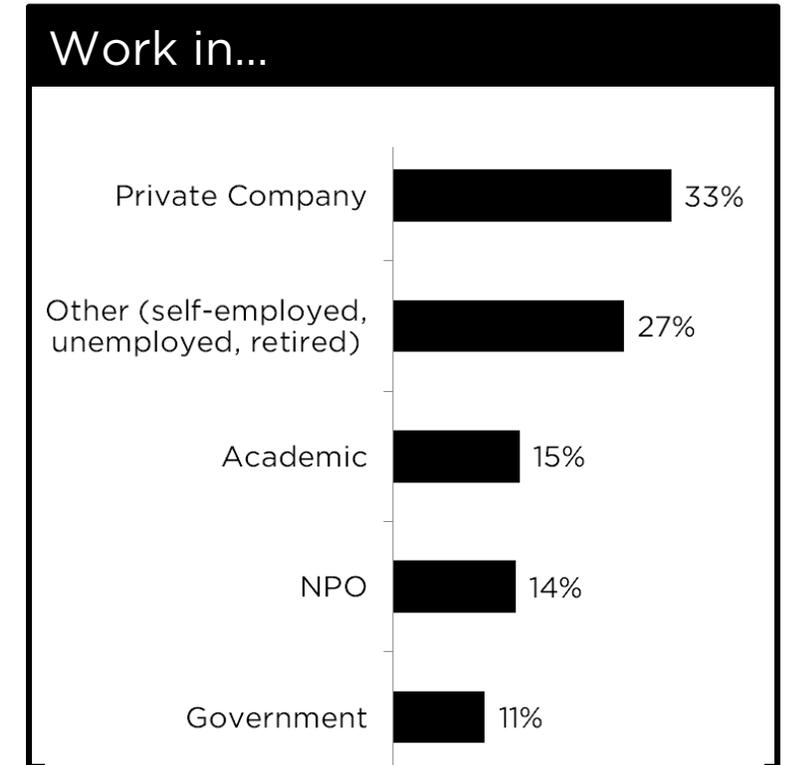
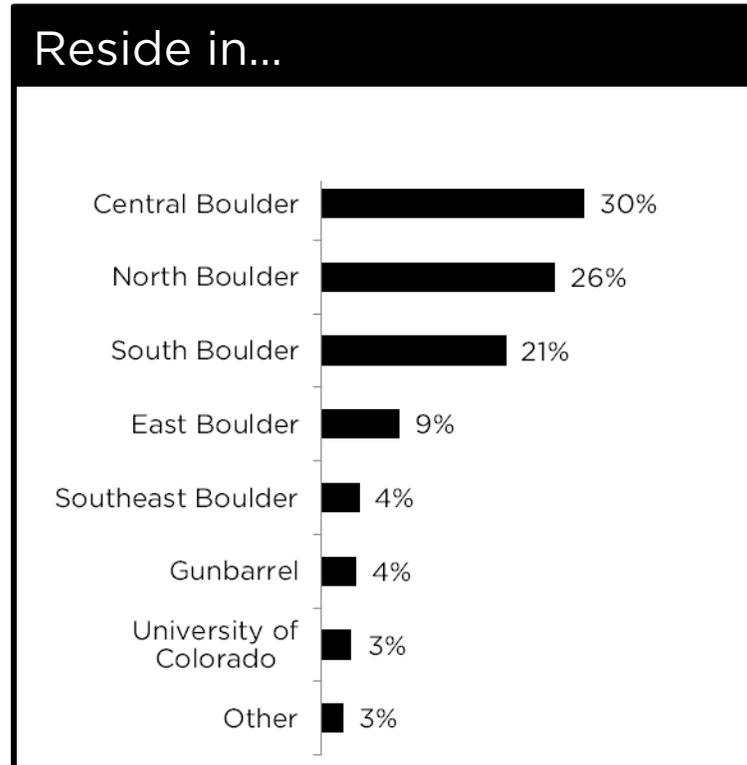
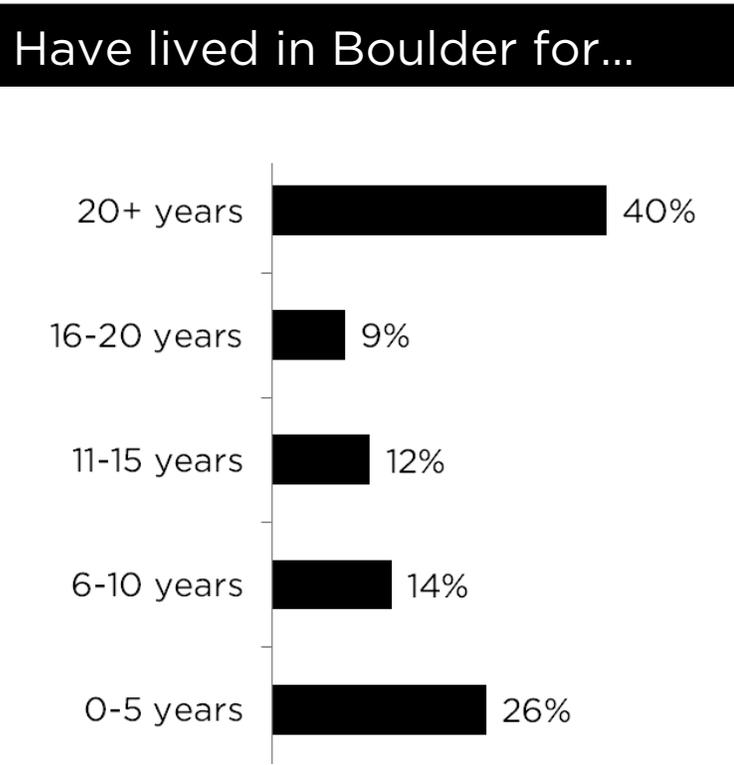
1. Boulder views itself as a **green, safe, and prosperous** city.
2. Boulder **seeks increased diversity and more inclusive public processes.**
3. Some respondents were **uncomfortable with terminology, jargon, and/or felt unqualified to answer certain questions.**

Resilience Perceptions



Citywide Online Survey

Resident respondents...

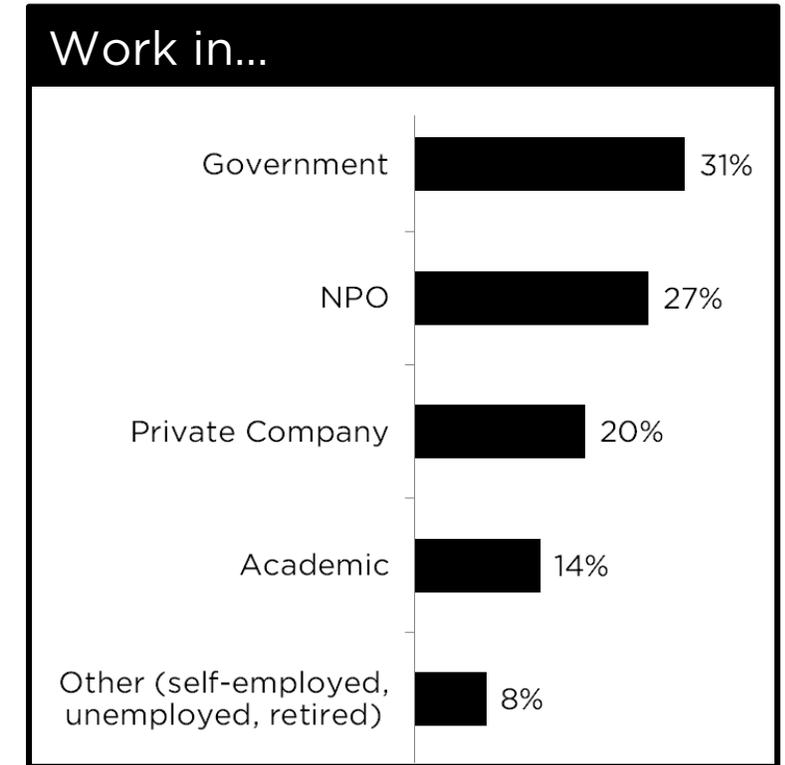
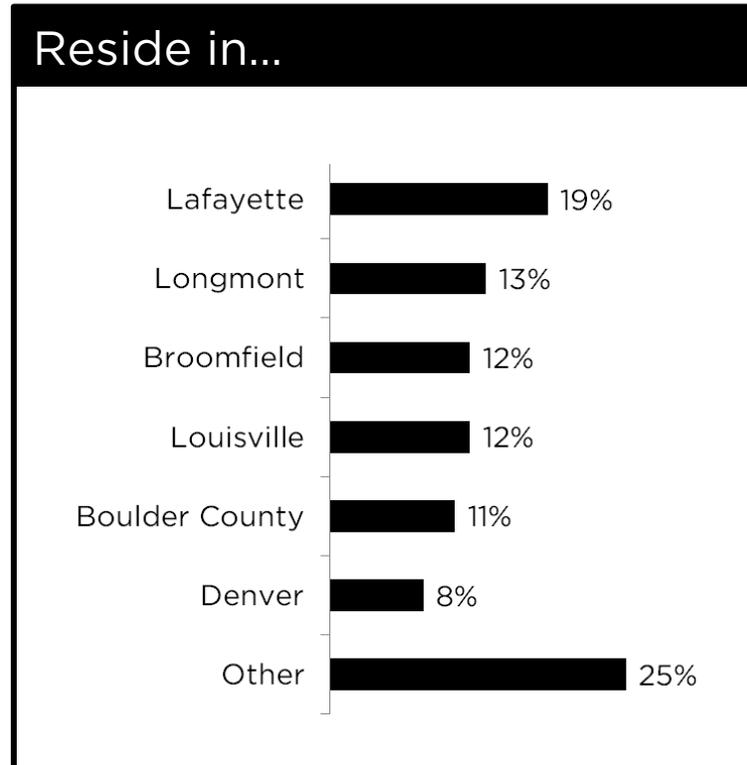
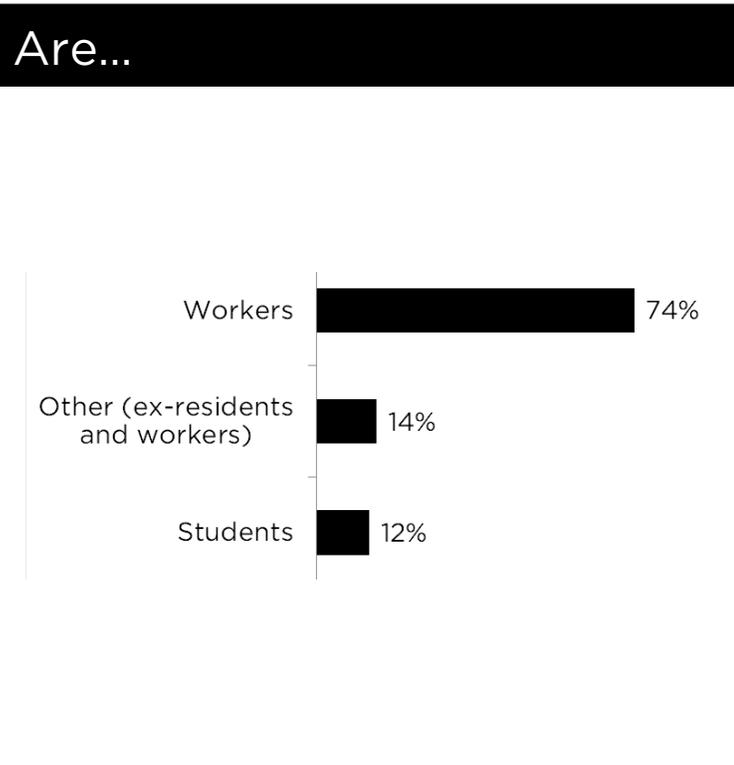


Resilience Perceptions



Citywide Online Survey

Non-Resident respondents...

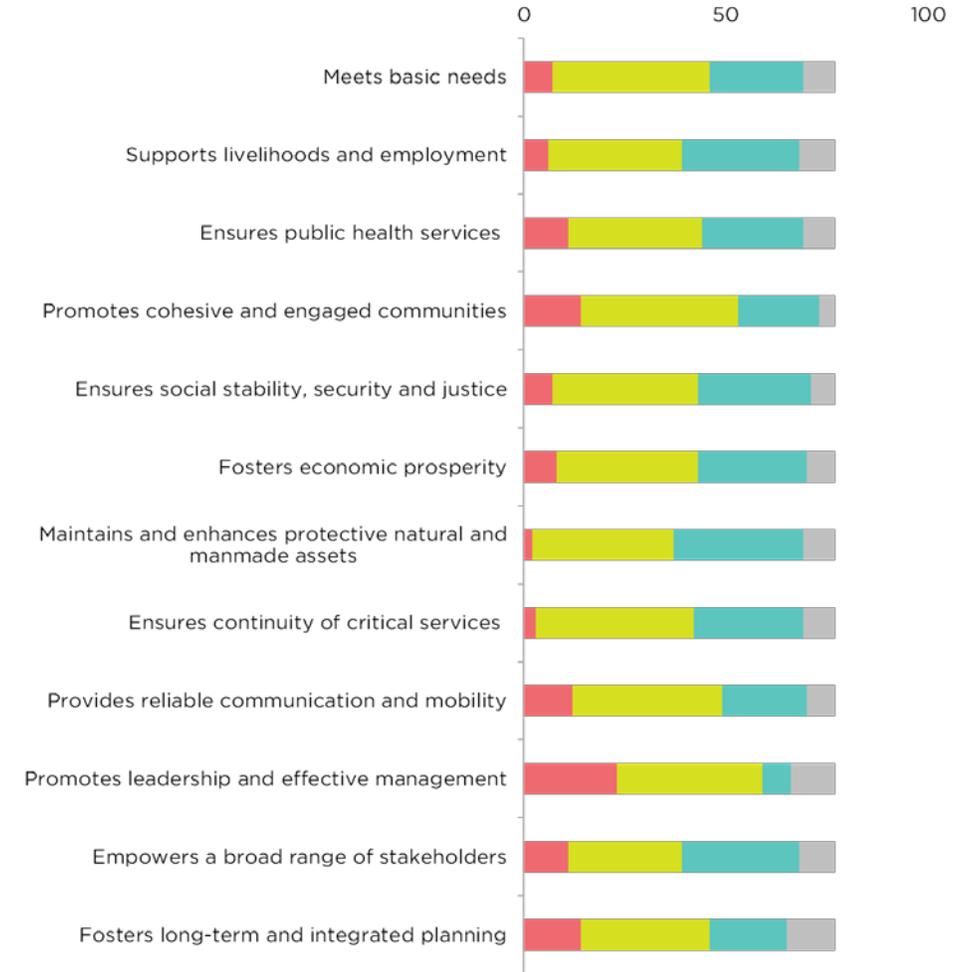
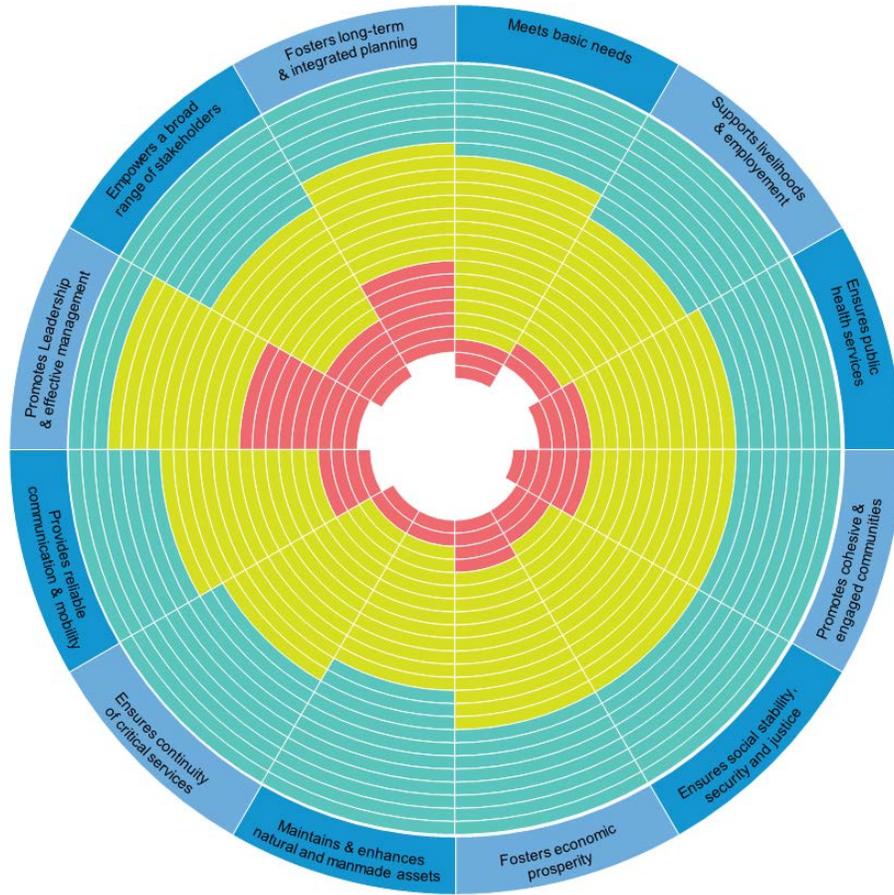


Resilience Perceptions

Results from Citywide Resilience on-line survey



Citywide Online Survey

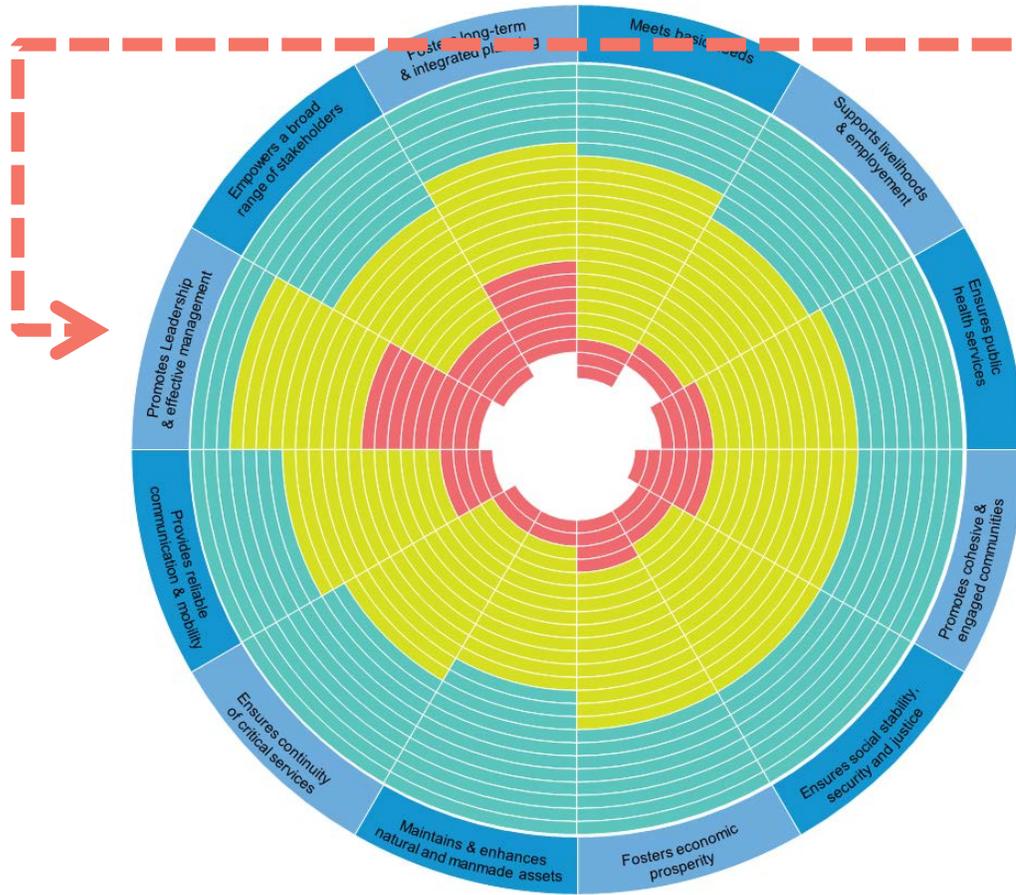


N=435

Resilience Perceptions

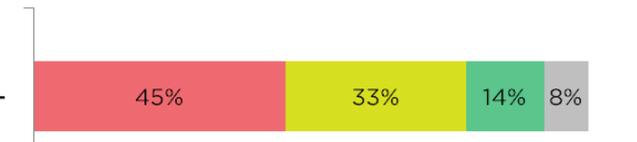
Results from Citywide Resilience on-line survey

Citywide Online Survey



Promotes leadership and effective management

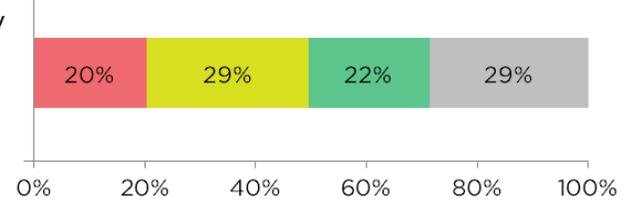
Transparent, inclusive and integrated government decision-making and leadership



Collaboration between all actors involved in city decision-making



Redundant capacity and flexibility in city leadership to resourcefully and effectively manage emergencies

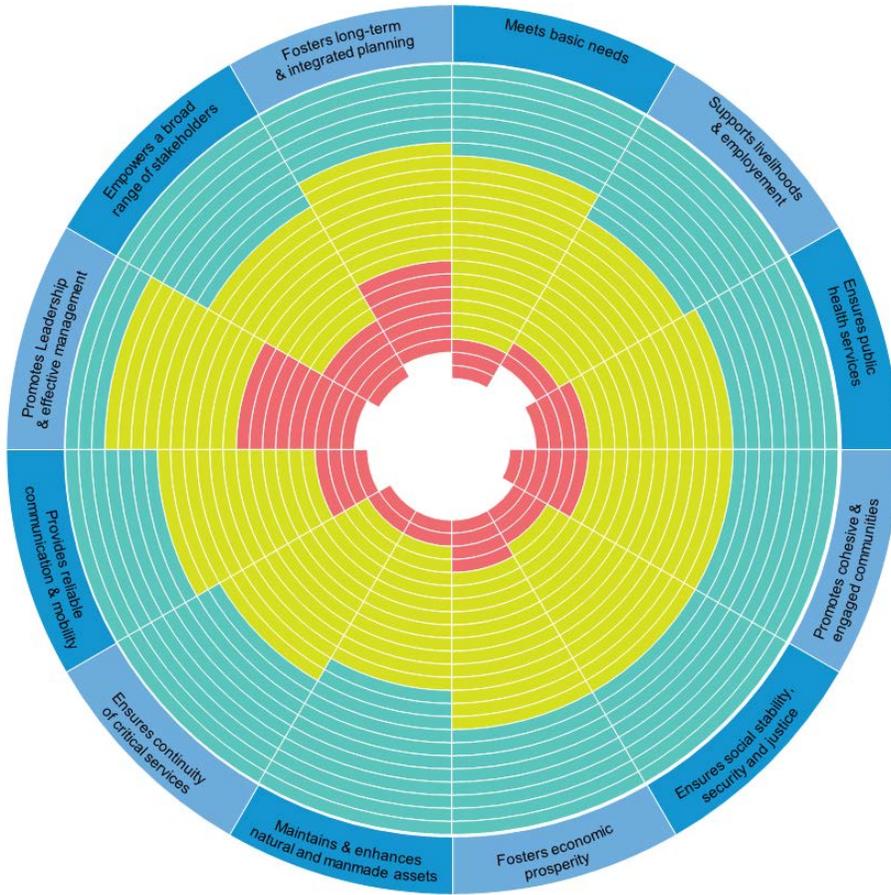


Resilience Perceptions

Results from Citywide Resilience on-line survey



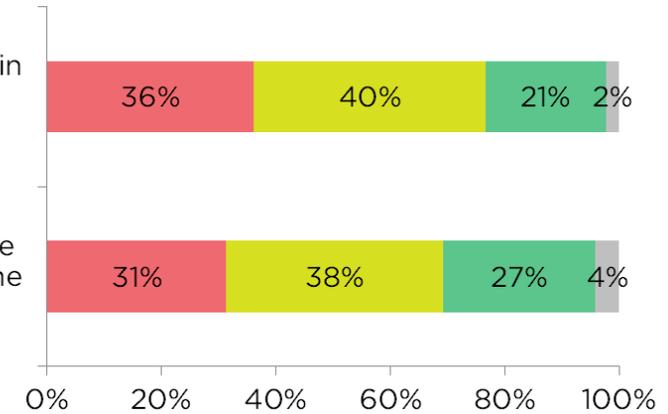
Citywide Online Survey



Promotes cohesive and engaged communities

Integrated local identity and culture, in which all citizens feel a sense of belonging in the city

Resourceful, integrated and inclusive engagement of civil society within the city

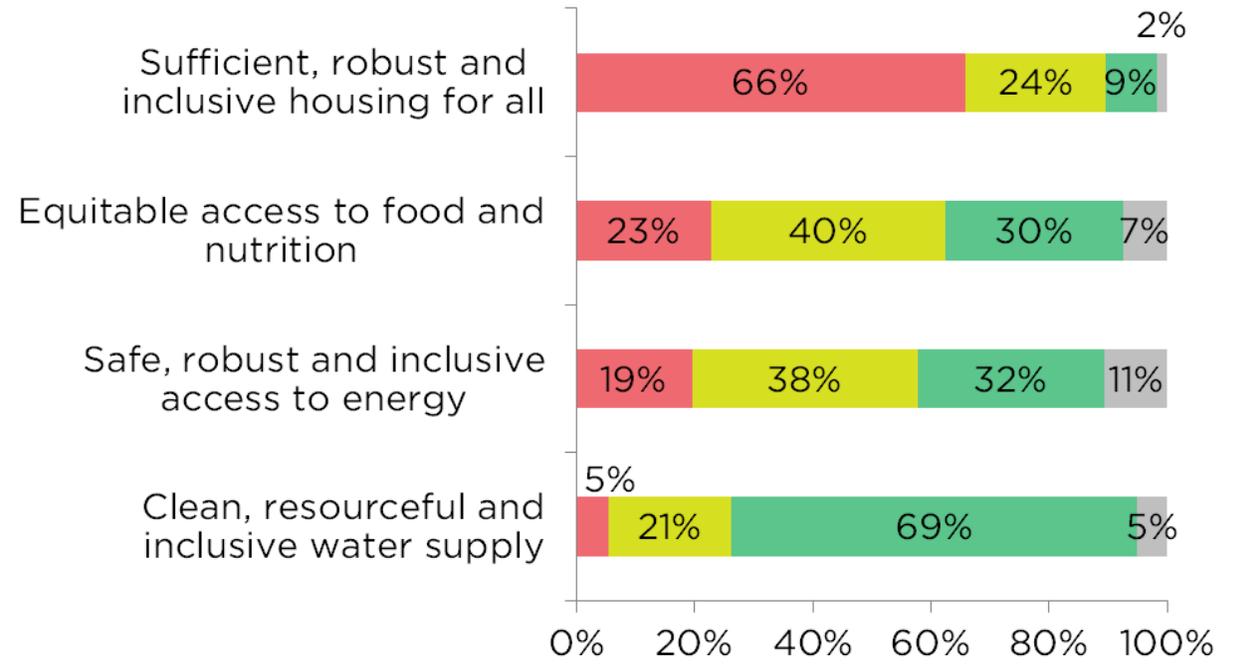
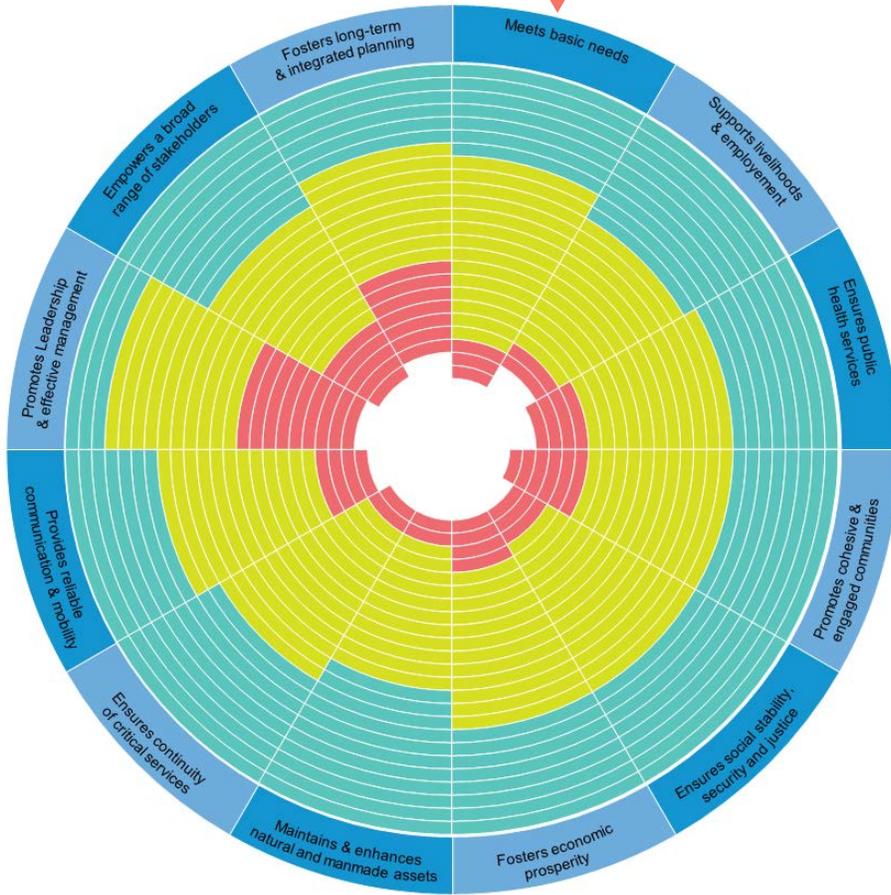


Resilience Perceptions

Results from Citywide Resilience on-line survey

Citywide Online Survey

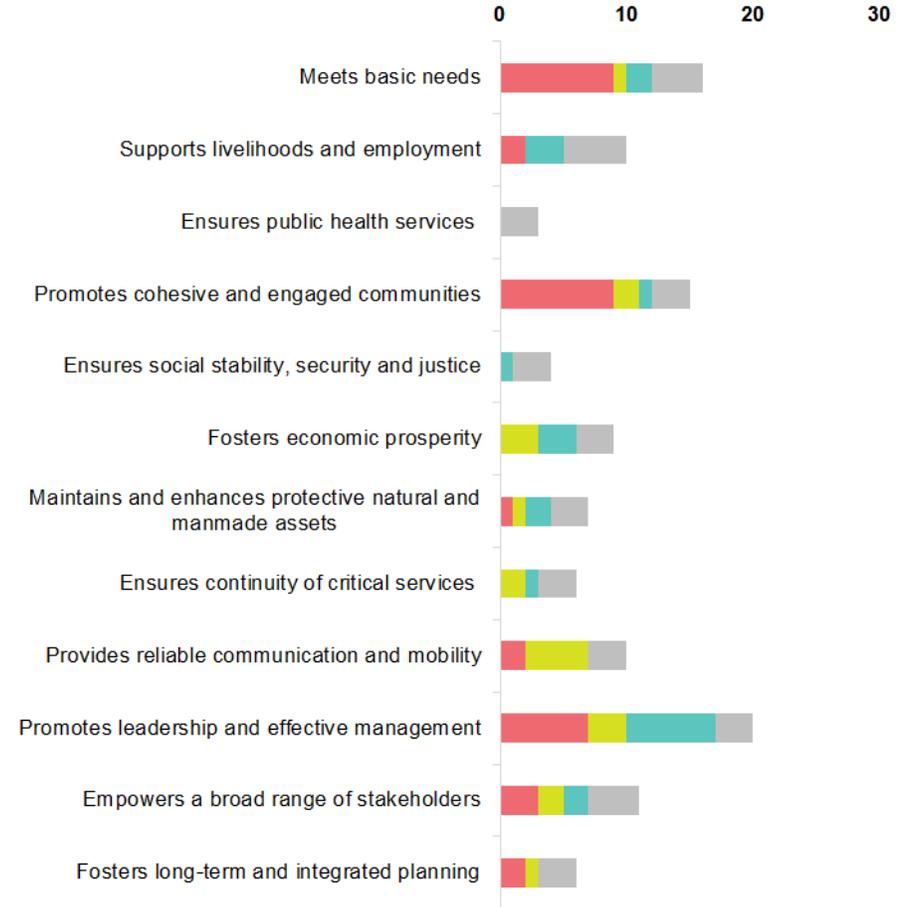
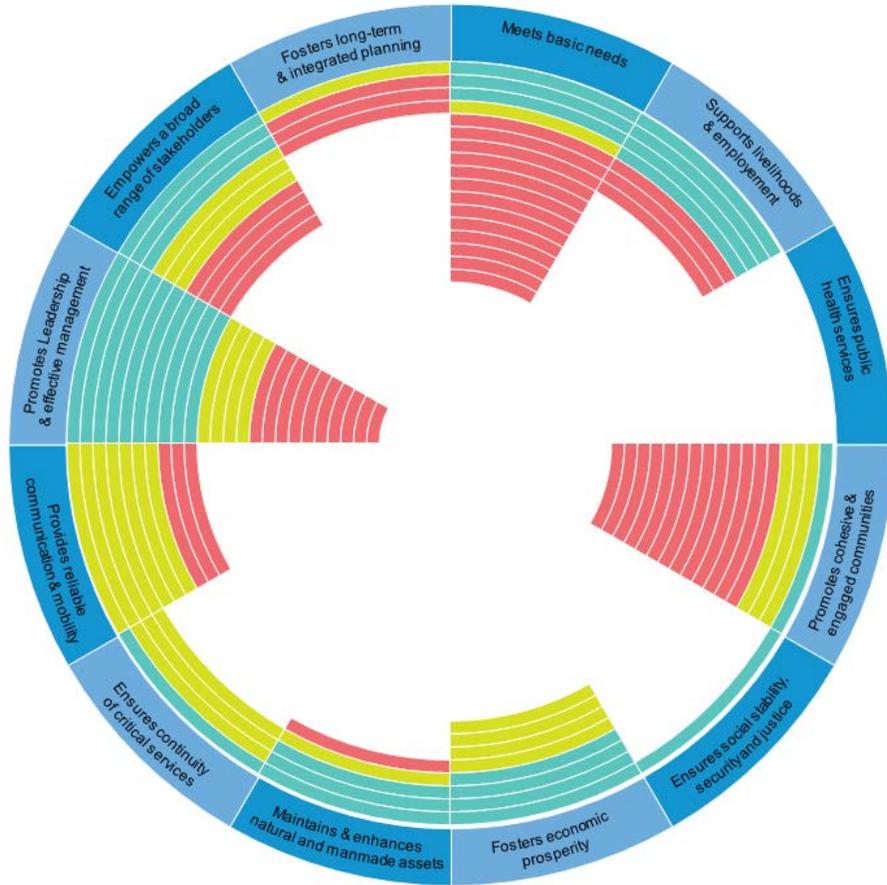
Meets basic needs



Resilience Perceptions

Results from March 17, 2015 perceptions workshop

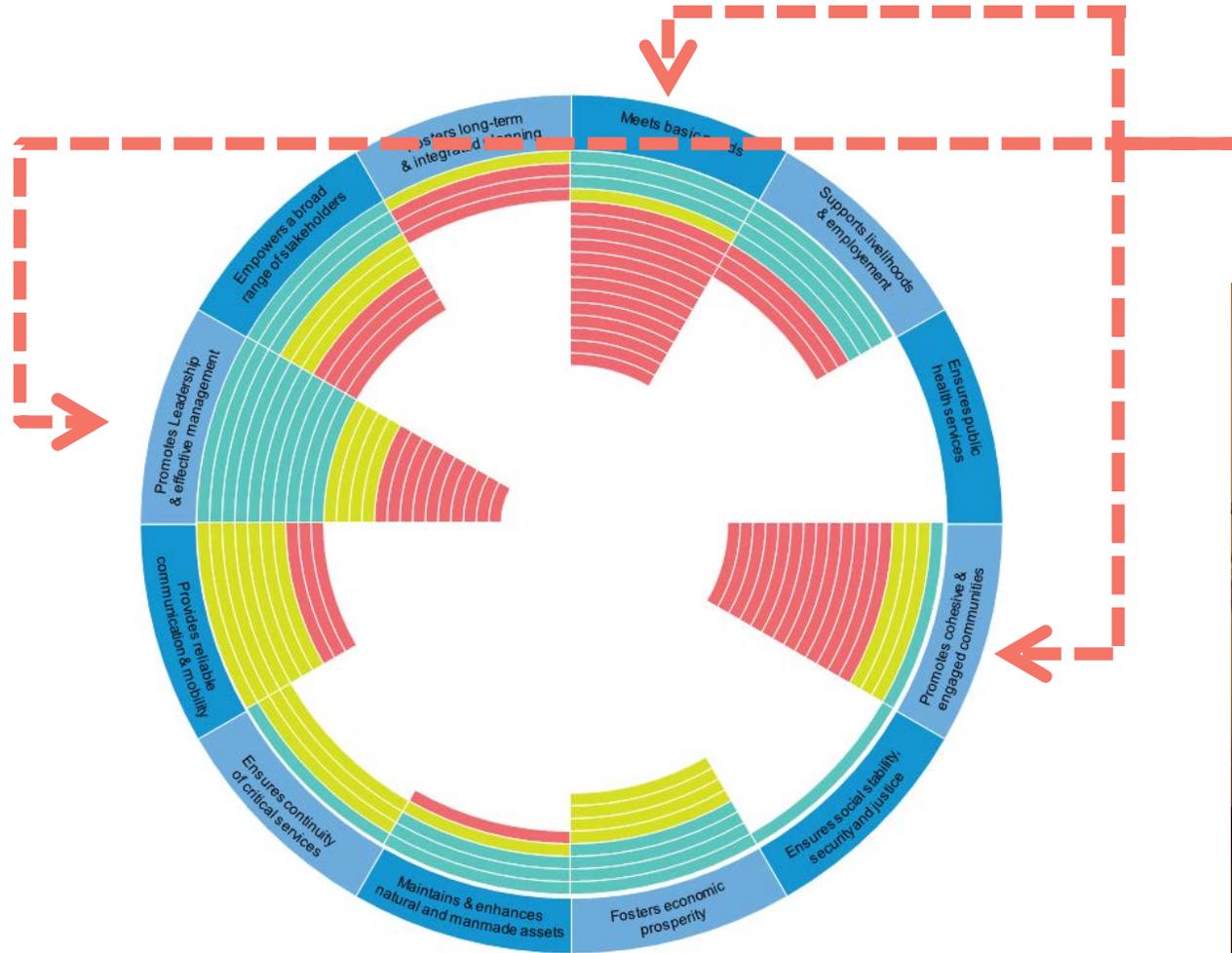
Topic-Based Workshops



N=18

Resilience Perceptions

Results from March 17, 2015 perceptions workshop



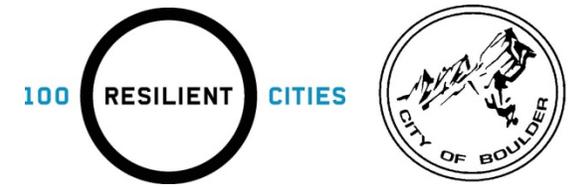
Topic-Based Workshops

Workshop validated survey findings of city's weaknesses.

(Participants were not shown survey results until after the exercise.)



Resilience Actions

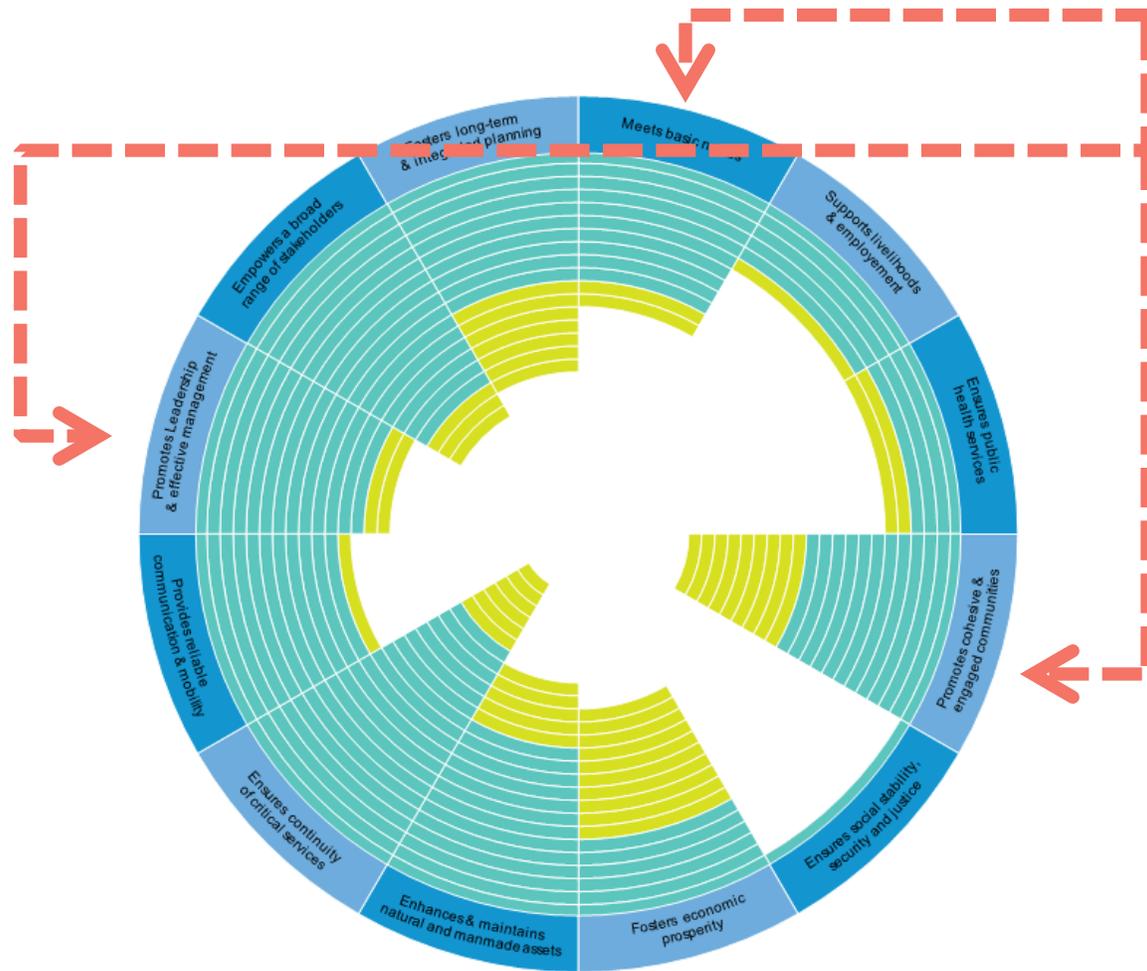


Actions include plans, practices, programs, projects, initiatives, assessments, studies, etc. that are current as well as those that are historical. Actions can thus be ongoing, completed or parked on a shelf awaiting additional resources or political will.

Actions can be compared with the City's Resilience Perceptions to identify what gaps may exist in Boulder's initiatives.

Resilience Actions

Results from March 17, 2015 perceptions workshop



Topic-Based Workshops

Actions exist in categories identified as particular weaknesses in the survey and mini-workshop:

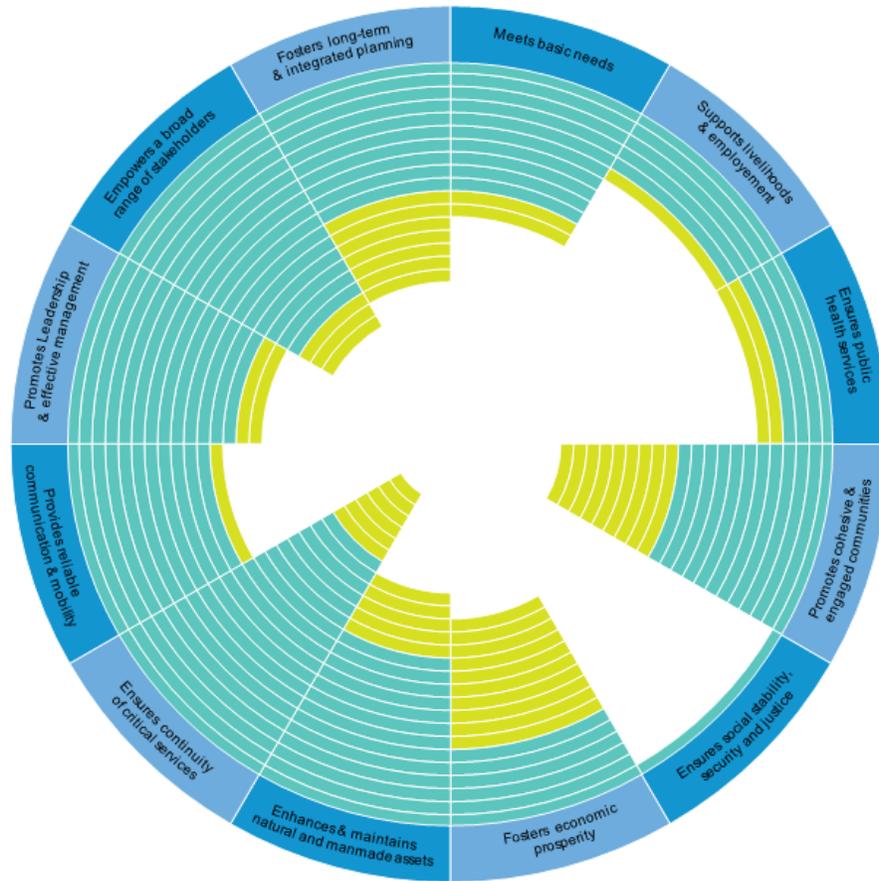
- 1) Housing affordability
- 2) Government transparency
- 3) Community engagement and feedback integration

Resilience Actions

Results from March 17, 2015 perceptions workshop

Topic-Based Workshops

But these initiatives do not necessarily relate to all of the categories within the driver, nor do they reflect the amount of city resources behind these actions.



For example, many actions “Promoting Cohesive and Engaged Communities” are new or in the process of being rethought (Neighborhood Liaison, Code for America).

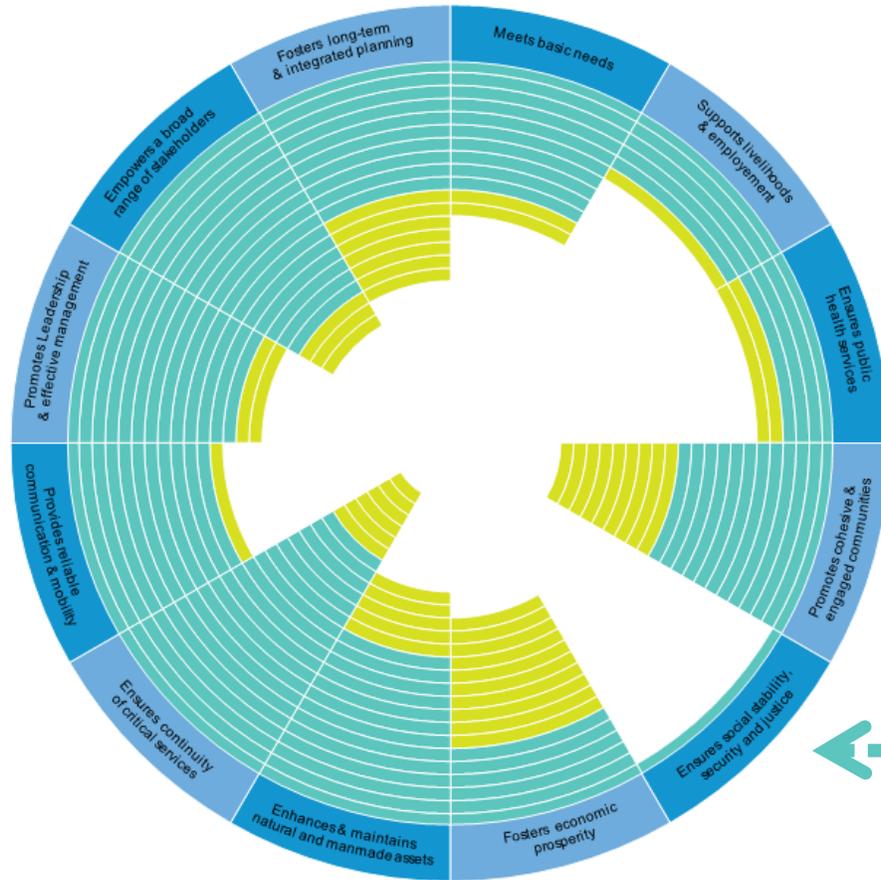
Resilience Actions

Results from March 17, 2015 perceptions workshop



Topic-Based Workshops

Some gaps in identified City Actions were in areas of relative strength for Boulder (public safety) or was a function of who was not represented at the workshop (representatives from health care).

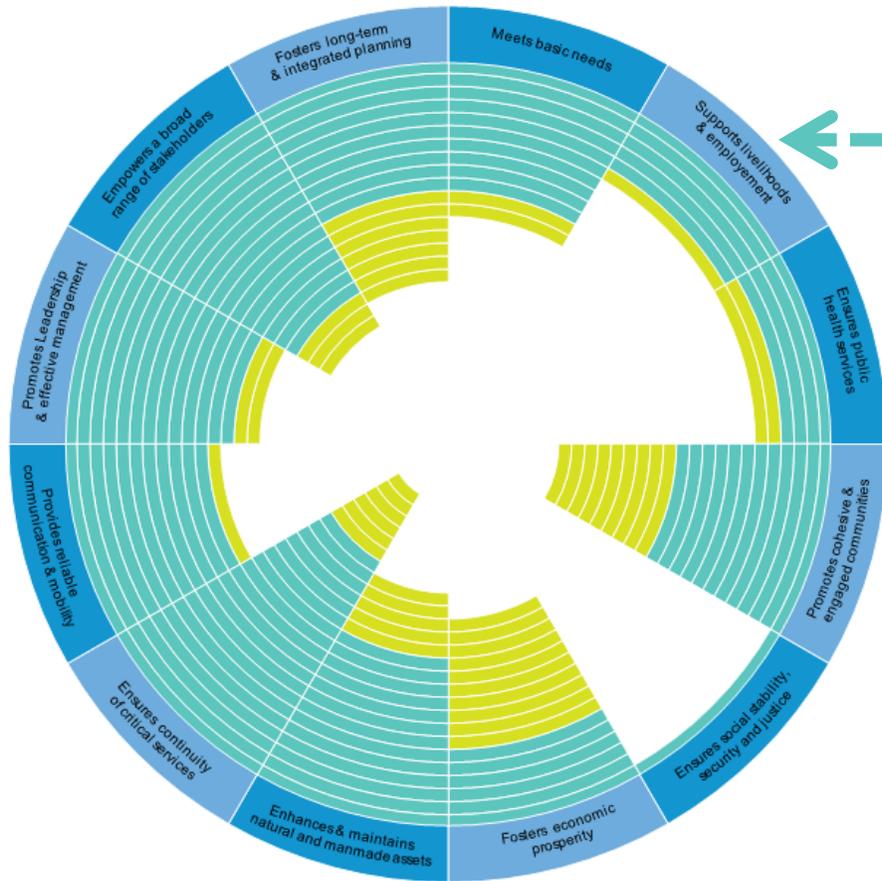


Resilience Actions

Results from March 17, 2015 perceptions workshop

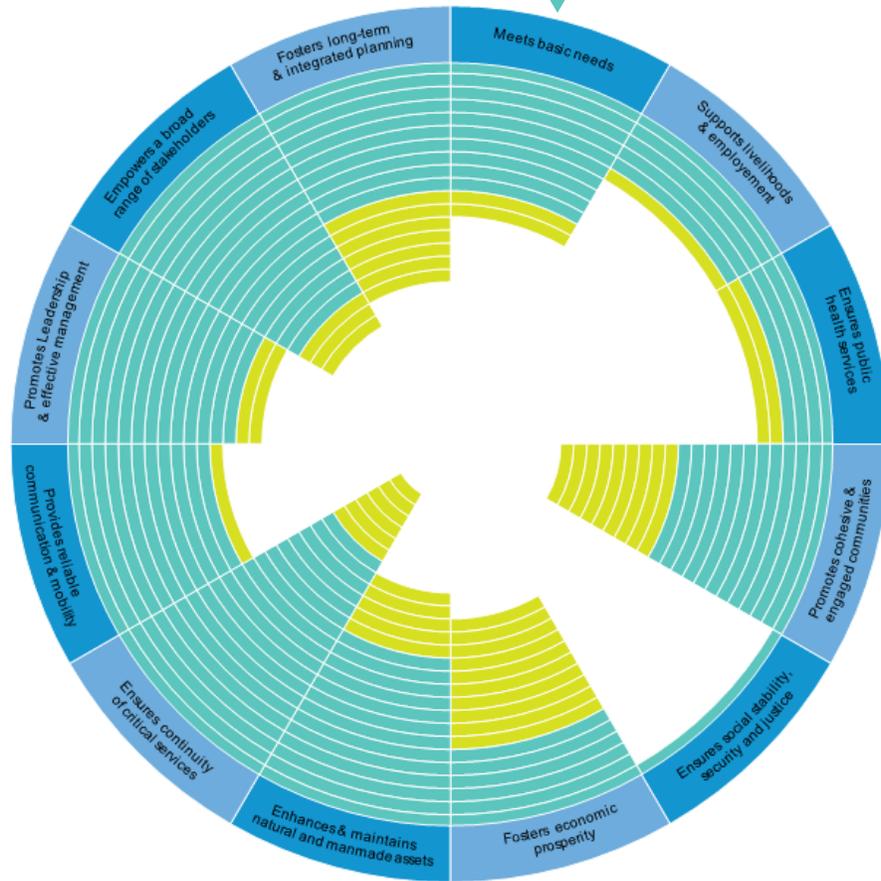
Topic-Based Workshops

Boulder is a very supportive environment for businesses to start up and grow, but face difficulties once they begin to outgrow existing spaces.



Resilience Actions

Results from March 17, 2015 perceptions workshop



Topic-Based Workshops

Other major initiatives and dialogues occurring within the City, such as Boulder’s ongoing examination of energy solutions to meet their carbon-reduction goals, have not yet explored in detail the implications of these initiatives on the City’s resilience.

Perceptions and Actions



Common themes have emerged through the survey and mini-workshops that may help to define Boulder's Resilience Strategy:

- 1) **Community engagement methods could be more transparent and better demonstrate the integration of public feedback.**
- 2) **Boulder's strong civil society sector is considered to be underutilized in the daily business of the City.**
- 3) **Housing affordability is the dominant issue in the City, but can be broadened to be analyzed at the regional scale or through the systems that relate to the City's sustainability goals.**
- 4) **The Resilience Strategy should support ongoing City Actions related to these themes and undertake analysis to advance ideas where gaps exist.**

Focus Areas



Focus Areas are priority topics where the city wants to develop more knowledge, gather more data, and conduct more analysis to shape its work in Phase II of the strategy process.

Focus areas may be designed to:

- **Further understanding and analysis of a city’s vulnerability to a shock.** For example, hurricanes, flooding, earthquakes
- **Analysis of how shocks and stresses might interact.** For example, how aging infrastructure and poverty impact the city’s ability to respond to coastal storms
- **Integration and prioritization of existing planning efforts.** For example, if a city has many disconnected but important economic development plans
- **A focus on a specific part of a shock or stress which requires deep articulation.** For example, addressing chronic violence in youth and immigrant populations

The Role of Platform Partners

Certain Focus Areas will be led by Platform Partners

These roles will be shaped around specific scopes of work within Phase II Focus Areas or can serve as standalone services that are related to particular Focus Areas.



The Role of Platform Partners

Some of this work is already slated to begin



World Cares Center will be providing a training in June to introduce local leaders and emergency managers to better utilize spontaneous unaffiliated community volunteers and community-based groups in disaster response.



Example Focus Areas

A few cities are ahead of Boulder in the 100 Resilient Cities process and are beginning to define their Phase II scopes



Berkeley, CA CRO Timothy Burroughs

BERKELEY

- Assess and improve the community's ability to care for and shelter vulnerable and displaced residents in the event of a disaster
- Analyze potential mitigation strategies for climate change

Potential Focus Areas



Based on stakeholder feedback and the cataloging of existing initiatives in Phase I, a short-list of potential Focus Areas has begun to emerge:

- 1) Position resilience as driving theme in the design and deployment of Boulder's transition to a new, zero carbon **energy** generation and delivery system
- 2) Integrating resilience themes into the **Comprehensive Plan update**
- 3) Further Boulder's **disaster recovery efforts** by focusing efforts towards activities and priority actions that promote the community's long term resilience to shocks and stresses
- 4) Deepen and broaden the **community's ownership of and participation in city activities** and initiatives

Potential Focus Areas



Based on stakeholder feedback and the cataloging of existing initiatives in Phase I, a short-list of potential Focus Areas has begun to emerge:

- 5) Further Boulder's ongoing efforts to discuss and address **housing affordability**, both as a persistent community 'stressor' but also in the context of post-disaster planning
- 6) Improve Boulder's **interaction with the business community**, fostering innovation and encouraging the growth and retention of industries that contribute to other resilience goals (e.g. energy production and services)



**Questions &
comments?**

An aerial photograph of Boulder, Colorado, showing a mix of urban buildings and green spaces. In the background, there are large, rugged mountains under a clear blue sky. A large white circular graphic is centered over the image, containing the name and contact information of Greg Guibert.

Greg Guibert
Chief Resilience Officer
City of Boulder, Colorado
guibertg@bouldercolorado.gov
303.441.1924



Interim Report - April 27, 2015

Exploring young people's ideas of resilience in Boulder

In 2014, the City of Boulder was selected to participate in the Rockefeller Foundation's 100 Resilient Cities initiative. The project aims to support cities that have experienced natural disasters in exploring and developing strategies around sudden and long-term issues, such as flood, wildfire, disease outbreak, and drought. As a first step in this process, the City seeks to understand people's perceptions of resilience in Boulder. In collaboration with the City's resilience staff and the Youth Services Initiative (YSI), Growing Up Boulder (GUB) worked with youth to develop their own meanings of resilience through art by considering the Rockefeller definition of resilience: "the capacity to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks [people] experience."

To our knowledge, Boulder is the only member of the Rockefeller network to engage youth in their processes. This pilot was meant to explore ideas of resilience and to test methods that might yield meaningful conversations and useful information. Additional work with children and youth will continue in the fall of 2015.

The work included two groups of participants from the Youth Services Initiative, a program of Boulder's Parks and Recreation Department that serves youth from Boulder's public housing sites, as follows:

- Approximately 25 middle and high school students
- Approximately 10 elementary students from the Kalmia housing site

Growing Up Boulder used a variety of methods to facilitate conversation, including a resilience "question ball," drawing, and mural making with elementary school students, and drawing, photovoice, a nested ecologies activity, and art boxes with middle and high school students.

Elementary School Student Themes

Not resilient

School and home
Guns and dying
Bullies
Dangers, such as falling from trees

Resilient

Home, family and pets
Nature, parks, hiking
Ice cream, fresh fruits
Activities, such as art, music, sports and holidays

Middle and High School Student Themes

Not resilient

Money and the expense of living here (bottom left)
Housing
Negative global issues as portrayed on the news
Cultural exclusion

Resilient

Supportive benefits of nature
Friends, family, and pets
Skateboarding (bottom middle)
Love (bottom right)



Elementary School Students

Methods and Results



Answering resilience ball questions



Painting the mural



Happy/Resilient - Nature, Sports, Home, Music, Art



Unhappy/Not resilient - Bullies, Death, Guns, School

The resilience ball activity asked children to name happy or sad colors (to be used in the mural), places in Boulder that make them feel safe, places they go when they feel unsafe or uncertain, things that make them feel life is good, or things that make them feel that life is hard. The drawing activity included initial responses to these questions and further development of ideas. The mural pulled all these ideas together. In general, elementary children had more ideas about things that promote happiness and resilience, although they displayed some important social issues that do not.



Completed Mural, with ideas that promote resilience (left) and ideas that do not promote resilience (right)

Middle & High School Students

Results

Many students took pictures of their favorite activities, including skateboarding or enjoying time with friends. Other pictures revealed an appreciation for nature and relaxation shown in images of sunsets, horses, and pets.



"I chose brotherhood, because my friends and family would always have my back no matter what. Boulder has many struggles, but the community has always been there."

-Middle School Student



The image of the lock prompted a conversation about feelings of cultural exclusion. While the intention of the young artist was to represent the security that brotherhood provides him, others in the group thought it reflected feelings of exclusion that they experience in the city because of language and ethnicity.

The nested ecology activity revealed that youth feel most resilient at home or in the city and less resilient in their neighborhoods or at school as shown in the table and image below.



Nested ecology results

Nested ecology activity

	City	Neighborhood	School	Home
😊 (Happy)	9	6	5	9
😐 (Neutral)	2	5	7	2
☹️ (Sad)		2	4	

Ideas came together in meaningful ways in students' final boxes and boards. On the spray painted backgrounds, images and words combined to tell stories about the power of nature and community and the influence of money on the quality of their lives.



"Nature makes me feel relaxed and free from the world.."

- Middle School Student



"Which is more important? Money or nature?"

- Middle School Student



DRAFT for EAB

Climate Commitment Communications Plan

June through December 2015

Objective: To build momentum around, and a better understanding of, Boulder's next-generation climate goals and the strategies necessary to achieve them

Goals:

1. To help target audiences understand the need for more aggressive and impactful climate action
2. To communicate the goal that City Council chooses to adopt, whether it is an 80 percent reduction in emissions by 2050; a fossil-fuel future; or some hybrid
3. To describe the three focus areas of the city's proposed Climate Commitment and facilitate community feedback on this approach. The three areas are:
 - a. Creating a Clean Energy Future
 - b. Using Resources Wisely
 - c. Encouraging Restorative Ecosystems
4. To explain how existing initiatives, including municipalization, energy efficiency standards and programs; and innovative pilots and partnerships fit into this framework
5. To identify what the city can do, what community partners can do and what individuals can do to help reach Boulder's goals

Target Audiences:

- Residents, including students/youth
- Business and property owners
- Institutional and non-profit partners
- Environmental allies and other communities working on similar goals
- Legislators and regulators
- Potential investors and grantors

Key Messages:

- Boulder has long been a leader in confronting climate change, and meaningful action is more important than ever. Our community and others are already experiencing the negative effects of climate change and it is important that we focus both on minimizing these and adapting to them (or building resilience to them).
- The strategies the city and partners adopt to confront this challenge are good for the environment, and they have many other benefits for Boulder, including an improved quality of life; energy independence and enhanced reliability of service; economic vitality; and a continued commitment to innovation. These benefits may, in fact, be better motivators for encouraging communitywide action.
- The three focus areas stem from our greenhouse gas inventories and our knowledge, acquired through the actions we have taken in Boulder since voters created the carbon tax in 2006, about the areas where the biggest impacts are possible and where we, as a community, can have the most local control.
- The first – Creating a Clean Energy Future, which includes, but is not limited to municipalization – is the area in which the most city resources have been devoted in recent years. This is because energy (both in terms of how we power our homes, businesses and other buildings and how we get around town) is the single largest source of Boulder’s emissions.
- The city has valuable programs in the two other focus areas – Using Resources Wisely and Encouraging Restorative Ecosystems – and plans to continue these both because they play a part in climate action and because they are consistent with other important community priorities and values.
- The climate commitment is a long-term initiative, and the second and third focus areas, in particular, are ripe for development of policies and programs that would tackle the emerging areas of consumption and carbon sequestration.

- There are steps the city can – and is taking – to address climate change, but we have the greatest opportunity of being successful through partnerships and regional, national and international coalitions. In addition to this, individual action remains a high priority. Each one of us has a role to play.

Strategies:

- Use this communication plan and the Climate Commitment framework as a way to unify messaging and communication efforts around all work being done by the city in this area (To be clear, communication subplans will continue to exist and be updated for focus areas that fall within this broader context, such as Energy Future, the C&I Energy Efficiency Ordinance, Boulder Energy Challenge, Transportation Master Plan, etc. but their objectives/messaging/tone of messaging must roll up to those articulated by this effort)
- Shift tone of messaging away from gloom and doom/guilt-inducing moral imperative/avoiding peril to one that is both fact-based and positive, emphasizing the opportunity to leave a strong legacy for the next generation and co-benefits to our current way of living and economic security
- Leverage our existing relationship (and limited purchase order funds) with Vermilion for two phases of work
 - First phase from now until December 2015 – Developing an effective and resource-limited engagement strategy designed to get feedback on proposed framework and develop a sense of community ownership
 - (Not built out in this plan, but just so you can see the bigger picture) Second phase – anticipated for 2016 – Building on the groundwork that has already been laid in creating a brand for an action-oriented campaign, i.e. Boulder Up that encourage individuals to support both

collective action, including that taken by the city and institutions, and individual responsibility

- Maximize audience reach in a cost-effective way by utilizing existing communications platforms, including social media (specifically the city Facebook account and the City of Boulder LEAD Twitter account), Channel 8 programming, the Energy Future e-newsletter and LEAD e-newsletters (as appropriate), Inspire Boulder and strong media relationships to share information and seek feedback on the city's Climate Commitment direction
- Tap into existing and new partnerships (and the expertise and reach of individuals within these partnership organizations) for the purposes of cross-promoting consistent messages and meaningful climate action.

Tactics, in proposed chronological order

- Build internal consensus around the three focus areas, messaging framework, key story components, overall tone and integration into GHG inventory work
- Develop visually compelling council document that spells out the three focus areas, shows targets and where we are starting from and explains what roles the city, partners and individuals have
- Production and release of climate commitment motivational video that explains the need to act and outlines the three proposed focus areas
- Hiring of outreach fellow/intern
- Create or resurrect email listserv for people interested in receiving climate news or re-purpose/broaden EF email listserv

- Coordination of media information for likely news articles both advance and coverage of July 28, 2015 study session
- Requests for inclusion in partner newsletters and communication platforms
- Minimum of one business presentation and three community/neighborhood meetings to present video, proposed framework and solicit feedback
- Online feedback mechanism, such as a survey on Inspire Boulder and social media
- Development of web landing page and framework for building out of additional pages
- Channel 8 coverage of issue and milestones; social media blasts associated with feedback opportunities; e-newsletter articles

Budget/Resources:

Existing money (beyond half of salary for Communications Specialist and expenditures already made in 2015):

- \$27,100 remaining in purchase order dedicated to Vermilion
- \$5,000 contribution toward hiring Outreach Fellow/Intern
- \$1,000 for room rental and refreshments for outreach sessions

Measurements:

- Completion of deliverables by target deadlines
- Quality of materials produced
- Council and stakeholder feedback
- Number of subscribers and open rates on email correspondence to interested stakeholders
- Video views of Channel 8 segments featuring this topic

- Media presence and quality of said presence
- Participation levels and quality of engagement on digital platforms and open houses